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NON-COVALENT BOND

Greater coordination needed to realise green-hydrogen aspirations

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ASTRON ENERGY

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When breakage is business

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PUSH PAUSE

I'm not convinced I know how to read; I've just memorised a lot of words.





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FIRST WORD

Local beneficiation is good but it must make business sense

"Once again, we are hearing government request more local value-addition to local minerals and metals. In fact, Africa, as a continent, seems to be singing from the same hymn sheet on continental beneficiation. While it is wonderful to hear emphasis being placed on adding value at home, it must be borne in mind that it has to make business sense. Where it doesn't, incentivisation is essential. Commodity value chains are long and many countries are well ahead of South Africa when it comes to closeness to the market. China, for instance, has already largely captured that middle ground between mining and manufacturing. It is necessary to, wherever we can, use our metals and minerals to create local jobs but doing so will require collaboration with key players and considerable market friendliness."

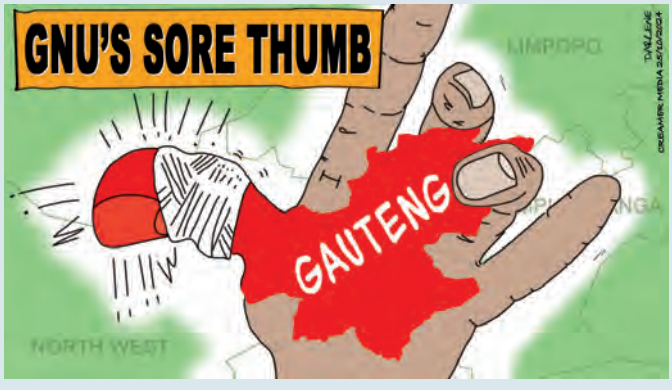


Martin Creamer | Publishing Editor

Scan to listen to Martin Creamer on SAfm

PUSH PAUSE

I hate it when I can't figure out how to operate the iPad and my tech support is asleep. She's eight and it's past her bedtime.



SORE THUMB: Business and the markets have reacted positively to South Africa's Government of National Unity (GNU). Cooperation also seems to be the order of the day in many departments and provinces. South Africa's economic heartland of Gauteng, however, is sticking out like a sore thumb in its overt and covert moves to undermine the GNU. Given the minority-government set-up in the province, it's a high-stakes political game.

PERSPECTIVES



INDIA GOES FOR GRID: South Africa's lack of grid investment is well documented, but it is by no means alone in needing to catch up. This month, the Indian government unveiled a plan to revamp its power grid to accommodate a large renewables expansion through 2032. The project, estimated to cost $109-billion, will help integrate 500 GW of renewables by the end of the decade.

"South Africa does not have affordable electricity any longer, although it should. We are getting power to households that cannot afford it, and we are sitting with industries that must participate in the world economy, but we are not competitive anymore."

Metals and mining company Rio Tinto Iron and Titanium Africa operations MD **Werner Duvenhage**

AN


Source: Bloomberg

ENERGY OUTLOOK

Age of Electricity

THE RECENT CLAIM made by the International Energy Agency (IEA) that humanity is "moving at speed into the Age of Electricity" may not seem especially profound, given that electricity has been a key part of the energy system for well over 100 years.

Nevertheless, it is an important statement and one that has significant implications for all countries, including South Africa, where electricity is a top-of-mind subject, given the country's recent loadshedding crisis and looming affordability crisis.

But what does the Age of Electricity mean and what is driving it?

It means that electricity will grow faster than overall energy demand and any other energy source, such as oil and gas.

The IEA's 'World Energy Outlook 2024' shows that between 2000 and 2010 electricity grew at a pace that was 1.4 times faster than total energy demand; that the pace quickened to two times faster from 2010 to 2023; and that electricity demand is poised to grow six times faster than total energy demand to 2035.

This growth is underpinned by the fact that there are both new sources of demand for electricity (such as to power data centres and AI) as well as displacement demand as electricity begins playing a bigger role in mobility, through electric vehicles (EVs), or in home and industrial heating and cooling.

Secondly, it should be recognised that, while policy was the initial driver of this coming age, economic factors have now taken over, creating impetus for yet further and faster growth.

The policy driver relates to the global imperative for accelerated decarbonisation, particularly now that the threats associated with human-made climate change have started to materialise.

Policymakers understood relatively early on that the electricity sector would be the easiest energy subsector to decarbonise and, thus, created the incentives needed to lift demand for wind and solar PV.

In doing so, a tipping point was reached whereby the two technologies are now the cheapest forms of new electricity in most countries, opening up the opportunity to use clean electricity to decarbonise other energy services.

This can be done directly, as is the case with EVs, electric geysers, air-conditioners and electric stoves and ovens, and indirectly by using renewable electricity to produce a clean carrier such as green hydrogen that can be used to decarbonise sectors such as steel, chemicals, fertilisers, shipping and aviation.

Given favourable economics, new records are being made yearly for the deployment of variable renewable-energy plants to the point where two-thirds of all electricity production by 2035 will be from clean sources, but predominantly from wind and solar PV.

As variable production is added, the opportunity to use the glut of electricity that will arise in the middle of the day will result in electricity finding yet further applications to the point where there will be an electrification of almost everything.

Such a shift will have profound implications for industrial development; ones not yet fully appreciated by South African policymakers.



Terence Creamer | Editor

FACTSINFIGURES

250

The investment in billion dollars that diversified commodities major BHP predicts the world will need over the next decade to bridge the growing gap between copper supply and surging demand.

3

The extent in percentage terms by which South Africa's Government of National Unity aims to increase economic growth from 2025, to tackle the country's electricity, logistics and crime crises.

SHEILA BARRADAS | CREAMER MEDIA RESEARCH COORDINATOR & SENIOR DEPUTY EDITOR

ELECTRICITY TRANSMISSION

Electric Opportunity

Ramokgopa convinced 'sweet spot' will be found to unlock Independent Power Transmission projects

TERENCE CREAMER | CREAMER MEDIA EDITOR

Electricity and Energy Minister Dr **Kgosientsho Ramokgopa** has expressed confidence that government and the National Transmission Company South Africa (NTCSA) are close to finding the "sweet spot" that will facilitate the integration of private Independent Power Transmission (IPT) projects.

Such projects could help accelerate the expansion of the grid, which has emerged as a bottleneck for new renewables projects in particular, and help unlock 53 GW of mostly renewables generation in the coming ten years. In South Africa, IPT projects are also referred to as Independent Transmission Projects, or ITPs.

Speaking at the formal launch of the NTCSA, which started trading as an independent subsidiary of Eskom Holdings on July 1, Ramokgopa insisted he had no intention of overreaching in his role as shareholder Minister and that the board should determine independently what IPT model would be acceptable to the NTCSA.

However, he highlighted the success of the IPT model globally in helping to accelerate the development of grid infrastructure, noting that in Brazil, Chile, Peru and India, the model had enabled close to 100 000 km of new transmission lines between 1998 and 2015 and had helped mobilise private capital for the grid of more than $24.5-billion.

"We are not guinea pigs," Ramokgopa asserted, adding that South Africa had an opportunity to use its late-mover status to draw on best practices from other countries while localising the IPT model.

"[But] one thing I have said to **Priscillah Mabelane** [NTCSA chairperson] is that we will not overreach.

"The board has fiduciary responsibilities and duties to protect the financial interests of NTCSA, while I have a duty to resolve the energy question in the country and ensure that we will achieve conditions of energy sovereignty and energy security.

"And those interests are not misaligned – there is a sweet spot we are seeking for," he said with reference to ongoing deliberations on what model should be adopted.

The Minister also praised the work of the World Bank and its Multilateral Investment Guarantee Agency in seeking to develop a credit guarantee vehicle that could provide guarantees to IPTs without placing further strain on the NTCSA balance sheet, or add to the National Treasury's contingent liabilities.



KGOSIENTSHO RAMOKGOPA
The Independent Power Transission model has succeeded internationally

In an interview with *Engineering News & Mining Weekly*, Mabelane said the NTCSA was open to considering all IPT models, including a 'build, operate and transfer' framework. "We are not selective subject to the sweet spot on risk sharing, as we do not have a balance sheet to guarantee build, operate and transfer [projects]."

In weighing the options, she indicated that the NTCSA was seeking to draw lessons from the independent power producer procurement programme, which had facilitated R282.2-billion in mostly renewables investment since 2011, with the support of State guarantees.

"So if we can address that particular point [the guarantees], we can actually accelerate access to the private sector," Mabelane added.

She said a lot of work had already been done on IPT models and argued that the next key milestone would be the finalisation of regulations in terms of Section 34, which would be required before a procurement determination could be released.

It has been widely reported that the actual procurement was likely to be undertaken by a new office outside of the NTCSA, developed along the lines of the Independent Power Producer Office.

"We believe that the biggest part of it is to make sure that the risk-sharing mechanism is balanced."

In his address, interim NTCSA CEO **Segomoco Scheppers** reported that the regulations required for ITP procurement would be developed by the first quarter in 2025.

"This will be followed by a Ministerial determination for an ITP pilot," he said.

R112bn Capex Plan

In parallel, Scheppers revealed that the NTCSA board had approved R112-billion in capital expenditure for the coming five years to begin delivering on the Transmission Development Plan's (TDP's) goal of energising 14 000 km of new powerlines and adding 122 000 MVA of new transformer capacity by 2032 so as to connect 53 GW of new generation.

An updated TDP was scheduled to be published later this month, but Scheppers indicated that the NTCSA's five-year investment plan envisaged facilitating nearly 30 GW by the end of the decade, with 1 250 km of powerlines planned for delivery by 2027 together will several transformers to ensure the connection of 11 GW.

This own-build portion would be delivered under the NTCSA's previously announced "hybrid" delivery model comprising its traditional in-house approach to design and project management, as well as turnkey projects built using the engineering, procure and construct contracting model.

Mabelene said any capacity developed under the IPT framework would be in addition to the transmission investments that would be made by the NTCSA itself.

Both Mabelane and Scheppers also stressed, however, that the investment plan was premised on it receiving the required revenues through the tariff, as well as a ringfencing of those revenues for the NTCSA and the reform of the tariff structure to reflect both the cost of sales and grid services.

The NTCSA has applied for allowable revenue of R101-billion, R115-billion and R155-billion for the three financial years covered by Eskom Holdings under its controversial sixth multiyear price determination.

In the unlikely event that the full application for revenue of R446-billion is granted for 2025/26 by the regulator, the direct Eskom tariff would rise by 36.15% on April 1 next year, followed by an average 43.55% hike in municipal tariffs from July 1.

To watch a video in which NTCSA chairperson Priscillah Mabelane speaks with *Engineering News & Mining Weekly* editor Terence Creamer about the role of the new State-owned grid company, its immediate priorities, and the approach the NTCSA could take to Independent Power Transmission projects, scan the barcode or visit www.engineeringnews.co.za.

CLIMATE CHANGE

Ebbing Pollution

South Africa's emissions to peak in 2024, reach decade low in 2030 – report

DARREN PARKER | CREAMER MEDIA SENIOR CONTRIBUTING EDITOR ONLINE

South Africa's overall emissions will reach their peak this year and will be followed by a downward trend that will culminate in the lowest emissions this decade in 2030, the draft first 'Biennial Transparency Report' (BTR) shows.

The BTR, which was published by Forestry, Fisheries and the Environment Minister Dr **Dion George** on October 7 for public comment, provides critical insights into the country's progress in implementing and achieving its Nationally Determined Contribution (NDC) under the Paris Agreement.

South Africa, as a party to the Paris Agreement, and in line with the modalities, procedures and guidelines of the Enhanced Transparency Framework, is required to submit BTRs every two years, with the first submission due by December 31.

The BTR tracks progress on the implementation of South Africa's NDC, including the support needed and received for implementation. The report is necessary for understanding South Africa's progress in light of national circumstances, institutional frameworks and mitigation policies.

According to the draft BTR, South Africa's emissions will generally decrease over the course of the rest of the decade, with notable reductions in 2026, 2029 and especially in 2030.

The BTR highlights that South Africa's energy sector remains pivotal in the country's efforts to reduce greenhouse-gas (GHG) emissions and promote sustainable development.

Key programmes, such as the 12 ℓ tax incentive, Eskom Integrated Demand Management, and Municipal Energy Efficiency and Demand Side Management collectively cut GHG emissions by five-million tonnes a year of CO_2 equivalent (CO_2e) from 2010 to 2022.

Initiatives such as the Renewable Energy Independent Power Producer Procurement Programme and the Natural Gas Fuel Switch programme further reduce emissions by 16-million tonnes of CO_2e, contributing to a total reduction of 21-million tonnes of CO_2e, which represents 36% of sector-wide emission reductions.

In the transport sector, the Bus Rapid Transit (BRT) programme and the Transnet Road-to-Rail programme reduced GHG emissions by 300 000 t/y of CO_2e from 2010 to 2022. The BRT programme improved urban public transportation, reducing traffic congestion and fuel consumption, while the Road-to-Rail programme shifted freight transport from road to rail, further lowering emissions.

The industrial processes and product use sector saw significant reductions in nitrous oxide emissions through advanced technologies and process modifications, contributing to a reduction of 1.3-million tonnes a year of CO_2e from 2010 to 2022. These efforts supported South Africa's climate goals by lowering the environmental impact of nitric acid production.

In agriculture, conservation agriculture and grassland restoration reduced emissions by 2.1-million tonnes a year of CO_2e from 2010 to 2022.

The forestry sector, primarily through afforestation and forest restoration, achieved the largest emission reductions, accounting for 54% of the total reductions, or 31-million tonnes a year of CO_2e yearly from 2010 to 2022. These actions boosted environmental sustainability, biodiversity, and ecosystem health.



CLEANER FUTURE
South Africa's emissions will generally decrease over the course of the rest of the decade



GOLD

Golden Advantage

Contract route saves gold project R300m, local tech takes tanks out of critical path

MARTIN CREAMER | CREAMER MEDIA PUBLISHING EDITOR

The contract route chosen to recover gold from the mine dumps of the West Rand's Mogale City reduced the project cost by R300-million.

In addition, the technical prowess of a Krugersdorp fabrication and erection company down the road virtually took the carbon-in-leach (CIL) gold processing tanks out of the project's critical path, and power supply infrastructure was piggy-backed from another nearby metals company, which provided a valuable electricity offramp for the gold upramp.

A first for Pan African was to go on the engineering, procurement and construction management (EPCM) contracting structure.

"That has saved us about R300-million," Mogale Tailings Retreatment (MTR) operations manager **Oriel Shikwambana** highlighted at the operational commissioning of MTR, covered by *Engineering News & Mining Weekly*.

The original budget figure was R2.8-billion and opting for EPCM reduced the project budget to R2.5-billion. The timeline was squeezed to 14 months.

More than one-and-a-half-million person hours have been spent in construction on this site, without a single lost-time injury (LTI). "There were zero LTIs," SGS Bateman MD **George Corlett** said.

Contractually, SGS Bateman was to deliver the project to cold commissioning stage by the already tight October 17 timeline, but managed hot commissioning on October 3, when the first gold was smelted.

"The long hours worked over the entire 22 months of the project show the dedication and commitment to meet the project goals," Corlett said.

The project is said to have been elevated by a win-win, one-team, open-communication approach of Pan African project manager **Brandon Russell**, working closely with the SGS Bateman project team leader **Charl Botha**.

"This is a great opportunity for the area. I know that other companies have looked at retreating the dumps in the area and have passed the opportunity by, whereas Pan African has taken that handle and run with it. The area needs the employment. The rehabilitation of the area will be great and it will be good for our country," Corlett added.

Originally planned was the creation of 700 jobs, with 500 from the local community, but this has been significantly exceeded, resulting in more than 1 600 employees now being on site and 1 040 of them being drawn from the local community.

Department of Mineral Resources and Energy (DMRE) representative **George Siwele** spoke of the value of the 20 years of employment that the project is bringing to the area, coupled with the removal of dumps that some regard as a nuisance.

The DMRE contribution, Siwele said, would be in the form of the department's mine, health and safety inspectorate support structure.

He personally represented the mine equipment inspectorate, while the colleagues with him dealt with mining-related issues. An occupational hygiene inspector also formed part of that support system.

"Then my other counterpart colleagues are from a section called mineral regulation dealing with environmental issues and social and labour plans."

Growth was supported through training and certification of a number of qualifications, in direct liaison with the department's Mining Qualifications Authority.

"Social and labour colleagues are best suited in terms of assisting, if you are going to be providing training or assisting upcoming employees in the area, on how best to deal with that fund going forward," added Siwele, who welcomed Pan African to the DMRE region, which he described as being based in Braamfontein but with DMRE officials available on their cellphones.

Twenty per cent of all the gold ever mined in the world – close to 1.3-billion ounces of the precious metal – was mined on the Witwatersrand, of which Pan African's MTR operation forms part.

Johannesburg, one of the few cities in the world not situated along a coastline or large river system, was built on underground rivers of gold.

"We're injecting fresh cash and life into an area that was seemingly written off in terms of degradation and pollution by more than 100 years of mining," noted Pan African chairperson **Keith Spencer**.

Left behind is a scarred landscape, affecting thousands of lives in communities built around what many have regarded as worthless, dusty mine dumps, with only liabilities remaining.



ORIEL SHIKWANBANA
Opting for the EPCM route reduced the project budget from R2.8-billion to R2.5-billion

"While we're mining, we'll rehabilitate the environment, install a renewable-energy facility, plus other improvements that will sustain the land and its communities for a long time," said Spencer.

No security incidents have been suffered and illegal mining has virtually been managed out of the area completely, Shikwanbana said to applause.

The CIL gold processing tanks were originally in the project's critical path and their installation would have absorbed considerable management time and capacity until local company Betterect was contacted to make the CIL tanks. Moreover, the bolted design it came up with averted feared flange leaks.

"We set up the CILs without a single leak," Shikwanbana reported.

"Then we also piggy-backed on the Bright Alloys power supply infrastructure and power is currently being supplied from the Bright Alloys infrastructure."

Another important contributor was DMRE approval of the environmental licence being bang on time, which enabled construction to begin when planned.

"The last point is that we split the acquisition of the electrical cables from the electrical contractor's scope. Generally, when the electrical contractor comes to do the construction, they come with their own cables.

"We managed to negotiate because we felt that if we split the cables, we'd be able to acquire them much quicker from our side and then it will also save on cost as well. After we split that, we managed, from an acquisition perspective, to save about a week or so, and also on the cost we saved quite a bit of money as well," he added.

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CIRCULAR ECONOMY

Recycling Plea

Recycle like there's no tomorrow, big screen at Oppenheimer event urges attendees

MARTIN CREAMER | CREAMER MEDIA PUBLISHING EDITOR

Recycle like there's no tomorrow were the urging words flashed across the large screen at the thirteenth Oppenheimer Research Conference, where long-time former diamond mining luminary **Nicky Oppenheimer** declared that it is nature that is calling the shots when it comes to climate change mitigation prospects.

Oppenheimer was followed by keynote speaker **Hailemariam Desalegn**, the former Prime Minister of Ethiopia, who told the 450 scientists present: "The clock is ticking. To confront this crisis, we must embrace radical collaboration and science without boundaries."

Regarding this Namibian PhD student's question: "What is more important. That we, as Homo sapiens, resolve climate change, or that we resolve the relationship between man and nature?" Oppenheimer had this response: "It's more important that we resolve the relationship between man and nature, because if we can do that, climate change will not exist.

"On the other hand, you can see a situation where scientists could resolve climate change, but by destroying nature. In resolving that issue between man and nature, we have to find a way to co-habit, to work together," Oppenheimer urged at the event covered by *Engineering News & Mining Weekly*.

Meanwhile, former water and environmental engineer Desalegn declared climate change and nature loss "the greatest existential threat we'll collectively face".

Already, in Africa alone, 6 400 animal species and 3 100 plants are at risk of extinction, with vertebrates down 30% since 1970.

Soil erosion, salinisation, pollution and loss of vegetation have degraded a fifth of Africa's land surface and the Congo basin, one of the world's lungs, is losing up to 1.2-million hectares of tropical forest a year, resulting in a 30% decline in tree cover.

Meanwhile, the blue economy, once projected to grow to $405-billion by 2030, is now in a 30% contraction owing to mass coral bleaching by climate-influenced ocean acidification, plastics pollution and poleward marine life migration.

Climate change and the nature loss span countries and continents, "and therefore our solutions must transcend national interests and political divides", Desalegn pointed out.

"The future of our planet hinges on our ability to radically collaborate across borders, disciplines and sectors.



HAILEMARIAM DESALEGN
Climate change and nature loss are the greatest existential threat the world faces

"The effects of climate change and nature loss know no borders. They are global phenomena, spanning countries and continents, and therefore our solutions must transcend national interests and political divides.

"The future of our planet hinges on our ability to collaborate radically across borders, disciplines and sectors," Desalegn highlighted.

Being encouraged is the seamless working together of scientists the world over, the empowering of citizens to take part in scientific inquiry and action and the removal of the barriers hindering the free flow of information and expertise.

Wanted is the amplification of the voices of Indigenous peoples and local communities whose relationship with nature provides valuable insight.

"International financing must be seen as an investment, not a cost, one that will create high economic returns and avoid massively accelerating future costs associated with the global existential threat of climate change and nature ," said Desalegn.

To watch a video of the Oppenheimer Research Conference, covered by *Engineering News & Mining Weekly*'s Martin Creamer, scan the barcode or visit www.miningweekly.com.

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RENEWABLE ENERGY

Wind Validation

Danish Energy Agency backing project to validate wind resources of South Africa's coal heartland

TERENCE CREAMER | CREAMER MEDIA EDITOR

The Danish and South African governments are partnering on a project to map the wind resources of the coal region of Mpumalanga, where access to the grid for new renewables projects is less constrained and where initiatives are under way to explore alternative livelihoods for workers and communities who could be affected by coal mine and power station closures.

Known as 'Wind Atlas of South Africa Phase 4 (WASA4)', the initiative is being jointly funded by the Danish Energy Agency (DEA) and the Department of Mineral Resources and Energy and is being carried out by researchers from the Danish Technical University, the South African National Energy Development Institute, the Council for Scientific and Industrial Research, the University of Cape Town and the South African Weather Service.

During a visit to South Africa, DEA deputy director-general **Stine Leth Rasmussen** told *Engineering News & Mining Weekly* that state-of-the-art knowledge and tools are being used for the assessment, which will also incorporate recent advances in wind-turbine technology that have improved the generation prospects of regions with lower wind speeds.

She says WASA4 is a continuation of a wind-modelling programme that Denmark has been supporting for more than a decade, and which has resulted in the release of previous WASA editions in 2012, 2014, 2019 and 2021 that are freely available to stakeholders.

WASA modelling has been completed for South Africa as a whole, but validation through measurement stations has hitherto focused primarily on the wind-rich Western, Eastern and Northern Cape provinces.

No such validation has been carried out previously in Mpumalanga, which has since emerged as a priority for South Africa's Just Energy Transition Partnership, which was launched in 2021 with the support of an International Partnership Group (IPG) and which Denmark joined in 2023.

The IPG has pledged $11.7-billion in concessional loans and grant funding to the South African programme, with Denmark having a made a $165-million commitment.

Through WASA4, the wind potential of South Africa's coal heartland will be mapped in detail, alongside similar studies in the North West, Gauteng and Limpopo, with the objective of de-risking wind energy developments in these provinces, but especially in Mpumalanga.

"By increasing the availability of measured data to validate the Mpumalanga wind resources, it is more likely that investors will be encouraged to locate wind projects in these regions," Rasmussen says.

In parallel, the DEA has also worked with the Independent Power Producer Office (IPPO) on a separate study that among other things assesses the potential price differential between wind and solar projects in the grid-ready Mpumalanga province with similar projects in the Northern Cape, where Eskom says the available grid access has been absorbed.

The IPPO will release the results once the study has been finalised, but Rasmussen says early indications are that Mpumalanga's grid advantages could help offset the region's less potent wind resources and make projects cost competitive.

"A key finding is that while there is an ongoing process to expand the grid to often remote areas with abundant wind and sun, like the Northern Cape, an emphasis should also be put on driving developer interest towards renewable-energy projects in provinces such as Mpumalanga where wind resources are reasonably good and grid capacity is abundant."



STINE LETH RASMUSSEN
By increasing the availability of measured data to validate the Mpumalanga wind resources, investors will be encouraged to locate wind projects in the province

Meanwhile, Ambassador **Elsebeth Søndergaard Krone** reports that Denmark has also worked with South African partners on the development of a digital map of potential sites in Mpumalanga where renewable-energy projects could be developed.

"The map improves the renewable-energy developer's access to crucial information about land use and infrastructure, and also gives an overview of the grid capacity that could be used as input by policymakers to select locations for renewable energy infrastructure and also to undertake targeted regional procurement rounds in future," Krone tells *Engineering News & Mining Weekly*.

She adds that all of Denmark's current initiatives in South Africa are part of what has been a long-term partnership with the country in a range of sectors, and in the energy space in particular. "In August, the Danish government launched a new strategy for strengthened engagement with Africa and African partners, which aims to increase our presence and activities in the African continent, and that includes South Africa," Krone says.

• From page 10

Processed slimes dam material will initially be deposited into the West Wits openpit.

As cited by Pan African CEO **Cobus Loots**, the biggest takeaway from what is set to become a hugely profitable operation is that investing in South Africa can bear considerable fruit.

"It's quite ironic. We've been pretty much all over Africa looking for opportunities in terms of expanding our business and ultimately we've come back to South Africa and less than an hour from our corporate office, we have 1.1-million ounces of recoverable gold reserves here, and we acquired all of it for just over $1/oz, which is fantastic,"

Payback of the initial investment is expected in two to three years at a time when the gold price is $2 500/oz. Interestingly, the London- and Johannesburg-listed company has advanced significantly in gold recovery from surface dumps.

Pan African's total gold production is expected to hit the 220 000 oz mark this financial year, with net cash possibly flowing by 2026.

To watch a video of Pan African's project launch, covered by *Engineering News & Mining Weekly*'s Martin Creamer, scan the barcode or visit www.miningweekly.com.

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AUTO INDUSTRY

Revving Up

Chinese vehicle sales accelerating rapidly in South Africa

IRMA VENTER | CREAMER MEDIA SENIOR DEPUTY EDITOR

If you think you are seeing more Chinese vehicles on the road, you are correct.

Chinese vehicle brands accounted for 9% of all passenger and light commercial vehicles (light vehicles) sold in South Africa this year, until the end of July, up from 2% in 2019, says research group Lightstone Auto.

Sales of non-Chinese-owned brands, but with the vehicles produced in China, have also increased, from 2% in 2019, to 10% in 2024.

Lightstone Auto says five Chinese makes reported sales to naamsa | the Automotive Business Council across the light-vehicle market in 2019.

They made up 12% of the total number of light-vehicle brands and 2% of overall new light-vehicle sales that year.

Stablemates GWM and Haval were responsible for 96% of that number.

Fast-forward to 2024, and nine Chinese light-vehicle makes now report sales to naamsa, making up 21% of the overall count of light-vehicle brands and 9% of all light vehicles sold to end-July this year.

GWM and Haval remain significant players in this space, says Lightstone Auto, but they have now been joined by Chery, and together these three brands have sold 88% of Chinese-branded vehicles in the domestic market this year to end-July.

Chinese brands have also grown their sales in the commercial vehicle market bigger than 3.5 t gross vehicle mass.

In 2019, three brands shared in 7% of overall sales, compared with four makes contributing 21% in 2024.

The number of brands and related sales are not the only area where China has seen growth over the last five years, notes Lightstone Auto.

In 2019, vehicle imports from China accounted for 2% of all light vehicles sold in South Africa, with Volvo – although owned by Geely in China, it is still considered a Swedish brand – being the only non-Chinese make imported from China.

By 2024, this picture has changed, with 12 makes – including Ford, Kia and Peugeot – imported from China, making up 10% of all light-vehicle sales in South Africa.

Not all Chinese brands report their sales to naamsa.

AUTO INDUSTRY

Metair to acquire AutoZone chain

METAIR is set to acquire the entire issued share capital of AutoZone Holdings.

The JSE-listed Metair is a manufacturer, distributor and retailer of automotive components and energy storage solutions.

AutoZone is a privately owned distributor of automotive parts, spares and car accessories in South Africa, with 169 retail stores and seven QSV stores, with the latter focused on the automotive wholesale business.

AutoZone entered business rescue on July 1, with the appointed business rescue practitioners authorised to conclude the acquisition on behalf of the troubled business.

"This acquisition of AutoZone presents a unique opportunity to expand and diversify Metair's exposure to the aftermarket parts supply chain on the African continent," says Metair CEO **Paul O'Flaherty**.

Metair says AutoZone's normalised management accounts reflect that, as at July 1, net assets (excluding liabilities that are subject to the business rescue plan) totalled roughly R485-million.

This included net working capital of R421-million.

Metair adds that a maximum of R290-million, payable in cash, will be used to settle AutoZone creditor and lender claims in line with AutoZone's business rescue plan; to acquire the sale shares for a nominal amount; and to fund R75-million in working capital requirements.

The transaction, which does not require shareholder approval, is subject to the competition authorities approving the transaction; Metair's lenders consenting to the transaction; and counter-parties to certain AutoZone contracts consenting to the transaction.

IRMA VENTER
SENIOR DEPUTY EDITOR



MINERAL SANDS

Phased Advance

$860m ilmenite beneficiation project enters bulk earthworks phase at Richards Bay IDZ

MARTIN CREAMER | CREAMER MEDIA PUBLISHING EDITOR

The bulk earthworks phase of the Nyanza Light Metals plant to advance ilmenite up the value curve as titanium dioxide (TiO_2) pigment has begun at the Richards Bay Industrial Development Zone (RBIDZ) in South Africa's KwaZulu-Natal province.

Nyanza will process ilmenite produced from the mining of heavy mineral sands, which are abundant in Africa, to produce the ten-times-higher-priced TiO_2 pigment for industrial coatings, architectural paints, paper and plastics.

Site clearing, levelling and geotechnical studies have begun and piling as well as other bulk earthworks are expected to continue into 2025.

Plant erection is scheduled to commence later in 2025, with first production from 2027.

"We had to do a mini equity close, where we had to find sources of funding to start with the bulk earthworks, primarily looking at site levelling, clearing, doing the detailed geotech work," Nyanza Light Metals CEO **Donovan Chimhandamba** told *Engineering News & Mining Weekly* earlier this month at the company's offices in Sandton.

Interestingly, Nyanza has signed an engineering, procurement, construction (EPC) and operations management contract with East China Engineering Science and Technology Company, a subsidiary of China National Chemical Engineering Group Company.

"What we started in August should run until the second quarter of next year, when the site will be deemed ready for the EPC contractor to build the plant," said Chimhandamba, who reports working well with the RBIDZ and the Department of Trade, Industry and Competition in developing the project, which will require capital expenditure (capex) of $550-million and peak funding of $860-million.

On the site area of 69 ha, 28 ha will be covered by the TiO_2 plant and utilities, and other parts are being earmarked for lithium iron phosphate, zirconium oxychloride, fumed silica, iron sulphate and sulphuric acid.

Eighty-five per cent of the 80 000 t of TiO_2 a year will be exported to Africa, Europe, and North and South America.

Already built is a product testing and development centre that is providing samples for customer testing.

Three thousand jobs are expected to be created during construction and 850 permanent jobs during operation.

Engineering News & Mining Weekly: **Let's talk about finance. How did you get the finance and is it going to be sufficient to take you through to the final product?**

Chimhandamba: The nature of the project that we're building requires long-term financing. The bulk of our lending is from development finance institutions (DFIs), both locally and from the continent, and that gives us 12-year tenor. Because of the tenor, the financing costs become quite steep.

The project capex alone is about $550-million but the construction period runs over 42 months, 36 months to mechanical completion, and another six months for commissioning and ramp-up mode. Private equity is not capable of taking on such long periods of no cash flows, the local commercial banks struggle beyond seven years tenor, so we had to do some fancy structuring to be able to bring in the multilaterals, and we've got some significant good players. Maybe now is not the appropriate time to mention them, but most people in the project are very well aware of all the DFIs.

If you look at the peak funding with the financing costs, with working capital, it peaks close to $900-million – $860-million to $900-million – which is quite a significant price tag. It is expensive for the capacity because of the additional large plants that we have had to build ourselves.

If we were building this plant in the US, Europe or China, for example, their industrial development zones come fully equipped with the utilities and infrastructure. But in our case, we have to build a demineralisation plant because there's not enough potable water within Richards Bay. We have to bring in clarified water and then demineralise it. That's a huge plant in itself. We also have to build our own sulphuric acid plant, which is also a huge plant in itself, at 1 000 t/d capacity. We had to also bring in four steam boilers.

Because of our ESG philosophy, we deliberately moved away from anything with coal, so we find that we are firing our steam boilers with gas. So liquefied petroleum gas to start with; hopefully the actions that are happening around liquefied natural gas (LNG) will materialise in time for us to switch to LNG and even reduce our carbon footprint. So when you take those utilities, the rail and all of these things over and above the actual titanium dioxide plant, we have got almost $300-million in the ticket just to deal with utilities. So things that would have normally been operational expenses, where we buy across the fence, are things now that we had to bring in as capex to avoid the risk of these things not being built on time, so we've put all of this under one package.

Where will you get your ilmenite?

We use what we call sulphate ilmenite. Ilmenites are not monolithic. You've got different types, depending on the amount of TiO_2. What's also critical is the chrome content in some of these ilmenites. The KZN coast's ilmenites have a slightly higher chrome percentage, making them not lucrative for our kind of process, because then the chrome has to be taken out. But if you start going north, you get Kenmare Resources in Mozambique, where there's also a new Chinese-owned mine. You also have Base Titanium in Kenya, although that resource is depleting, and in Egypt is Egyptian Black Sand Company. Then locally, we have a couple of mines that are operating, albeit on a small scale, producing

• To page 16



DONOVAN CHIMHANDAMBA
The nature of the project that we're building requires long-term financing

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FREIGHT RAIL

Access Imperative

Business sees third-party rail access as crucial to meeting 250Mt volume target

TERENCE CREAMER | CREAMER MEDIA EDITOR

An initial assessment by business into what it would involve to raise yearly freight rail volumes to 250-million tons estimates that Transnet's recovery alone could lift yearly volumes to about 190-million tons, leaving 60-million tons to be met through reforms aimed at opening the rail network to private-sector participation (PSP).

The assessment also indicates that about R280-billion in investment will be required to reach the target.

Business for South Africa (B4SA) transport and logistics focal area senior executive **Ian Bird** told delegates to a Transport Forum that there was a firm commitment from all participants to the National Logistics Crisis Committee (NLCC) to achieving the target over the coming four to five years.

The target was viewed, he added, as the threshold at which rail would begin contributing positively to both economic growth and job creation, which would represent a major turnaround from an estimate that the sector had lopped up to R400-billion of gross domestic product in 2023 on the back of rolling stock and infrastructure backlogs.

Transnet Freight Rail (TFR) railed 152-million tons in 2023/24, following a collapse in volumes to 149-million tons in 2022/23 and has set a 193-million-ton "stretch target" for 2024/25.

However, Transnet CEO **Michelle Phillips** has confirmed that Transnet is not currently on track to meet the target, which business and government set as a precondition, along with several other measures, for raising South Africa's growth to 3% in 2025.

The growth target was set as part of the second phase of a government-business partnership to tackle South Africa's electricity, logistics and crime crises. This, following the partial success of the first phase, particularly in the area of electricity loadshedding, which has not been implemented since March 26.

Bird said the NLCC, which was set up in March last year, was hoping to draw lessons from the successes achieved under the National Electricity Crisis Committee, which had been operating for a longer period.

He said that significant progress had already been made in helping Transnet to arrest its decline and in supporting the development of the Freight Logistics Roadmap for a fundamentally restructured logistics sector.

TFR, he said, was showing openness to the support it was receiving from the NLCC and private partners, including by agreeing to the secondment of five B4SA executives into the office of the CEO.

In addition, mutual cooperation agreements concluded to allow business to buy spare parts for the locomotives, under a mechanism where those expenses could be clawed back over time, had also proved successful on the coal line in particular.

Transnet's recovery was insufficient, however, to support the envisaged broader economic upturn, with TFR still not delivering contracted volumes on the coal, iron-ore and general freight corridors."But we are still not going to get to the numbers the economy needs through Transnet alone," Bird said, highlighting the urgency of the structural reforms to open the network to third-party operators and private investment.



• From page 14

what we call the sulphate ilmenite concentrate, not from beach sands, but from titanium ferrous magnetite inland. They run their own processes to produce a concentrate which is of high-quality titanium. So, you've got two types of pigments, one that's made using the sulphate process, using sulphuric acid, and one that's made using the chloride process, using chlorinate. The chloride pigment is more suited to automotive paints, whereas the sulphate pigment is more suited to decorative paints, architectural paints, plastics, et cetera. Currently, sulphate pigment is probably 55% of the global market, and 45% to 47% is the chloride pigment. We are even exploring some Highveld Steel slag, which we have used in the past, but because it's new technology, we might phase it in only at a later stage by bleeding it in. But we've run those trials. We've produced some pigment using it at a smaller scale, and we have many options.

Ownership

The project owners are Arkein Industrial Holdings and DBF Capital Partners. Co-developers include African Export-Import Bank, Africa Finance Corporation, and the State-owned Industrial Development Corporation of South Africa.

To watch a video in which Nyanza CEO Donovan Chimhandamba is interviewed by *Engineering News & Mining Weekly*'s Martin Creamer, scan the barcode or visit www.miningweekly.com.

AN

Solar and energy storage solutions – a smart investment to transform business operations



With escalating electricity tariffs and national utility Eskom's ongoing struggles, businesses face increasingly unpredictable power supply and rising operational costs. The latest tariff increase proposal places even more pressure on you if your business relies on grid energy. In this challenging environment, solar energy solutions have become more than a choice; they are a necessity for financial resilience, operational efficiency and long-term sustainability.

For industries that rely on constant energy, disruptions lead to costly operational downtimes, equipment failure and wasted resources. The quadrupling of electricity tariffs between 2008 and 2022, combined with the latest hike proposal, is forcing businesses to confront unsustainable energy costs. With the rising costs of grid energy, future energy costs are not within your control, and investing in solar power and energy storage solutions provides a financial safeguard. By installing solar solutions, you are essentially purchasing some, or most, of your future energy at a rate known to you today, gaining control over rising electricity costs and enhancing long-term financial planning.

The Strategic Role of BESS

Solar energy alone presents substantial benefits, but its full potential is unlocked when paired with a smartly engineered Battery Energy Storage System (BESS). BESS provides a continuous, reliable energy supply by storing excess solar energy generated during peak sunlight hours for use during high-demand periods or when grid power is unavailable. In essence, BESS optimises energy consumption, ensuring that the return on solar investments is maximised.

Even in the absence of solar power, BESS facilitates time-of-use arbitrage. Businesses can store grid energy when prices are low, typically during off-peak hours, and use this stored energy when prices are higher, further stabilising energy costs.

When the grid is already operating at or near full capacity, it often cannot accommodate the additional power generation from new solar systems, and then clients may face difficulty in connecting new solar installations to the grid. Capacity issues need not pose a serious barrier to your business growth. With intelligently engineered solutions, you can continue to grow your business with reliable power, even when the grid cannot accept new generation capacity.

Beyond the financial benefits, investing in solar energy solutions also aligns businesses with the global shift towards sustainability. Consumers and stakeholders increasingly favour companies that are environmentally responsible. By adopting renewable energy, businesses can reduce their carbon footprint, meet their industry's export requirements where relevant, and enhance their brand image, gaining a competitive edge.

Local Engineering with International Expertise

RenEnergy understands the technical considerations and opportunities associated with integrating renewable energy into complex business operations. Our expertise in solar system design, energy storage and grid interaction ensure that each solution is tailored to the specific needs of the business, allowing for long-term financial and operational success.

RenEnergy's success is built on a foundation of strong engineering expertise and international experience. With operations in both the UK and South Africa, we leverage global best practices to deliver cutting-edge renewable energy solutions. Our deep understanding of the energy landscape enables us to offer solutions that go beyond basic solar installations. We deliver intelligently engineered systems that address both immediate energy needs and future growth.

"By integrating Battery Energy Storage Systems with solar solutions, businesses can significantly reduce their operational costs. BESS allows companies to extend the benefits of sunlight far beyond daylight hours by storing excess solar energy for use during peak demand. This optimises energy consumption, reduces reliance on grid power and ultimately brings down electricity expenses. At RenEnergy, we pride ourselves on our expertise in engineering smart, tailored solutions that maximise the efficiency of BESS. We help businesses achieve greater energy independence and unlock substantial long-term savings," says RenEnergy Africa sales and business development manager **Juandré Pitout**.

We believe in building long-term partnerships with our customers, supporting their journey towards a sustainable, energy-independent future. Investing in solar and energy storage is not only a strategic move towards reducing your operational costs, but also a key step in future-proofing your business. With RenEnergy's bespoke energy solutions, you can stabilise your energy supply, shield your business from future tariff hikes, and enhance your sustainability credentials.

To learn more about how our engineered solutions can benefit your business, contact one of our expert energy consultants today.

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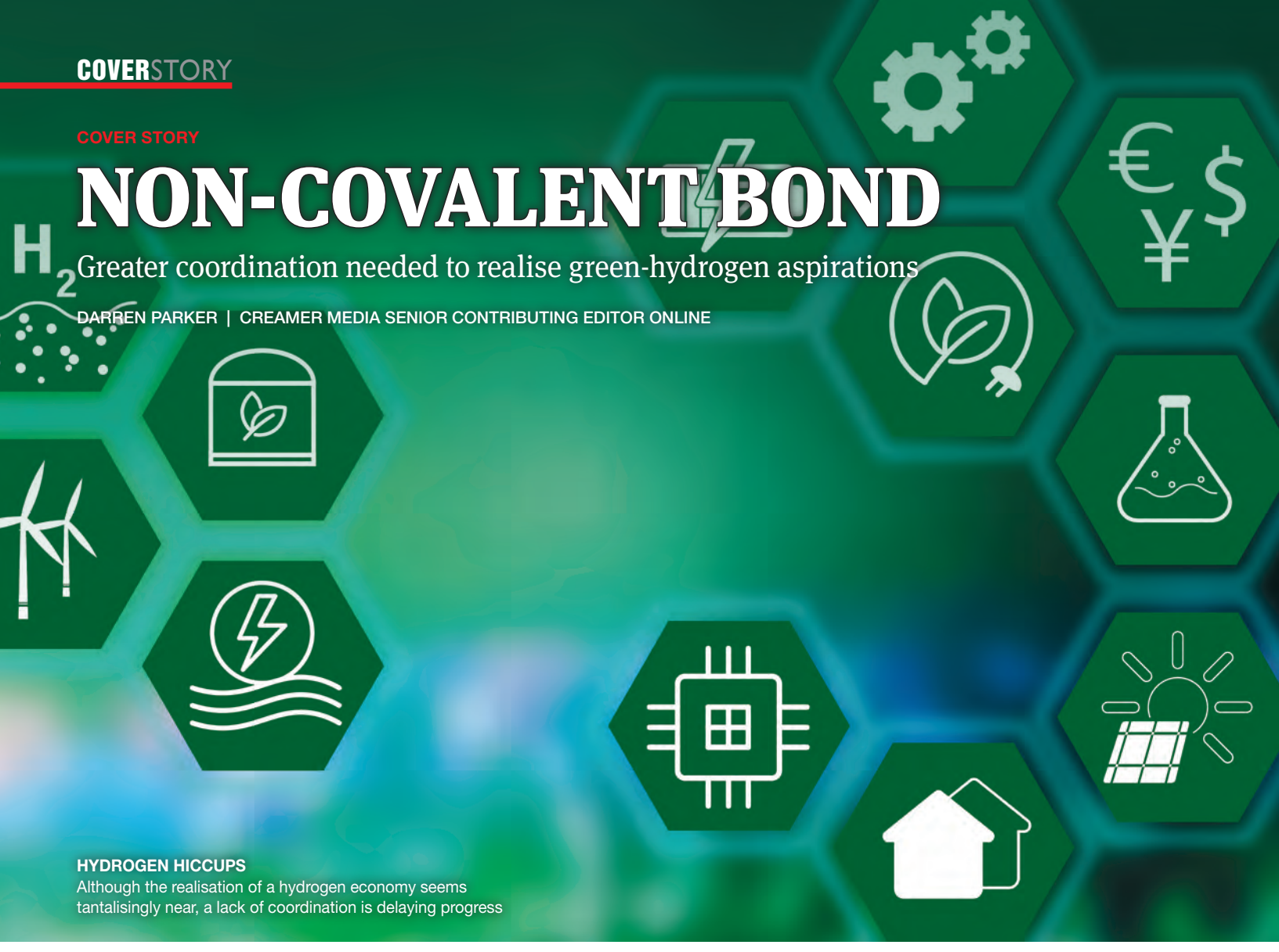
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COVER STORY

NON-COVALENT BOND

Greater coordination needed to realise green-hydrogen aspirations

DARREN PARKER | CREAMER MEDIA SENIOR CONTRIBUTING EDITOR ONLINE



HYDROGEN HICCUPS
Although the realisation of a hydrogen economy seems tantalisingly near, a lack of coordination is delaying progress

Despite enthusiasm for the development of a hydrogen economy from the public and private sectors, there remains a significant lack of coordination to effectively implement projects and bring the dream of a green hydrogen economy to life, according to energy technology company Mitochondria Energy System CEO and founder **Mashudu Ramano**.

"What I think is necessary, is a coordinated effort throughout the various government entities and departments to have a single sort of point of contact coordinating these developments," he said during a webinar hosted by *Creamer Media* earlier this month, where a roadmap to develop a green hydrogen value chain in South Africa was discussed.

Although the Department of Science and Innovation (DSI), the Industrial Development Corporation (IDC), the Department of Forestry, Fisheries and the Environment, as well as the Presidency were all involved, they worked separately, Ramano noted.

"We need a much more coherent approach . . . If we can develop the use of hydrogen in our economy and energy sector, we will create a much more dependable, secure energy sector that is not dependent on fluctuations in the oil markets around the world. If we can do that, South Africa would become a significant economy with stable energy provision."

Policy & Technology

Such collaboration was starting to take shape, DSI power director Dr **Cosmas Chiteme** argued, while highlighting government support for hydrogen projects in South Africa.

He noted that government's policy support – in the form of the Hydrogen Society Roadmap, approved by Cabinet in 2021 and released through the DSI in February 2022 – was followed by the Green Hydrogen Commercialisation Strategy that was led by the Department of Trade, Industry and Competition.

"From a policy perspective, I think South Africa is at a point where there is clear direction and clear support from government. What we need now to do is to try to create an enabling environment for projects to be executed."

Chiteme outlined three key factors required to ensure the successful development of a hydrogen economy in South Africa: industrial and manufacturing capabilities, research and development capabilities, and a sufficient natural resource endowment.

According to Chiteme, the country is well positioned to meet all the requirements.

A key indicator of government's support for hydrogen development is its approval in 2007 of the Hydrogen South Africa Research, Development, and Innovation Strategy, which laid the foundation for local hydrogen economy development.

Government has funded the research, development and innovation programme consistently since 2008, and has extended the programme by another ten years.

"Through that research, development and innovation programme, we have been able to create a very healthy portfolio of intellectual property along the hydrogen and fuel cell value chain," Chiteme said.

This includes advances in platinum group metals- (PGM-) based catalysts, and membrane electrode assemblies, as well as hydrogen storage technologies such as metal hydrides.



MASHUDU RAMANO
A much more coherent approach to developing the hydrogen economy in South Africa is needed



ZEPH NHLEKO
The conversation on the hydrogen economy is now where the renewable-energy conversation was in the early 2000s

"We believe that, with all that capability, we have set ourselves up to be a very significant player within the global hydrogen economy value chain, and all those technologies are now being taken to market through collaboration between government and the private sector.

Financing & Infrastructure

Despite policy support and an enabling environment, the challenge of financing green hydrogen projects remains significant.

PGM miner Impala Platinum sustainable development executive Dr **Tsakani Mthombeni** highlighted this issue by referencing a 2023 report from the International Energy Agency, which indicates that only 5% of hydrogen projects globally are reaching the final investment decision stage.

Funding was critical, and financing hydrogen projects required innovative and collaborative solutions, as there was insufficient funding available in the national fiscus, development finance institution (DFI) Development Bank of Southern Africa (DBSA) chief economist **Zeph Nhleko** concurred.

South Africa has about 45 DFIs and development finance agencies, with a collective asset base of about R346-billion, which could be leveraged to finance and develop the hydrogen sector.

"I feel the conversation on the hydrogen economy is more or less where the renewable-energy conversation was in the early 2000s, so there's still a few critical roles that DFIs should play at this early execution stage," Nhleko added.

One such role is in policy advocacy and technical assistance, with DFIs supporting government efforts to ensure green hydrogen is integrated into the national energy mix.

Additionally, regulatory and contractual frameworks must be developed to support hydrogen project development, which Nhleko compared to the importance of setting up the independent power producer procurement system for renewable-energy projects.

The second role is project preparation, which entails proper project scoping and conducting feasibility studies to ensure that projects are bankable.

"Project preparation contributes to the very important task of derisking projects to enable even more private-sector participation," he said.

Early-stage project preparation and support are crucial, as projects must be bankable to attract investors.

"The last role that is important at this early stage is developing the hydrogen infrastructure. This will help us to ensure that there's a successful hydrogen economy to facilitate things like storage, transmission and distribution," he said.

A 2023 McKinsey report, which reviewed about 1 000 large-scale hydrogen projects globally, identifies a significant global financing gap of $380-billion in hydrogen development to 2030. Of this shortfall, about 36% pertains to infrastructure development in the sector.

In response to this gap, Nhleko said the DBSA had taken steps to create a funding platform specifically for South Africa. The bank partnered with Sanlam, the IDC and two Dutch companies to establish the South African Hydrogen Fund.

The fund is structured into two tranches: a development capital tranche valued at $100-million and an equity construction tranche valued at $1-billion. The first tranche is allocated for supporting early-stage project preparation, and the second for the construction of hydrogen projects.

Nhleko explained that the development capital tranche had been fully raised, with plans to finalise the necessary documentation for partnerships, subscription and agreements by December.

The equity construction tranche is divided into three tiers: a junior tier of $200-million, an ordinary equity tier of $400-million and a senior equity tier of $400-million. The aim is to close the tranche by April next year, ensuring that, upon completion of early-stage project preparation, investors can move forward with the construction phase.

Technology Development

The panel also noted the important role of private companies in advancing the hydrogen economy by developing technologies that can be deployed locally.

"Our focus is to develop technologies and industrialise [them] on a large scale," Robert Bosch Africa sales and marketing manager **Willem Foord** said, describing the company's approach to scaling up industrial hydrogen technologies.

Foord discussed plans to integrate hydrogen technologies into the company's plant, in Brits, in the North West province, including on-site hydrogen production and compression for electrification during evening cycles.

Robert Bosch Africa is also exploring opportunities to help other nearby industry players use hydrogen as a decarbonised fuel.

"This will help companies reduce their carbon footprint and enable them to earn green certificates, which can be used to improve competitiveness in export markets." Foord added.

He concluded that this approach could contribute significantly to South Africa's decarbonisation efforts while promoting the growth of the hydrogen economy.

SOLAR ENERGY

Charging Ahead

Construction begins on Cape Town solar PV plant, battery storage tender released

IRMA VENTER | CREAMER MEDIA SENIOR DEPUTY EDITOR

The City of Cape Town (CoCT) has started construction on a R200-million, 7 MW solar PV plant, located in Atlantis, with the first electricity to be delivered by the end of next year.

The tender for the engineering, procurement and construction of the plant has been awarded to the Lesedi Technoserve Consortium.

Cape Town is the first metro in South Africa to build its own solar PV plant as it moves to diversify its energy resources.

"Construction is expected to take about a year, after which we'll connect the Atlantis solar plant to a nearby main substation to feed 7 MW – the project is scalable up to 10 MW – directly to the grid," says CoCT mayor **Geordin Hill-Lewis**.

"It is the first utility-scale renewable-energy project in Cape Town and will be owned and operated by the city. The idea is to potentially have a number of similar plants rolled out across the metro in the years to come.

"This is one of our flagship projects in our priority programme to build a more secure energy future, with advanced plans to diversify energy sources for cleaner and more affordable energy. This is so vital as we face another massive Eskom price hike," notes Hill-Lewis.

Hill-Lewis also announced that CoCT has just issued its first battery storage tender.

The battery storage facility will be constructed on the same site as the solar PV plant.

"The battery energy storage system (BESS) project aims to serve as a pilot project to eventually incorporate energy storage within the city's network," explains CoCT Energy MMC **Xanthea Limberg**.

"By co-locating the battery system at the Atlantis PV plant, it allows the solar PV and BESS to operate in synergy as a hybrid plant.

"The BESS project will target a minimum rated power output of 5 MW, and have a useable energy storage capacity of 8 MWh.

"We ask potential tenderers to visit the city's tender portal for more information and to submit their application before November 20," says Limberg.

ELECTRIC VEHICLES

Off-grid EV charger programme launched in the Eastern Cape

Zero Carbon Charge (Charge), in partnership with the Automotive Industry Development Centre Eastern Cape (AIDC-EC), and together with the Eastern Cape provincial government, has broken ground on what it describes as an off-grid, ultra-fast, green electric vehicle (EV) charging network.

Once completed, the network in the Eastern Cape will consist of 29 sites, 18 of which will be dedicated to electric passenger and light commercial vehicles (LCVs), while 11 will be off-grid electric truck charging stations.

The charging stations will be located along the N10, N6, R56, N9 and N2 freeways.

Charge says both charging networks will operate independently of Eskom's predominantly coal-powered grid, which means they should be green and loadshedding-proof.

It is envisaged that construction of the first charging station at Wagon Wheels Farm Stall on the N6 will start in the first quarter of next year.

Charge believes the demand for this type of charging infrastructure is only set to grow.

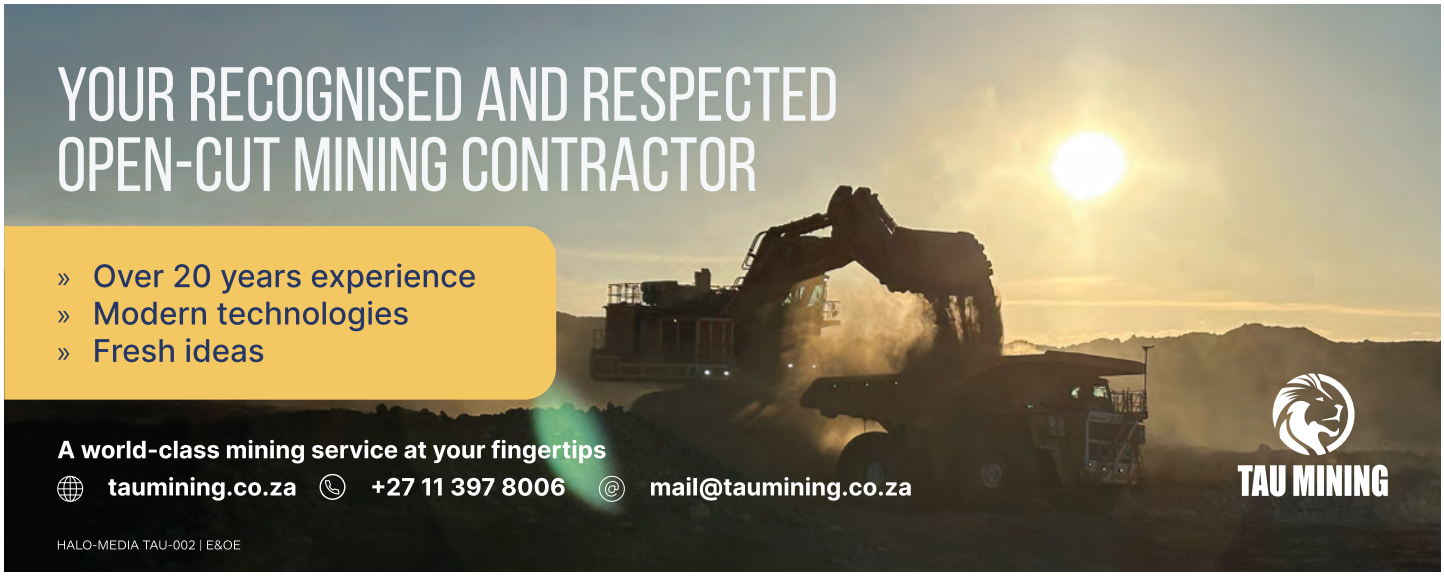
Following the latest predictions by motor and energy industry stakeholders, there will be around 120 000 electric vehicles on South Africa's roads by 2027, and 360 000 by 2030.

"We are grateful for the support from the Eastern Cape provincial government in streamlining current application processes, which has allowed us to start breaking ground on the 29 planned charging stations across the province," says Charge chairperson **Joubert Roux**.

"Transformation to a low-carbon economy is not only about climate change, but also about ensuring the province remains economically competitive, whilst maintaining the principles of Just Transition," adds AIDC-EC CEO **Thabo Shenxane**.

Charge says landowners hosting the charging stations will earn 5% of the revenue generated by the vehicles making use of these facilities.

IRMA VENTER
SENIOR DEPUTY EDITOR



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WATER

Chosen Partner

Renewable-energy solution provider for Limpopo water infrastructure development programme named

NATASHA ODENDAAL | CREAMER MEDIA SENIOR DEPUTY EDITOR

The Lebalelo Water User Association (LWUA) has selected asset management company Sustainable Power Solutions (SPS) as the preferred bidder to deliver a renewable-energy solution for the first stage of the Olifants Management Model Programme (OMMP), a significant water infrastructure development programme in Limpopo.

The OMMP, implemented by LWUA, is a public-private collaboration between government, led by the Department of Water and Sanitation (DWS), and the private sector, including several mining companies and industrial users.

While the OMMP started when the association signed the heads of terms for an OMM framework agreement with the DWS in March 2022, it was officially launched by former Water and Sanitation Minister **Senzo Mchunu** in October 2022, with the turning of the first sod at the Spitskop pump station in Steelpoort signalling the start of the construction of the project.



INCREASED SUPPLY
The OMM programme aims to fast-track bulk raw and potable water supply infrastructure for communities and commercial users

The programme aims to fast-track bulk raw and potable water supply infrastructure for communities and commercial users in Sekhukhune and Mogalakwena, optimise existing infrastructure and water supply from the De Hoop and Flag Boshielo dams in the Middle Olifants catchment, and enhance water supply to Polokwane local municipality, which faces a 30-million-litre-a-day water shortage.

The multiphase programme comprises the construction of 200 km of bulk raw water pipelines and 675 km of bulk potable water pipelines, along with several pump stations, reservoirs and water treatment works, expected to provide potable water to a yard connection for 140 communities, impacting about 390 000 people.

SPS' solar PV and battery energy storage system (BESS) solution will provide power, for a period of 25 years, to key infrastructure that forms part of Phase 2B and 2B+ of the OMMP.

The solar energy capacity will start at 16 MWp for Phase 1, increasing over two further phases over the next ten years to 23 MWp in the final phase.

The BESS, with a capacity of 13.3 MWh, will ensure a reliable and sustainable power supply for the three pump stations under construction, each to be equipped with two 3.5 MW pumps.

The renewable-energy solution will provide all operational and auxiliary power to the three pump stations, as their current locations prevent connection to the grid.

The OMMP's Phase 2B and 2B+ includes a new pipeline that will transport bulk raw water from the Flag Boshielo dam to reservoirs across the northern limb of the Bushveld Igneous Complex.

From there, 40% of the water will supply mines and 60% will be treated at water treatment plants in Mokopane and Sekuruwe, providing potable water to 140 000 community members and addressing Mokopane's water shortfall.

Phase 2B and 2B+, which includes the renewable-energy solution and the construction of the bulk raw water pipelines, pump stations, reservoirs and two water treatment works on the Northern Limb, is expected to be completed within 28 months following the final contracting.

"SPS emerged as the successful bidder in a competitive tender process, showcasing their extensive expertise, flexibility and ability to tailor funding solutions. Their innovative approach to integrating renewable technologies and sustainable practices positions them uniquely to meet the energy needs of the association's expansion into the northern limb through the OMMP," says LWUA CEO **Bertus Bierman**.

SPS business developer **Paul Rosenbrock** says that the project is an "exciting pivot" for SPS.

"We are leveraging our renewable-energy expertise to make a tangible difference in communities that need it most. By supplying a renewable-energy solution that will pump bulk raw water into areas currently lacking access, we are not only supporting the mining sector but fundamentally improving the quality of life for thousands of people."

In line with tender requirements, 1% of the project value will be allocated to socioeconomic development initiatives, which will ensure that local communities benefit directly from the investment through potable water, enterprise development, education and connectivity.

A key socioeconomic development initiative that forms part of the OMMP is the school upgrade programme, which provides modular infrastructure to schools across Limpopo to foster educational advancement.

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Dr. **Buyiswa Mncono-Liwani**

Executive: Corporate Services & Traction Motors Operations

Driving and Advocating for Transformation in the Railway Sector

Gibela Rail is charting a course for transformation in South Africa's railway sector. Under the astute leadership of Dr. Buyiswa Mncono-Liwani, the Executive for Corporate Services and Traction Motors Operations, Gibela is not only reshaping the rail industry but also making significant socio-economic strides and positioning rail as a contributor to Economic Development.

"As a strategic partner and client to PRASA, we are passionate and committed to our cause of fostering rail as the preferred transport mode of choice," says Dr. Mncono-Liwani. This vision is realised through the world-class trains produced at Gibela's state-of-the-art manufacturing facility. These trains transport millions of South Africans daily, safely delivering their hopes, dreams, and aspirations.

Gibela Rail prides itself on being a trailblazer in transformation within the rail sector. Reflecting this commitment, 81% of Gibela's workforce is under the age of 35, and 44% are women, a significant achievement in a traditionally male-dominated industry. Dr. Mncono-Liwani elaborates, "We take pride in pushing the envelope on transformation in the rail sector. Our commitment to empowering the youth and women is evident in our workforce composition and our continuous investment in their development, and in our efforts to secure their livelihoods."

The Gibela Traction Motors workshop is also performing very well, manufacturing a minimum of 96 motors which are equivalent to 6 trainsets per month. This important component of the Gibela business has achieved this in just about two years, offering more job opportunities to primarily women.

Gibela's commitment to innovation and continuous improvement is evident in its substantial investments in research and development (R&D). By strategically aligning with industry leaders and institutions of higher learning, Gibela ensures it remains at the forefront of industry trends. "R&D remains at the core of our operations," states Dr. Mncono-Liwani. "

Our strategic alignments ensure that we stay ahead of industry trends and continuously improve our offerings." To date, more than R42 million has been invested in developing solutions to sectoral challenges, underscoring Gibela's dedication to innovation.

Beyond its industrial achievements, Gibela is making a lasting impact on the communities it serves. Since its inception a decade ago, Gibela has created over 1 200 direct jobs and 10 000 indirect jobs. A R138 million investment in artisanal and technical skills training reinforces the company's commitment to rail-related skills transfer.

Gibela's Enterprise and Supplier Development (ESD) programme further stimulates local economic growth, having sourced from over 100 local suppliers. The company has invested over R500 million in developing suppliers through technical and industrial support and R125 million in ESD through grants, loans, and equity investments. "By capacitating our suppliers, we are future-proofing the success of the organisation in the production of metallic, interior, and sub-systems. Our long-term vision is to improve their manufacturing capabilities and drive sustainable change," explains Dr. Mncono-Liwani.

> ***"As a strategic partner and client to PRASA, we are passionate and committed to our cause of fostering rail as the preferred transport mode of choice."***

As Gibela continues to drive transformation in the rail industry, it invites collaborations with government, industry, and Black Industrialists who share a common vision of making passenger rail transportation the mode of choice for all South Africans. Through these partnerships, Gibela is not just building trains but also building a brighter, more connected future for the nation. By anchoring the sector through industrialization and sustainable collaborations, Gibela is set to propel further as an organisation, delivering on its promise of transformation and excellence in the rail industry.

CGS provides expert insights on critical minerals

SABRINA JARDIM | CREAMER MEDIA WRITER

While South Africa is well positioned to take advantage of the opportunities afforded by the increasing demand for critical minerals globally, issues such as the need for skills development, suitable technologies and clear regulatory frameworks were discussed during the fourth session of this year's Joburg Indaba, held on October 1.

Using the yearly Joburg Indaba as a platform to discuss the implications and definition of critical minerals in South Africa, the session titled 'Critical minerals: what do they mean in a South African context' honed in on the various opportunities and challenges the country faces in this regard.

Council for Geoscience (CGS) CEO **Mosa Mabuza** was among the speakers on the panel, sharing valuable insights on the importance of geology in identifying critical minerals and the importance of mapping the country to better understand the availability of these minerals.

With extensive exploration experience in multiple regional jurisdictions spanning the Southern African Development Community, West Africa and Canada, Mabuza has been serving as CGS CEO since 2017, following his tenure as deputy director-general for mineral policy and promotion in the Department of Mineral Resources and Energy (DMRE).

Other panellists included Orion Minerals MD and CEO **Errol Smart**, Thungela CEO **July Ndlovu** and African Rainbow Minerals CEO **Philip Tobias**.

During the discussion, Mabuza explained that minerals are defined as critical owing to their contributions to national development priorities, which can encompass concerns from food security to energy security.

Hence, given their importance across a myriad of sectors, Mabuza argued that it is, therefore, difficult to exclude any mineral from the basket of critical minerals, noting that all of them, by definition, contribute towards these national developmental priorities.

Mabuza thus argued that geological mapping is an essential key in unlocking value from critical minerals.

He posited, for example, that in the context of climate change and the country's net zero commitment, geological mapping to map energy requirements is necessary, thereby providing better understanding of how many minerals will be needed amid the global energy transition.



PLATFORM
Panelists hone in on the various opportunities and challenges South Africa faces in terms of critical minerals

"Mapping allows us to quantify the quantum of minerals that will be needed between now and the time frame that the world has committed to, and that gives us a sense of delineating what will constitute the exploration boom."

In this vein, Mabuza noted that CGS's support with the DMRE in mapping the country at a granular scale is yielding positive results.

For example, Mabuza highlighted the significance of graphite in electric vehicles, noting that geological mapping has uncovered a prospect that has a 260-million tonnes of graphite resource, which he said could position South Africa as a major graphite supplier.

"All of this arises because the government deliberately invested in geological mapping.

"This one resource means that South Africa could be placed on top of the world as the graphite supplier of choice. This will then trigger the policy consideration you put in place, as well as skills, development and technologies. What better time for this information to be emerging as we talk about critical minerals, so that we don't talk about them loosely, we are very deliberate about them," he expressed.

UNLOCKING VALUE

Furthering the discussion, Smart argued that a functional, investor-friendly regulatory system is necessary to unlock value from critical minerals in South Africa.

He mentioned that regulatory certainty is necessary to boost investor confidence, expressing optimism that the mining cadastre will assist in this regard.

As previously reported in *Mining*

Weekly, South Africa's new mining cadastral system, called Project Indwe, is currently on track for roll-out in June 2025.

During a presentation at the South African Investment Luncheon, hosted as part of the Africa Down Under conference, in Perth, Australia, on September 5, DMRE mineral and petroleum regulation deputy director-general **Tseliso Maqubela** reiterated that the new cadastre will provide a modern system to enhance the efficiency and transparency in the application, granting and management of mining rights.

With the new system, the department is seeking to improve the quality, accuracy and accessibility of all relevant information; have an efficient technological platform; reduce turnaround times in the application and granting processing; and ensure ease of compliance for the mining industry.

"We are going through an incredibly interesting time in South Africa at the moment … and we are getting to this whole crux of the matter [which is that the] regulatory environment has to be clear, transparent and efficient," Smart expressed.

Tobias added that beneficiation is also key in unlocking value from critical minerals, noting the role of technological advancement and research and development in enhancing beneficiation processes.

Tobias agreed with Smart on the importance of creating an enabling environment to unlock value, noting, for example, the challenges of high energy costs and the need for a secure and cost-effective power supply to support beneficiation.

"If the power is not secured, is not cost-effective, it basically takes us out of the running as a country, and really displaces us and we end up being price takers instead of really being price definers," he warned.

Mabuza thus suggested a regional approach to beneficiation, where each country focuses on its strengths and supports regional integration, with Tobias agreeing on the importance of regional consolidation.

INITIATIVES

As part of its integrated and multidisciplinary approach, CGS' scientific focus areas include minerals and energy.

The Geoscience for Minerals and Energy theme of CGS benefits from a legacy of more than 110 years of geoscience data collection, information and knowledge.

The planning and development of CGS' Geoscience for Minerals and Energy theme is also closely correlated with the numerous provincial and local embodiments of South Africa's National Development Plan: Vision for 2030, including various provincial and district development models throughout the country.

As noted in its annual report for 2022/23, CGS notes that focussed target regions are selected in anticipation of these having a direct impact on key development goals.

It explains that the minerals and energy systems that are being researched and developed are notable both at a local and international scale, relative to their supply, demand and beneficiation criteria.

These include key minerals that are deemed critical to future industrial and technological development.

With this in mind, CGS is undertaking various integrated and multidisciplinary geoscience projects which aim to produce high-quality geoscientific information and knowledge.

Consequently, CGS has been spearheading South Africa's first pilot carbon capture, utilisation and storage (CCUS) in Mpumalanga since 2021, conducting extensive research to identify suitable geological formations for carbon dioxide (CO_2) storage, under the mandate of the DMRE.

This landmark development follows the successful completion of a geological characterisation study, including the drilling of a 1 800 m stratigraphic borehole at the Goedehoop site, confirming its suitability for safe and permanent CO_2 storage.

This site represents a crucial step towards deploying CCUS technology as a viable solution to mitigate CO_2 emissions.

The CGS also signed a memorandum of understanding with the Mpumalanga Department of Economic Development, Environment and Tourism, signifying a commitment to joint efforts in advancing CCUS and related programmes as part of a broader intergovernmental strategy.



Mosa Mabuza
Council for Geoscience CEO

> ***"The direction the world is taking with critical minerals opens a whole new window of opportunity to renew mining and its contribution as the base of South Africa's economy. I think the greatest opportunity it presents is to turn South Africa into an exploration site"***
>
> **– Mosa Mabuza**

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Council for Geoscience

MINING PRODUCTS & SERVICES

Broader Worth

Omnia Holdings offering broader value proposition through BME mining segment

MARTIN CREAMER | CREAMER MEDIA PUBLISHING EDITOR

Leading mine blasting solutions provider BME has announced a new alignment with Protea Mining Chemicals, which provides one point of contact for two solutions through the BME brand.

In this regard, *Engineering News & Mining Weekly* put these questions to **Ralf Hennecke**, the MD of BME, an Omnia group company.

In what respects will the alignment of BME and Protea Mining Chemicals offer a more comprehensive value proposition to global customers?

Firstly, the global mining trend, as we need to acknowledge, is really going into more outsourcing of services, like explosives, drilling, chemicals and so forth and the mining industry in general is relying quite heavily on contractors to transfer skills and knowledge to themselves and to the rest of the industry. So, the alignment between explosives and the chemicals business plays directly into the hands of what we are trying to achieve. This solution offering will contribute greatly to the mining value chain, with the one being a rock-breaking solution, and the other being a minerals processing and minerals liberation solution. Ultimately, those two practices are a little bit intertwined. If we think about blast results and leading up to mineral liberation processes, the better you blast, the easier it is to liberate the mineral at the end of the day, or the easier it is to push the product, or the blasted material, through to the plant. This is not only a change in value proposition for the mining industry in general. It is a value proposition for our own people as well, and it is leading to being an employer of choice, because now the explosives engineers are learning about chemical processing, and the metallurgists are learning a little bit about blasting rock, and how those things are intertwined, so it really helps our company to become an employer of choice.

What safety protocols are paramount when BME Blasting Solutions provides customers with explosives and detonator offerings?

As we all know, safety is paramount, and is a ticket to the game today. It falls squarely into the ESG drive in our industry as well. We offer solutions for the entire product base now, the cost of ownership of our products, and living the life cycle of our products from not only blasting, but also liberalisation of the mineral at the end of the day. Safety in itself talks to the basics. Today, you cannot live as a miner or as a contractor in our ESG environment without doing the basics right. Safety falls squarely into that. Supply chain security, quality of products, processes, trust in people, application protocols and in all of those stages and in all of those characteristics that you need to offer the mining industry today, you need to be safe, not only in your own practices and what you're good at, but in today's mining game, you need to be the eyes and ears of your customers and give advice to their own operations and live in that ecosystem of mining production in general.

What hallmarks will BME Metallurgy uphold when it goes about providing mining chemicals and metallurgical solutions to the world?

First of all, having the metallurgists and specialists on the mine who understand the products, who understand the processes, and, most importantly, understand the customer needs. We have fit-for-purpose solutions for the mines. Just to give you an example, we offer chemical products to the mining industry at specific chemical concentrations that are optimised for their processing results or for their geology and their rock in order to liberate the minerals. You get different concentrations of products, and only by living on the mine and living in the space of the customer, can you understand and tweak what the customer ultimately would like to achieve. But we take the whole chemical side and explosive side one step further. Specifically on the chemical side, what we offer the customer is safety solutions from a handling, storage and chemical application perspective, but also offer supply chain solutions to procurement, transport, handling and storage of chemicals and explosives, and ultimately offer application solutions for both explosives and chemicals at the same time.



RALF HENNECKE
The global mining trend is really going into more outsourcing of services

In what respects does the alignment of BME and Protea Mining Chemicals provide BME with the opportunity to refresh its brand?

Our brand is very, very strong globally in BME. Everyone knows BME as an explosives provider and a lot of people ask us what the BME acronym stands for. In the new brand, it will stand for nothing but BME. Now you can have your own ideas. BME could stand for beyond mining explosives. It could stand for the old bulk mining explosives. It could stand today for beyond mineral extraction, which points to the chemical side of the business. But we said we're going to have one solution to a common customer base with one brand, and that brand is going to be BME and a refresh will simplify the business per se for our industry and for our customers that seek explosives and chemicals, if it is properly communicated. We are going through that marketing communication process over the next couple of months to make sure that our customers and our macro environment understand what BME actually and ultimately stands for.

Tell us about the innovation that BME has introduced in recent years and the growth trajectory it has experienced.

There's so much going on in our space that we're proud of. We've got tailor-made solutions that talk to some form of innovation on its own. If you can provide a solution from a mineral liberation and also a rock-breaking perspective that is tailor made for the customer and what they actually want to achieve, and you are successful,

• To page 30

AN



IS YOUR BUSINESS COMPLIANT?

As promulgated in the EPR Regulations by **DFFE** in GN 43879 and 43882 published in November 2020, **ALL** drum reconditioners, brand owners, importers, producers and manufacturers of new drums, selling metal or plastic packaging from 20-1200 litres into the South African market, **MUST** belong to a *Producer Responsibility Organisation* (PRO)

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SUPPORTING MEMBERS



Alcohol Breathalysers (Pty) Ltd

Alcohol Breathalysers supplies the iBlow10 no-contact breathalyser, a high speed no-contact alcohol breathalyser screener for testing drivers at road blocks and workers entering industrial sites and mines.

The iBlow10 provides up to 12 tests per minute without the use of mouth pieces and offers active and passive testing for when drivers or workers have difficulty exhaling. The iBlow10 can also be used with paper straws for no-contact breath testing.

The breathalyser also comes with replaceable and washable blow caps.

The unit is manufactured with a built-in magnet, which can be attached to most metal surfaces including poles, beams and security gates for no-touch self-breath testing.

iBlow10's bright LED lighting can be used in various ways at night and displays in white/red blinking, red light or red and blue light, making it ideal for traffic law-enforcement officers to direct traffic at road blocks to perform safer sobriety testing.

Alcohol Breathalysers has over 18 years of experience in providing breathalysers and device calibration services to mining, private individuals, law-enforcement and regulated industries.

The company offers the widest range of alcohol testers available in Africa, including professional, industry, law enforcement, business and personal models.

Alcohol Breathalysers save money, time and lives!

Basic Pack Option



Full Pack Option



#SoberDriving is #SafeDriving



Both options supplied with a rubber protective cover

MM





iBlow10 Technical Specification

Sensor type	SuraCell Sensor (Fuel Cell Sensor)	
Battery	6 x AA Size alkaline batteries (included) **OR** 6 x re-chargeable batteries (Non-Manganese)	
Weight	385 grams including batteries (excluding carry case / carton)	
Dimensions	275mm X 50mm X 50mm (excluding carry case / carton)	
Test Result	**LED Alert**	Zero: Green / Low: Red / Hi: Blinking Red 0.00/LO/HI or numerical result
	Display	(Display "HI in numerical result mode means higher than 0.48 Mg/L BrAC) Zero: 1 Beep sound
	Buzzer Alarm	Low: Repeating short beep sound High: Long Beep
Warming up time	2 to 10 seconds depending on temperature	
Analysis time	Within 2 seconds at 0.00 Mg/L BrAC	
Tests per minute	12 Times / 1 Minute	
Operation temperature	-5°C ~ 55°C	
Storage temperature	- 10 °C ~ 60 °C	
Mouthpiece	Blow cap (Replaceable & washable passive cone type)	
Auto power off	Adjustable 30 to 900 seconds.	
Display time	Adjustable 1 to 9 seconds	
Calibration interval	Default - Every 65,000 tests or 12 months whichever comes first	
Additional functions/ features	Built - in Magnet Reminder for calibration & grace period Calibration protection Manual LED lighting: White, Red blinking, Red, Red & blue Stores up to 5000 tests in memory which can be downloaded	

Alcohol Breathalysers

To learn more, please visit www.breathalysers.co.za or call +27 10 140 0785 or email: sales@breathalysers.co.za Whatsapp: +27 64 615 4337 Visit us in JHB • Durban • CT

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TRADE@WORK

CO_2, GH_2, GHG, H_2, LH_2, NH_3

Do these acronyms – chemical symbols, to be precise – mean anything to you? I apologise for unearthing any long-buried horrors from your school science days. While you ponder your mark out of a maximum score of six, I would like to offer you a brief distraction – or rather, a reprieve.



Riaan de Lange

Here are five words you probably didn't know are acronyms: Laser, which stands for 'light amplification by stimulated emission of radiation'; scuba, which stands for 'self-contained underwater breathing apparatus'; radar, which stands for 'radio detection and ranging; GIF, which stands for 'graphics interchange format'; and taser, named by its inventor, **Jack Cover,** after his favourite children's book character, Tom Swift, standing for Thomas A Swift Electric Rifle.

Now for your assessment: CO_2 stands for carbon dioxide, GH_2 for green hydrogen, GHG for greenhouse gas, H_2 for dihydrogen (hydrogen in a stable gaseous form), LH_2 for liquid hydrogen and NH_3 for ammonia.

If you have made it this far, you might be questioning the relevance of the science reflection and the fleeting reference to acronyms. Well, blame it on **Angela Ellard**. "Who?" you might ask. She is the deputy director-general of the World Trade Organisation (WTO) and spoke at the Hamburg Sustainability Conference on October 7. During her address, she argued that well-designed and effectively implemented trade policies serve as a crucial toolkit for facilitating a people-centred clean energy transition amid the escalating climate crisis. In other words, "effective trade policies are essential for the clean energy transition".

For context, the WTO released its 56-page report, 'Trade Policy Tools for Climate Action', at the twenty-eighth UN Conference of the Parties (COP28) in Dubai, United Arab Emirates, from November 30 to December 13, 2023. The publication aims to shed light on how trade policy actions for climate could accelerate the transition to a climate-friendly global economy as part of the WTO's efforts to leverage the power of trade to deliver on collective sustainable development objectives, particularly those related to the climate crisis.

It examines the trade policies governments could consider as part of their climate change mitigation and adaptation strategies. The report covers ten policy areas where governments have introduced measures to support the transition to a low-carbon economy, improve the flow of climate-friendly goods and services, decarbonise supply chains, and build resilience against extreme weather events and climate change.

The ten 'policy tools' are: trade facilitation; government procurement; regulations and certification; services; import tariffs; subsidies; trade finance; food and agriculture; sanitary and phytosanitary measures; and internal taxation and carbon pricing.

At the conference, Ellard noted that trade policies can help lower clean energy costs, decarbonise supply chains, harmonise standards, redirect subsidies towards sustainability, and create new economic opportunities in emerging low-carbon markets, ultimately fostering sustainable development.

She highlighted key challenges, pointing to the significant tariff disparities that currently favour high-carbon goods over renewable-energy equipment. While crude oil and coal face minimal tariffs, renewable-energy technologies can incur duties as high as 12% ad valorem. A reassessment of these tariffs could enhance the competitiveness of renewable energy and accelerate its adoption.

Ellard also highlighted the challenges arising from the 73 different carbon pricing schemes globally, which inflate compliance costs and threaten climate objectives. Trade policies can facilitate greater interoperability and collaboration on carbon pricing frameworks to alleviate trade tensions and expedite the transition to sustainability.

Another challenge is the importance of redirecting harmful subsidies towards more beneficial objectives, she said, highlighting that government support for fossil fuels exceeded $1.4-trillion in 2022. Ellard noted that the clean energy transition presents immense opportunities for developing economies rich in renewable-energy resources and critical minerals.

Looking ahead to COP29, Ellard emphasised the significant opportunity for global leaders to integrate climate finance, investment and trade. She concluded that a sustainable clean energy transition is both an environmental necessity and an economic opportunity, achievable only through collaboration.

The WTO remains committed to supporting the creation of an environment that leverages trade tools to achieve sustainable environmental goals and bolster the resilience of renewable-energy supply chains, while ensuring that it does not create trade barriers.

● *This economic and trade-focused column is prepared by Riaan de Lange – riaan@tariffandtrade.co.za. The views expressed in this column are the author's personal views*

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that in itself is talking to some form of innovation. But if we take that to the next level, we're doing product development, we're doing digitisation development.

The mining industry calls it modernisation. We're playing in the autonomy, automation, digitisation space. The outcome of all of that is ultimately to produce optimised blasts and optimal mineral liberation. If you take our products, for instance, our emulsion has been tweaked to give off into the atmosphere the least noxious fumes and carbon emissions. At the same time, we're using a used oil formulation, which takes away the used and waste oil from the mining industry and we repurpose that used oil into our formulations.

That talks to some form of circular economy that we provide. We've got electronic detonators that are the most accurate, safe and user-friendly detonator system in the world. Why I'm telling you all of this is because it contributes to blast optimisation. What the mines are after today is building digitisation programmes that talk to real-time reporting, data storage, data collection, data analysis, trend analysis, which, if done correctly, all lead to predictability in outcome and in blasting. That's what we are specialising in, and through optimised blasting, you take the right product through the mill at massive savings.

Most of all, if you do all of this correctly, the ESG benefit on its own and the outcome in less carbon emissions is invaluable to the industry today. We are also partnering with Hypex Bio to bring a new and groundbreaking explosive formulation that will almost revolutionalise the carbon emissions and the way of blasting on a global basis. But we're still working on how we are going to bring that to market in all the various territories in which we operate currently.

AFRICA BEAT

Africa's aid famine

Africa has long been the belle of the ball when it comes to overseas development assistance. But now, as donor countries turn inward thanks to economic hiccups from the Covid-19 pandemic and the Ukraine war, the flow of aid to the continent has dwindled to a trickle, a development some have warned could precipitate a major crisis.



Martin Zhuwakinyu

Highlighting the seriousness of the cuts, the European Council on Foreign Relations think-tank reports that EU governments and entities are set to reduce long-term development and climate funding – much of which had been earmarked for Africa – by €4.8-billion.

The reduction – equating to 6% of the yearly development funding from Germany, France and the EU – stems from national dilemmas and political imperatives in the bloc. Germany, for instance, opted to re-direct €2-billion in foreign aid after the country's apex court blocked the re-allocation of unused Covid-19-era debt to the country's green transition fund, leaving a huge hole in its budget. Similarly, France, which has also been struggling to balance its books, has decided to cut overseas aid by €800-million, while the European Council, in securing a €50-billion funding package for Ukraine, quietly diverted more than €2-billion from long-term development programmes.

For its part, the UK, an erstwhile EU member and traditionally a world leader in development assistance, has reduced its foreign aid spending from 0.7% of gross national income to below 0.5%.

But it's not just Europe where aid flows to Africa and other regions have become constrained. Organisation for Economic Cooperation and Development (OECD) statistics reveal that global development assistance for Africa's 1.4-billion people is now roughly the same as the aid provided to Ukraine, which has a population of only 44-million people.

Another OECD report, released in April and based on preliminary data for 2023, indicates that while development aid to Africa is now at a 20-year low, overall transfers from developed countries have been increasing each year since 2019, even when funds for refugees, the Covid-19 pandemic and Ukraine are excluded.

The reduction in aid flows to Africa is occurring at a time when three-quarters of Africans live in countries that are either in or at risk of debt distress, with several implementing painful austerity measures to avoid default, according to the European Council on Foreign Relations. The distress is particularly acute in countries such as the Democratic Republic of Congo, where 21.7-million people face a food crisis, and Sudan and South Sudan, where 4.4-million people are experiencing a food emergency. Moreover, Ethiopia's Tigray region has warned that the current situation could far surpass the famine in 1985, which prompted the Live Aid fundraising drive.

The severity of Africa's situation is brought into sharp focus in this year's 'Goalkeepers' report, which is published by the Bill & Melinda Gates Foundation and assesses global progress towards the UN Sustainable Development Goals. The report reveals that more than half of all child deaths occur in sub-Saharan Africa, that the proportion of the world's poor people living in this region has increased by more than 20 percentage points since 2010 and that malnutrition continues to be a pressing issue, further endangering its youth.

Juxtaposed with the dwindling aid flows to Africa from the world's rich nations are the mounting interest payments on the debts African governments owe these nations, which often exceed health and education budgets. This financial strain could jeopardise the wellbeing of young Africans, **Bill Bates** told journalists in New York last month, during an event marking the release of the 'Goalkeepers' report.

Given the strain that debt repayment obligations impose on African nations and other poor nations elsewhere, wealthy nations should seriously consider debt relief. After all, this is not a new idea. Between 2000 and 2015, 31 African nations – out of 36 beneficiary nations – had substantial portions of their debt wiped out. For instance, Malawi and Liberia had 90% of their external debt cancelled, while Sierra Leone received about 95% relief. Bigger economies such as Ghana experienced a lower, but still impressive, decline in debt stock of about 70%.

More relief can still be provided to support these nations.

● *Dr Zhuwakinyu, who holds a PhD in communication (media studies) from the University of South Africa, is Creamer Media senior deputy editor – martinz@engineeringnews.co.za*

BME is a key member of the Omnia Group, which is a prominent member of South Africa's highly regarded Johannesburg Stock Exchange. Why does Omnia favour this rebrand?

Firstly, both BME and Omnia are playing in the mining space. Omnia's purpose stands for innovating to enhance life, together creating a greener future. Omnia works with fertiliser, food security and liberating minerals. Omnia, in the Protea Mining Chemicals space, works with water purification and so forth. From a mineral liberation perspective, we both feel proud that we add to urbanisation, add to building hospitals, and add to having medical equipment developed through the minerals that we liberate. Omnia, as a group, acknowledges that, and it acknowledges that we are playing a more important role in achieving their value statement. But it's also about diversification. The agriculture space on its own lives in a very cyclical space, which goes through drought, El Niño and wet weather, and the weather's never right. The mining sector is a lot less cyclical but at the same time the feedstock through the fertiliser business and the mining industry and ammonium nitrates and so forth is the same. So, from a cyclicality perspective, it's a great value proposition for the group to grow the mining space a little bit more. The Omnia group feels that the mining space, from an ESG perspective, has so much more to offer, that we are currently enjoying all the support from the group to achieve what we want to achieve in the mining space.

To watch a video in which BME MD Ralf Hennecke is interviewed by *Engineering News & Mining Weekly*'s Martin Creamer, scan the barcode or visit www.miningweekly.com.

AFRICA IN FOCUS

Islamist militants a big nightmare for Sahel Alliance



Tara O'Connor

In little over two years, military rule in West Africa's three mineral-rich territories – Burkina Faso, Mali and Niger – has resulted in a sharp deterioration in the political, economic and security environment. Insecurity and uncertainty have now spread to infect the once stable, secure and profitable mining sector.

With now characteristic lack of forethought or tact, Burkina Faso's junta leader, Captain **Ibrahim Traoré**, in a radio address to mark the second anniversary of the coup in early October, announced that the Burkinabe junta would start to withdraw mining permits. Within hours of the report appearing in Reuters, mining companies operating in Burkina Faso were in crisis management mode, racing into consultations with the Mines Ministry and calling their investors to insist that their permits were not in danger. Within days, West African Resources, Endeavour and Orezone confirmed that their permits were not in danger and that the threat was levelled at companies not compliant with the mining code. Sources within the industry insisted that the Mining Ministry still maintains control of the function of governing the industry. What was in fact being announced was a re-packaging of its "use it or lose it" policy.

Burkina Faso's need to ensure that the gold sector continues unimpeded is such that it is clearing out companies that have not been able to meet their existing licence agreements. This is not new for the junta; in November 2023, the Council of Ministers withdrew four mining permits for reasons including lack of operations, failure to pay royalties and taxes, incomplete application to re-start operations, and stopping operations without commission approval. One such company, Russia's Norgold – a company under US sanctions – shows that the junta's need for production and royalties overrides the country's newfound political and military allegiance with the Russian State.

Changes in the mining code are not exclusive to the military juntas, but a perennial issue and part and parcel of changing regimes, whether by military coup or ballot. The modern-day Eldorado is a stable mining regime that endures for the lifetime of a mine. The Democratic Republic of Congo (DRC) is currently seeking better terms and diversifying mining partners – notably away from China; Côte d'Ivoire has said it would like to change its code for better benefits, and Botswana has successfully concluded a new deal with DeBeers – only to see the parent company put it up for sale. Most recently, Mali increased the government's stake in mining projects but the junta is also looking to increase its tax take and claims that one of the country's oldest investors, Barrick, owes $512-million in outstanding taxes and dividends. Only in Niger has the junta taken a hard line when it revoked France-headquartered Orano's uranium mining permit in July in a move that is seen as purely nationalist and political.

At the heart of the issue is the high cost of increased insecurity across the region after Burkina Faso, Mali and Niger ordered some 30 000 Western, donor-backed and multilateral troops that were providing counter-insurgency support to leave – and swapped them out for the support of a few thousand paid Russian troops made up of mercenaries and regular Russian army personnel.

The consequences of these coups, the junta's deliberate shift away from regional body Ecowas, from the UN and former colonial power France, and a dramatically shrunken military presence have been catastrophic for Burkina Faso, Mali and Niger. Traoré has largely lost control of the countryside outside Ouagadougou and has been the target of at least two serious coup attempts. His praetorian guard of Russian military advisers was reportedly slimmed down in August after Ukraine's armed forces invaded Russia's Kursk Oblast region. About 100 men of the 200 to 300 deployed in the capital were sent home, leaving Traoré vulnerable. Locally, Russian troops are not having much success either; in October, Russian veterans' organisations came to collect the bodies of 80 mercenaries that had been killed in July in a Tuareg separatist attack in northern Mali.

Of most concern are the advances that the Al-Qaeda-affiliated Jama'at Nusrat al-Islam wal-Muslimin (JNIM) has made in in all three countries – mainly through violent raid-and-retreat attacks that are virtually unopposed. In late August, JNIM claimed responsibility for a brutal attack in the central Burkinabe town of Barsalogho, where between 300 and 400 civilians and Burkinabe soldiers were killed. JNIM killed villagers indiscriminately, having apparently warned people not to cooperate with the army.

Then, in mid-September, JNIM carried out an audacious raid on Bamako, Mali's capital, attacking – and holding for several hours – the airport, key gendarmerie and military sites across the capital – including one close to where Russia's mercenaries are based. Several police academy trainees were killed as the jihadists demonstrated they had more than a raid-and-retreat capability.

Although local security sources report that Nigerien troops are more experienced than those in Mali and Burkina Faso, JNIM has gained ground there, too, announcing in mid-September that it had taken full control of an army barracks in the important south-western Tillaberi region.

JNIM's advances represent a major blow to the three military juntas who all took power giving security reasons alongside neo-nationalistic reasons, and to the Alliance des États du Sahel (AES) – whose core function is a defence pact between the three countries to come to each other's aid in case of attack. With JNIM within reach of two AES capitals, the AES' failure to defend itself has raised alarm in the coastal Ecowas member countries from which AES has nominally split. In mid-October, Côte d'Ivoire's President **Alassane Ouattara** and his Ghanaian counterpart, **Nana Akufo-Addo**, agreed to strengthen military cooperation and elsewhere border security has been stepped up.

Where will the chaos extend? Will there be contagion? The long-term threat of JNIM and its rag-tag allies in Tuareg separatists, minority ethnic militia movements and armed criminal has yet to be assessed. So far JNIM has been unable to take control and manage the regions it attacks and is unlikely to be able to form any kind of workable government, but unless the AES military fortunes improve, or it effects a dramatic reconciliation with Ecowas, that ambition may yet manifest itself.

● *O'Connor is MD of pan-African consulting firm Africa Risk Consulting. She is a University of Cape Town graduate and has spent 25 years assessing Africa's political and business environment – Tara@africariskconsulting.com*

PEOPLEINCAMERA

SOUTH AFRICAN YOUTH robotics team Texpand recently made history by winning the 2024 FIRST Tech Challenge (FTC) World Championships. The championships had over 200 teams from across the globe vying for the coveted title. The team's success was assisted in part by high-tech polymer components donated by polymer supplier igus. Texpand team director and mentor Greg Buckle said the victory not only highlighted the potential of South Africa's youth but also showcased how the collaboration between industry and education can "lead to extraordinary results". He added that, "a turning point for our 2024 season came when igus, through its Young Engineer Support programme, donated various polymer components to us".





IN A SIGNIFICANT step towards enhancing food security and promoting long-term socioeconomic development, Eurasian Resources Group in Africa, through its Frontier SA entity, presented agricultural equipment to its six host communities. The equipment, handed over after community capacity-building sessions, includes two tractors, two ploughs, one fertiliser spreader, one 10-t trailer, one 5 000-ℓ water trailer and six motorcycles, all of which are designed to increase agricultural productivity and efficiency. The initiative is designed to improve crop yields, increase food security, and ensure higher incomes for farming households. This donation forms part of Frontier's 2022 to 2026 commitments to support the transition from manual to mechanised farming for the Kabumba, Kaloko, Kimfumpa, Lukangaba Custom, Lukangaba Mashimu, and Sakania communities.



GLOBAL MINING COMPANY Glencore welcomed esteemed guests to its sixth annual conference on October 8, in Kinshasa, in the Democratic Republic of Congo (DRC), where Glencore DRC gathers a broad cross section of key stakeholders for a yearly exchange. The event has become an important platform to engage in critical issues affecting the DRC mining sector while showcasing the efforts that industrial miners are making in the areas of environmental, social and governance; traceability and sustainability. This year's event included participation from special speakers including Minister of Mines Kizito Pakabomba, Ambassador of Switzerland to the DRC Chasper Sarott, Gécamines chairperson Guy-Robert Lukama, Standard Bank in the DRC general director Marie Gabriel Opese, CNDH VP Joelle Kona, and Glencore International Sustainable Development head Anna Krutikov. Pictured from left are Glencore in the DRC president Marie-Chantal Kaninda, Sarott, Opese, Pakabomba, Krutikov and Glencore Copper Africa CEO Mark Davis.

PUSH PAUSE

The only dates I get these days are software updates.

ONTHEMOVE



JAKE GOVENDER

African Group Lubricants (AG Lubricants) is pleased to announce the promotion of **Jake Govender** from sales director to CEO, effective immediately. Succeeding Mark Kerwan, Govender has been with AG Lubricants for a decade, playing a pivotal role in driving growth and sales strategy, significantly expanding the company's market presence and revenue, and earning various awards.



DION GEORGE

Forestry, Fisheries, and the Environment Minister Dr **Dion George** and his Norwegian counterpart Tore Onshuus Sandvik have been appointed Ministerial Pair by COP29 President-designate Mukhtar Babayev. They will steer informal consultations on mitigation before and during COP29. George says the decision "recognises the country's long-standing role at the multilateral climate negotiations".



IN A RENEWED effort to combat crime and enhance public safety, the South African Police Service has formalised a significant partnership with the Gauteng Province and the City of Johannesburg through a cooperation agreement. The agreement was signed on October 10, marking a milestone in the collaboration between national, provincial and municipal authorities in the fight against crime. The signing was officiated by the Minister of Police Senzo Mchunu (third from the right), alongside key representatives from the provincial government and the city, including Johannesburg acting Executive Mayor Jack Sekwaila (furthest left), Infrastructure Development MEC Jacob Mamabolo (second from the left) and National Police Commissioner General Fannie Masemola (second from the right). The agreement will see law enforcement agencies pooling their resources to intensify efforts to reduce crime.

By Sheila Barradas | Senior Deputy Editor

Athlone Waste Water Treatment Works



Name of the Project
Athlone Waste Water Treatment Works (WWTWs).
Location
City of Cape Town, in the Western Cape, South Africa.
Project Owner/s
City of Cape Town Water and Sanitation Directorate.
Project Description
The project will improve the WWTWs' treated effluent quality and minimise odours emanating from the site.
The project will be completed in phases.
Phase 1 entails the completion of a new blower house to enhance the aeration system, which is critical for maintaining the biological processes that treat wastewater. This phase also entails replacing the aeration systems, mixers and recycle pumps, which is ongoing.
Work on Reactor A has been completed, and work on Reactor B is in progress.
The upgrades to the aeration and disinfection systems are crucial to ensuring that the effluent discharged into the Black river meets environmental standards.
The Phase 2 upgrades will result in the plant's capacity increasing to serve more households.
Key measures include:
• Enhancing the inflow system to improve the initial treatment of wastewater.
• The refurbishing of the disinfection facility to improve the final treatment stage, ensuring safer effluent discharge.
• The installation of new odour-control systems to significantly reduce the emission of gases, which will address the persistent issue of foul odours – a primary concern for nearby residents.
• Upgrading the dewatering systems, which will help manage sludge more effectively, reducing the likelihood of odours and improving overall plant efficiency.
Potential Job Creation
Not stated.
Capital Expenditure
R4-billion.
Planned Start/End Date
The project started in 2022 and is expected to be concluded by 2026.
Latest Developments
The City of Cape Town has reported that steady progress is being made towards completing the multibillion-rand upgrades to Athlone WWTW. Ongoing repairs and maintenance continue to keep this plant operational. Currently, 25% of the first phase of the programme has been completed, with most of the new equipment required already delivered.
The city has further indicated that operations are being closely monitored to keep project timelines on track.
Key Contracts, Suppliers and Consultants
None confirmed.
Contact Details for Project Information
City of Cape Town,
email contact.us@capetown.gov.za.

Lilian Ngoyi street rehabilitation



Name of the Project
Lilian Ngoyi street rehabilitation.
Location
Johannesburg, Gauteng, South Africa.
Project Owner/s
Johannesburg Roads Agency (JRA).
Project Description
On August 14, 2024, the JRA terminated the contract with Step Up Engineering for the rehabilitation of Lilian Ngoyi street.
The JRA is appointing a new contractor to undertake the remaining work on the project's first phase, which includes:
• the reconstruction of the 450 m of collapsed road and associated infrastructure sustained during a gas blast in July 2023;
• construction of a new reinforced concrete tunnel;
• reinstallation and relocation of stormwater and sewer pipes;
• installation of lighting, detection and ventilation systems; and
• the implementation of lateral support for structural stability.
The new contractor will also undertake Phase 2 of the project, inclusive of the road surface upgrades and sidewalks adjustment along the 1.8 km stretch.
Potential Job Creation
Not stated.
Capital Expenditure
Not stated.
Planned Start/End Date
The projected duration for the remainder of Phase 1 is nine months, with the project expected to be completed in June 2025 – an extension of the initial deadline by six months.
The second phase will be completed in June 2026.
Latest Developments
None stated.
Key Contracts, Suppliers and Consultants
To be announced.
Contact Details for Project Information
JRA, email +27 11 298 5171 or
email mediaqueries@jra.org.za.

Thaba Joint Venture project



Name of the Project
Thaba Joint Venture (JV) project.
Location
Northern part of the western limb of South Africa's Bushveld Complex.
Project Owner/s
The project is an unincorporated 50:50 JV agreement between Sylvania Platinum's wholly owned South African subsidiary Sylvania Metals, and Limberg Mining Company, a subsidiary of ChromTech Mining Company.
Project Description
The Thaba JV aims to process chrome tailings from historical dumps and run-of-mine chrome ore from the Limberg chrome mine to produce platinum group metals (PGM), and chromite concentrate, expanding Sylvania's operations and leveraging its expertise in chrome and PGM recovery.
The project will add attributable yearly production of about 6 500 4E (platinum, palladium, rhodium and gold) PGM ounces, and introduce 200 000 t of chromite concentrate to Sylvania's existing production profile.
Potential Job Creation
Not stated.
Net Present Value/Internal Rate of Return
The project has an estimated payback of three years.
Capital Expenditure
The project is provisionally budgeted at R600-million.
Planned Start/End Date
The project execution phase is estimated at 18 to 24 months, which started in August 2023, with the first production expected in the second half of the 2025 financial year.
Latest Developments
Sylvania reported in August 2024 that the design, procurement and construction elements of the project were on schedule.
Key Contracts, Suppliers and Consultants
Not disclosed.
Contact Details for Project Information
Sylvania Platinum, tel +27 11 673 1171 or
email reception@sylvania.co.za/
info@sylvaniaresources.com.
ChromTech Mining Company,
tel +27 11 035 3950.

Pecém Green Hydrogen Hub



Name of the Project
Pecém Green Hydrogen Hub.
Location
Pecém Industrial and Port Complex in Ceará, Brazil.
Project Owner/s
Fortescue.
Project Description
Fortescue aims to make the green hydrogen industry a reality in Brazil.
The proposed hydrogen plant will be implemented in two phases. Phases 1 and 2 will have a total capacity of 1 200 MW, and Phase 3 a capacity of 900 MW.
The proposed plant will have a final production capacity of 837 t/d of green hydrogen, based on the consumption of 2.1 GW of renewable electricity.
The hydrogen generated will be transformed into ammonia to facilitate its being transported in large cargoes. The production of green hydrogen is equivalent to 4 725 t/d of green ammonia.
Potential Job Creation
Not stated.
Capital Expenditure
Not stated.
Planned Start/End Date
Operations are scheduled to start in 2027.
Latest Developments
The project has been approved to progress to the feasibility stage.

AN

Key Contracts, Suppliers and Consultants
Not indicated.
Contact Details for Project Information
Fortescue, tel +61 862188888 or email imprensabrasil@fortescue.com.

Pak lithium mine project and lithium chemicals conversion facility



Name of the Project
PAK lithium mine project and lithium chemicals conversion facility.
Location
North of Red Lake, in Ontario, Canada.
Project Owner/s
The project is a joint venture (JV) between Frontier Lithium and Mitsubishi Corporation.
Under the terms of the JV, signed on March 2, 2024, Mitsubishi will acquire an initial 7.5% interest in the project for C$25-million.
Upon completion of the definitive feasibility study (DFS), Mitsubishi will have the right to increase its interest in the JV to 25% through additional shares at a price based on the net value of the project as shown in the DFS.
Project Description
The project contains North America's highest-grade lithium resource and is the biggest in Ontario by size.
The PAK site includes: the PAK and Spark openpits, rock dumps, a concentrator plant complex, a tailings management facility, electrical distribution, offices, a camp, a warehouse, maintenance, effluent treatment and an airstrip. The chemicals plant site will be located in the Thunder Bay region and will comprise the chemicals plant and analytical facilities, as well as product and consumable handling infrastructure.
The 2023 prefeasibility study (PFS) proposes the construction of a hydromet plant that will convert spodumene concentrate feedstock, sourced from a vertically integrated spodumene openpit mining and milling facility at Frontier's PAK lithium project over a 24-year mine life.
The PFS demonstrates the production of 7 360 t/y of battery quality lithium carbonate and 12 520 t/y of battery quality lithium hydroxide monohydrate. This will support the growth of electric vehicles manufacturing in the region.
Potential Job Creation
Not stated.
Net Present Value/Internal Rate of Return
The PFS estimates a pretax net present value, at an 8% base case discount rate, of $2.59-billion and an internal rate of return of 28.6%, with an after-tax payback of 4.9 years after the start of commercial operations.
Capital Expenditure
The May 2023 PFS estimates total capital expenditure of $468-million for the technical grade concentrator, and expansion capital of $576-million for the chemical-grade concentrator and chemical plant, including a contingency of 20%.
Planned Start/End Date
To be confirmed.
Latest Developments
Frontier Lithium is using funding from its JV partnership with Mitsubishi to progress the project towards a vertically integrated DFS, which is targeted for completion in 2025.
Key Contracts, Suppliers and Consultants
BBA E&C Inc, in conjunction with Halyard Inc, WSP Golder, Ian Ward Consulting Services and Environmental Applications Group (PFS).
Contact Details for Project Information
Frontier Lithium, tel +1 705 897 7622.

Seven Forks solar plant



Name of the Project
Seven Forks solar plant.
Location
Lower Tana region, Kenya.
Project Owner/s
Kenya Electricity Generating Company (KenGen), in partnership with the French Development Agency.
Project Description
The plan is to install a 42.5 MW solar power plant at the Seven Forks dams, where KenGen generates most of its hydroelectricity.
The additional capacity will not only scale up renewable energy but also cushion Kenyans against the rising cost of electricity, as it will complement the hydroelectricity generation during the day and save water for electricity generation at night, especially during drought.
Potential Job Creation
Not stated.
Capital Expenditure
Not stated.
Planned Start/End Date
The project is expected to take 28 months to complete.
Latest Developments
None stated.
Key Contracts, Suppliers and Consultants
None stated.
Contact Details for Project Information
KenGen, tel +254 711036000/+254 732116000 or email pr@kengen.co.ke or media@kengen.co.ke

Lynas Malaysia solvent extraction circuit reconfiguration



Name of the Project
Lynas Malaysia solvent extraction circuit reconfiguration.
Location
Malaysia.
Project Owner/s
Lynas Malaysia, a subsidiary of Lynas Rare Earths.
Project Description
The reconfiguration of one of Lynas Malaysia's solvent extraction circuits will facilitate the production of dysprosium and terbium and will complement Lynas' existing light rare earths product range.
The new circuit is designed to separate up to 1 500 t/y of SEGH – a mixed heavy rare-earth compound containing mixed samarium, europium, gadolinium, holmium, dysprosium and terbium.
Potential Job Creation
Not stated.
Net Present Value/Internal Rate of Return
Not stated.
Capital Expenditure
$25-million.
Planned Start/End Date
Commissioning and ramp-up is expected to start in 2025.
Latest Developments
Front-end engineering design has been completed and detailed engineering design is under way.
Key Contracts, Suppliers and Consultants
None stated.
Contact Details for Project Information
Lynas Rare Earths, tel +61 8 6241 3800 or email media@Lynasre.com/ investorrelations@Lynasre.com.

COMING UP

- Kumba Iron Ore plans to invest in margin-enhancing ultrahigh dense-media separation processing technology at its Sishen mine located in South Africa's Northern Cape province. This technology uses specialised ferrosilicon in the plant processing of raw iron-ore, and allows for greater flexibility to process a wider range of iron grades and densities.
- Based on mineral resources drilled at Kinross's Great Bear gold project, in Canada, to date, a preliminary economic assessment (PEA) has outlined a high-grade combined openpit and underground gold mine. The proposal to mine the openpit and underground concurrently provides significant production flexibility and time to continue exploration drilling from underground to further expand the resource and mine life, the PEA contends.

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Flagship Springs colliery set to start construction

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BEKEZELA COLLIERY
Canyon Coal's soon-to-be megamine is slated to produce 600 000 t run-of-mine coal and will have a life of mine in excess of 20 years

Coal explorer and developer Canyon Coal is preparing to start construction on its greenfield Bekezela opencast mining project in the first quarter of 2025, subject to market conditions.

The project – for which environmental authorisation was granted in 2019 and the water use licence in 2023 – is situated adjacent to Canyon Coal's Ukufisa Colliery, in Springs, Gauteng.

The Bekezela Colliery has been designed to reach a monthly production target of 600 000 t of run-of-mine (RoM) coal, once in steady-state. The R1.5-billion project has a life-of-mine (LoM) in excess of 20 years.

"This is a significant project for the company because it will be Canyon Coal's first megamine, with the potential of creating approximately 800 jobs," says Canyon Coal holding company Menar head of projects **Gerhard Cronjé**.

About 320 of the jobs will be sourced from the local community and Canyon Coal also intends to procure local goods and services, wherever possible, from local companies that meet its procurement requirements.

"The presence of a mine in the community will encourage skills development, which is critical for developing the economy.

"The company is dedicated to promoting youth empowerment through bursary programmes. After the mine's development is complete, internships, learnerships and training programmes will be offered to nurture skills development," explains Cronjé.

Plant construction will take between 10 and 12 months, with emphasis on the construction of infrastructure for the beneficiation plant, power supply, workshops, fuel storage and ablutions, as well as the development of haul roads.

A 1 000 t/h beneficiation plant forms part of the development of Bekezela, to ensure sufficient supply of the specified grade product.

Steady-state production will gradually be achieved over a six-month period. The new beneficiation plant will be capable of processing the RoM coal into the required saleable product, on site.

Round-the-Clock Operation

To ensure that Bekezela meets its production target, a comprehensive mine plan has been developed to integrate advanced geological surveying, responsible resource management and regular equipment maintenance.

"Strict adherence to the comprehensive mine plan forms a crucial part in managing the projected monthly RoM target of 600 000 t. Bekezela will most likely operate on a 24/7 basis, with clear scheduling to maximise output," adds Cronjé.

He further explains that a series of drilling campaigns have ensured a high level of confidence in the quality of the coal and geology of the reserve.

"Continuous exploration drilling and adaptive mining methods will help maintain efficiency, adjusting operations to account for unforeseen changes in ore quality while minimising waste and ensuring long-term viability."

Sampling the RoM coal will ensure consistency in quality: "This is crucial for customer specifications to be met and to optimise pricing," explains Cronjé.

As for environmental stewardship, the mine will also adopt progressive rehabilitation techniques to ensure that its environmental impact is reduced as mining progresses.

Cronjé tells *Mining Weekly* that pollution control dams will be constructed on-site to contain contaminated water.

• To page 38



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• From page 36

". . . closed water reticulation systems have been effective at our other operations in ensuring that no contaminated water is released from the sites. Water is channelled and collected in pollution control dams and used for dust suppression within the mine's boundaries, and pumped from the dams back to the on-site processing plants for reuse."

Menar's environmental team will constantly monitor water processes to ensure compliance with all the relevant laws and regulations.

Further, in terms of its social licence to operate, Cronjé says Canyon Coal places "great value" on its relationship with Bekezela's surrounding communities and is dedicated to fostering positive long-term relationships.

". . . Canyon Coal recognises and appreciates the role of Bekezela's host communities as one of the crucial stakeholders in the development of the project. As a result, the mine actively engages with surrounding communities through consultative meetings."

The project was discussed, and a draft of its social and labour plan reviewed, during a public participation meeting held last month for residents of Ward 12 of the Lesedi local municipality.

Similar engagements with other communities surrounding the mine can be expected as the project progresses, says Cronjé.



MINING IN MOTION
The Bekezela project will house a 1 000 t/h beneficiation plant

A collision-avoidance system (CAS) has been implemented for all Canyon Coal's opencast mobile equipment across all operations. Following rigorous testing, it was first implemented at Khanye Colliery, in Bronkhorstspruit, Gauteng, and Bekezela will also use the system once mining starts.

"The CAS, developed by software technology company Minetec Smart Mining, prevents accidents by providing machine operators with early audio and visual warnings when near another machine or structure," notes Cronjé.

Canyon Coal is also exploring new products and technologies that are aligned with a level nine directive on CASs, including blasting software and mine planning technologies.

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Oil-monitoring tech boosts maintenance

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South Africa-based digital solutions provider Britehouse Mobility, and its partner Perfect Filtration, are optimising plant efficiency and reliability of mobile mining equipment with the ATAJO OnEdge live conditioning monitoring digital product suite.

The platform – launched last month in Johannesburg – comprises real-time oil sensors and software which can proficiently monitor and analyse oil contamination issues.

Mining operations have to deal with challenges such as keeping abreast of maintenance issues, predicting equipment failures and enhancing machinery performance.

The ATAJO OnEdge product suite was developed to assist mines in mitigating these challenges, because, traditionally, mining plants could only be assessed during scheduled maintenance, leading to limited condition monitoring and potentially resulting in significant losses in production and a reduction in the availability of machinery.

The product suite is useful for trackless mobile mining equipment in both opencast and underground mining operations. It is designed for production equipment such as drill rigs, loaders and dumpers, for real-time oil contamination detection, explains Britehouse Mobility business unit lead and manager **Marco Capazario**.

The live condition monitoring element of ATAJO OnEdge uses sensor technology to monitor oil that is used in machinery, centralising the data, making it easy for mining operators to detect issues resulting from oil contamination.

The centralised data is processed, and exceptions are communicated through a mobile app, email or WhatsApp, consequently enabling mine operators to make informed decisions about oil contamination issues and the ability to track the consequential action taken.

The data can be accessed in near real-time through the cloud, or by on-site personnel in instances whereby users opt not to have potentially sensitive information on Web-based servers.

"It's really about streamlining the data and providing [reliability engineers] with relevant data that is meaningful to them and their function within engineering," explains Capazario.

All-round Operation Enhancement Benefits

Various experts and technicians can consult on ways of dealing with oil or diesel contamination issues, owing to ATAJO OnEdge's high-quality data that is captured by the real-time sensors.

Mining operations can, therefore, implement the data-driven decision-making platform facilitated by the product suite to reduce the costs incurred because of untimely or late oil contamination detection.

The product suite also allows for identifying trends in the performance of oil and diesel in machinery, such as exposure to contamination and the contamination type, as well as the severity and duration of the contamination.

This enables engineers or technicians to take immediate action and establish preventative measures to decrease the likelihood of similar contamination occurrences.

The product suite can also be integrated with existing enterprise asset management and enterprise resource planning systems.

These benefits serve to help mine operators reduce maintenance costs, increase equipment longevity and uptime, and improve profitability.

Capazario says the ATAJO OnEdge has been thoroughly tested through extensive research and development projects at an iron-ore and manganese mine, in the Northern Cape, for about five years.

Consequently, 120 ATAJO OnEdge system interfaces are being used on equipment, including drill rigs, dump trucks and loaders, for engines, transmissions and hydraulic systems.

Going forward, Britehouse Mobility and Perfect Filtration will focus on growing the footprint of the product suite.

"We are looking at ATAJO OnEdge in a very specific application – in terms of oil monitoring – which is quite a technical subject and a very detailed, highly specialised area. However, it can also be utilised in many other areas and aspects . . . I think that's where we play a critical role," concludes Capazario.

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Strategic collaborations key to industry prosperity

Through collaboration between various mining sector stakeholders – including local governments, community stakeholders and strategic collaborators – mining companies are finding ways to keep their operations running efficiently, ensuring that they remain viable in an increasingly competitive and volatile landscape, reports diversified miner BCR Holdings.

Despite South Africa's mining industry being one of the most advanced on the continent, it has not been immune to setbacks, the company notes.

This is evidenced by statistics from Minerals Council South Africa in September, showing a decline in mining production of 2.3% on a year-on-year basis. Three commodities were mainly responsible for this decrease, namely coal, iron-ore and platinum group metals.

Facing significant headwinds, such as loadshedding, aging infrastructure and ongoing labour unrest, operations across the sector are constantly being disrupted. BCR highlights estimations in 2023 showing that the South African mining industry lost R100-billion in profit owing to the country's unreliable electricity supply, railway constraints and market price fluctuations.

However, as a cornerstone of South Africa's economy, BCR notes that the mining industry is vital to the country's growth, and to overcome this challenging environment, collaboration has emerged as a "powerful tool" for navigating industry pressures.

As a major industry segment, the opencast mining sector plays a pivotal role in providing critical minerals such as platinum, chrome and coal, to various global supply chains. However, opencast mining also faces numerous challenges, such as infrastructure constraints, fluctuating commodity prices, regulatory uncertainties and growing pressure for sustainable practices.

In response, BCR notes that strategic partnerships have become a key driver of success, helping mining companies navigate these complexities while boosting efficiency.

One of the major benefits of such partnerships, the company says, is the shared knowledge and resources they bring.

"In a sector as complex as mining, access to a broader network allows companies to streamline their processes, improve project planning, and manage risks more effectively," says BCR Holdings cofounder **Reon Barnard.**

He advises that South Africa's opencast mining companies should reassess the main roadblocks that are negatively affecting production and identify opportunities for collaboration.

"The country's significant infrastructure and logistical challenges are severely hindering the efficient movement of goods. Bottlenecks, delays and cable theft, have inadvertently forced mining companies to transport produce by road at a cost of seven times more per tonne."

To address this, mining companies are increasingly entering into public-private partnerships.

By working alongside government entities, such as Transnet, BCR notes that companies can advocate for better transportation networks, while also contributing to community development projects that align with both their operational needs and the broader national interest.

BCR Holdings, which specialises in chrome ore mining across Southern and Central Africa, was co-founded by **Walter Murry** and Barnard and takes a proactive approach to infrastructure development within the communities where it operates.

"Through partnerships with the government and collaborations with key industry players and local businesses, BCR Holdings has enhanced its ability to add value within its mining portfolio. This includes building roads, enhancing local facilities and ensuring that transportation networks are capable of supporting its mining projects," says Barnard.

Technology-based collaborations are another way to optimise processes and find new, more modernised solutions. These can include partnerships with mining drone suppliers for site inspections and surveying, virtual reality-based employee training and using AI consultancies for exploration efforts.

With increasing pressure on global industries to meet climate targets, mining will also play a pivotal role to provide the necessary minerals and metals for construction. According to the World Bank, production of lithium and cobalt will need to increase 500% by 2050 to meet this demand.

Strategic collaborations in opencast mining will be essential to realise the new-era renewable-energy infrastructure.

Barnard makes it clear that when it comes to economic uncertainties, strategic collaborations can once again be the answer for opencast mining operations. "BCR's partnership with prominent players in South Africa's mining landscape serves as a prime example of how shared expertise can optimise operations and ensure successful project delivery, particularly in challenging economic conditions."

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Since 1984 Sintech has supplied the South African market with clutches, brakes and engineering solutions for a range of applications in mining and mining-related industries. Sintech supplies services and products for the mining process itself as well as for the processing of mined products.

Sintech's unique experience ensures consultation from the initial design phase through to project completion. Sintech supplied products are market leaders in their respective fields and are all supplied from international corporations that provide world-class design, product support and cutting-edge technology.

Sintech employs more than 50 people across its two facilities in Johannesburg and Durban. Both facilities are ISO 9001:2015 certified and fall under the Generic codes for B-BBEE Level 1. They pride themselves on offering excellent customer service and unique services, including service exchange units, new units and stock control, on-site testing and monitoring, design and consultancy and equipment upgrades.

Once a customer's support programme is in place, service exchange clutches and brakes are available for immediate replacement, ensuring zero or minimal production or operational downtime. All units are rebuilt to original equipment specifications and carry a full factory warranty.

Sintech has an extensive stockholding of new clutches and brakes, used for specification onto new applications or to replace units that are beyond economical repair and offers on-site control of customers' stock, to optimise cost and availability. This service is available for new clutches and brakes, as well as for supporting spare parts.

Factory-trained service technicians and service vehicles are available 24/7 to provide product support and regular clutch or brake condition monitoring and preventive maintenance is part of Sintech's programme to ensure the least downtime for customers.

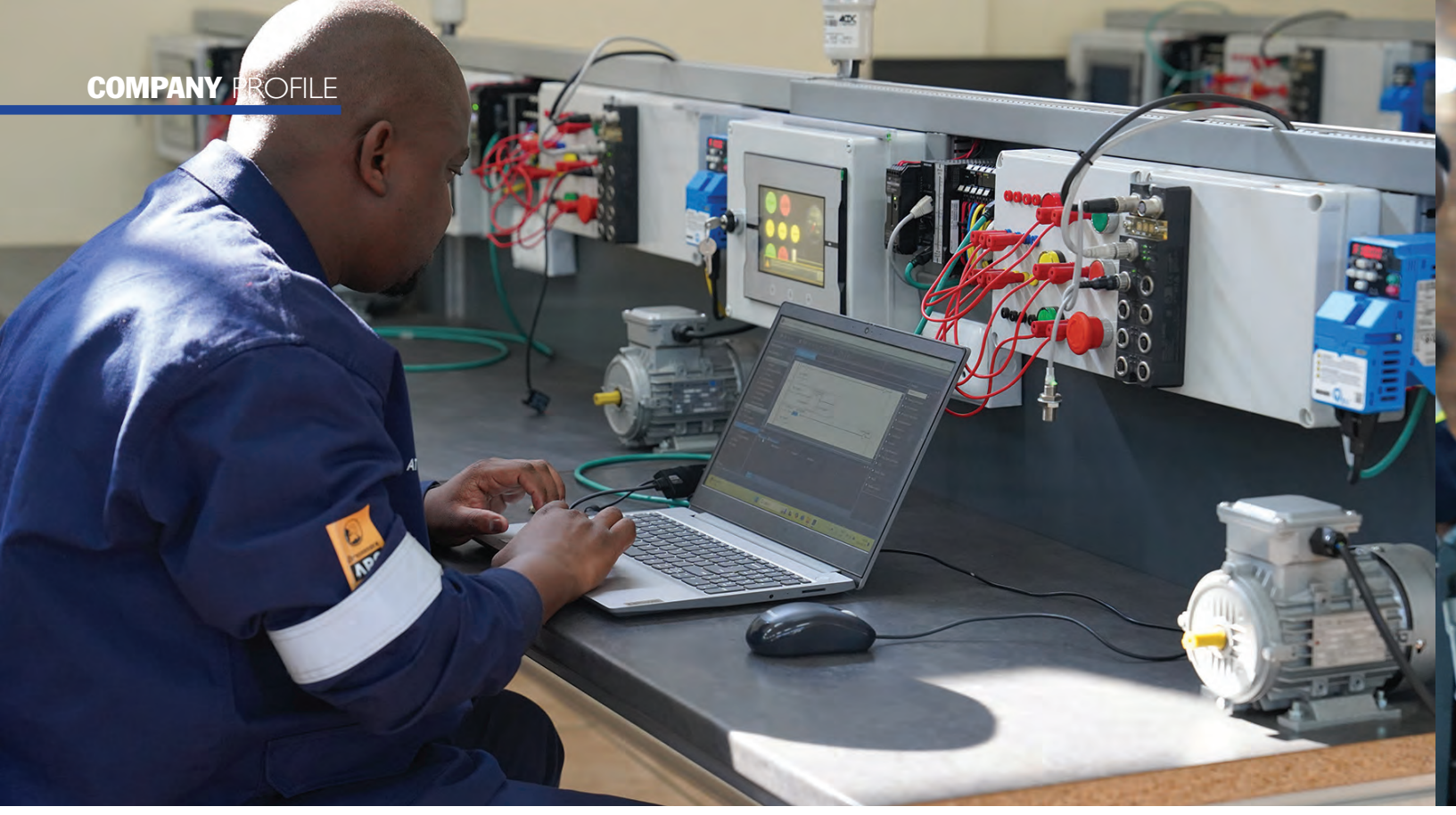
Since its inception in 1984, Sintech, in conjunction with its overseas principals, has been responsible for the design and specification of a range of clutch, brake and drive-system installations for earthmoving and mining applications.

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Colliery Training College: A legacy of excellence in skills development

Colliery Training College (CTC) has been a cornerstone of the South African skills development landscape since its establishment in 1965. Based in Emalahleni for over five decades, CTC is renowned as a premier provider of engineering and mining qualifications.

CTC offers a comprehensive range of artisan training programmes, including legacy listed (pre-2009) and occupational qualification trades. Training consists of knowledge, practical and workplace experience components, that includes specific skills training and specialised industry-aligned short courses.

Committed to fostering a highly skilled and innovative workforce, CTC empowers individuals through its high-quality, industry-aligned training programmes. With its collaborative approach and working closely with industry partners and stakeholders, CTC ensures that its curriculum remains relevant and up to date with the latest advancements in technology. This fosters continuous learning and develops a skilled workforce that values safety as a top priority, having a positive impact on the community.

The CTC legacy qualification includes the following trades: auto electrical, electrical, instrumentation, millwright/electromechanical, fitting and turning, fitting (including machining), diesel mechanic, earth moving equipment mechanic, boilermaker, welder and rigger ropesman. Owing to the phasing out of legacy trades, the learners registered on legacy qualifications must complete their qualification by June 30, 2027.

Occupational qualifications trades offered by CTC include trans-portation electrician (auto electrician), diesel mechanic, electrician, instrument mechanician, metal machinist, welder, boilermaker, heavy equipment mechanic, mechanical fitter, fitter and turner, rigger and millwright.

CTC offers a range of registered skills programmes and specialised customer-







aligned short courses which include artisan aide programmes, medium voltage (switching), gas testing, and flameproofing – maintenance of flameproof equipment (engineering), registered mining skills programmes; blasting assistant surface excavations, competent person A surface excavations, blasting assistant underground mining, and fall of ground competent A and B (underground coal).

These short courses equip trainees with industry aligned skills, and the registered skills programmes earn credits on the national qualifications' framework, or NQF, towards a qualification. The programmes are key to addressing critical skills needs, developing specific competencies, and creating a culture of accountability. CTC has further introduced a value-add service to its customers for candidate screening.

CTC provides full qualifications in underground mining, surface excavations and mineral processing. After completing a set of basic training modules, students can progress to a range of full qualifications such as a blasting certificate, continuous miner or longwall mining qualification, opencast blasting certificate, or rock breaking/surface excavation certificate. CTC's mineral processing courses include basic coal preparation for plant operators as well as advanced coal preparation for more senior mineral processing personnel.

Training is conducted at CTC's state-of-the-art premises, offering affordable student accommodation, a variety of recreational areas and a dining hall. CTC training is geared to meet workplace demands and its workshops and training rooms are staffed by skilled training officers who are specialists in their various areas of expertise.

CTC's dedication to quality is reflected in its numerous accreditations, including those from the Quality Council for Trades and Occupations, Mining Qualifications Authority, Assessor and Moderator registrations with Department of Higher Education and Training and National Artisan Moderation Body. These accreditations validate CTC's commitment to providing exceptional training and assessment services.

In line with its commitment to progress, CTC has recently undergone a rebranding process, launching a new logo that symbolises its modern approach to skills development. The new brand identity aligns with CTC's cutting-edge curriculum and reflects its unwavering dedication to preparing students for success in the ever-evolving engineering and mining industries.

CTC remains committed to its mission to equip individuals – from new entrants to experienced professionals – with the essential engineering and mining skills needed for successful careers.

As a Level 1 broad-based black economic empowerment contributor CTC remains steadfast in its drive towards enabling industry growth, while ensuring the safety of its students and the broader community. With its rich history, strong reputation and commitment to excellence, CTC continues to evolve and is poised to remain a leader in skills development for years to come.

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GROWTH IMPETUS
An increase in private-sector generation projects is required to meet rising energy demand requirements

The removal of the licensing threshold for embedded generation has boosted the renewable-energy market by allowing private-sector companies to procure energy directly from independent power producers (IPPs), thereby facilitating greater investment across the renewable-energy landscape, says financial services company Nedbank Corporate and Investment Banking (CIB).

The company, which also wants to advance energy security and affordability, will continue to scale up its historical commitment towards the renewable-energy sector, in line with the need to support socioeconomic development while driving the transition to a zero-carbon energy system.

In addition to its significant financial commitment to the South African Renewable Energy Independent Power Producer Procurement Programme, Nedbank CIB will further increase financing to private power generation for corporate and industrial projects, to accelerate the transition.

Nedbank CIB energy finance head **Amith Singh** highlights that there is significant interest from energy consumers looking to access electricity through private power generation from predominantly renewable-energy projects.

"This interest has ranged from smaller onsite projects to large offsite projects where electricity will be wheeled across the national electricity grid, from the generating project to wherever the consumer is located in South Africa," he says.

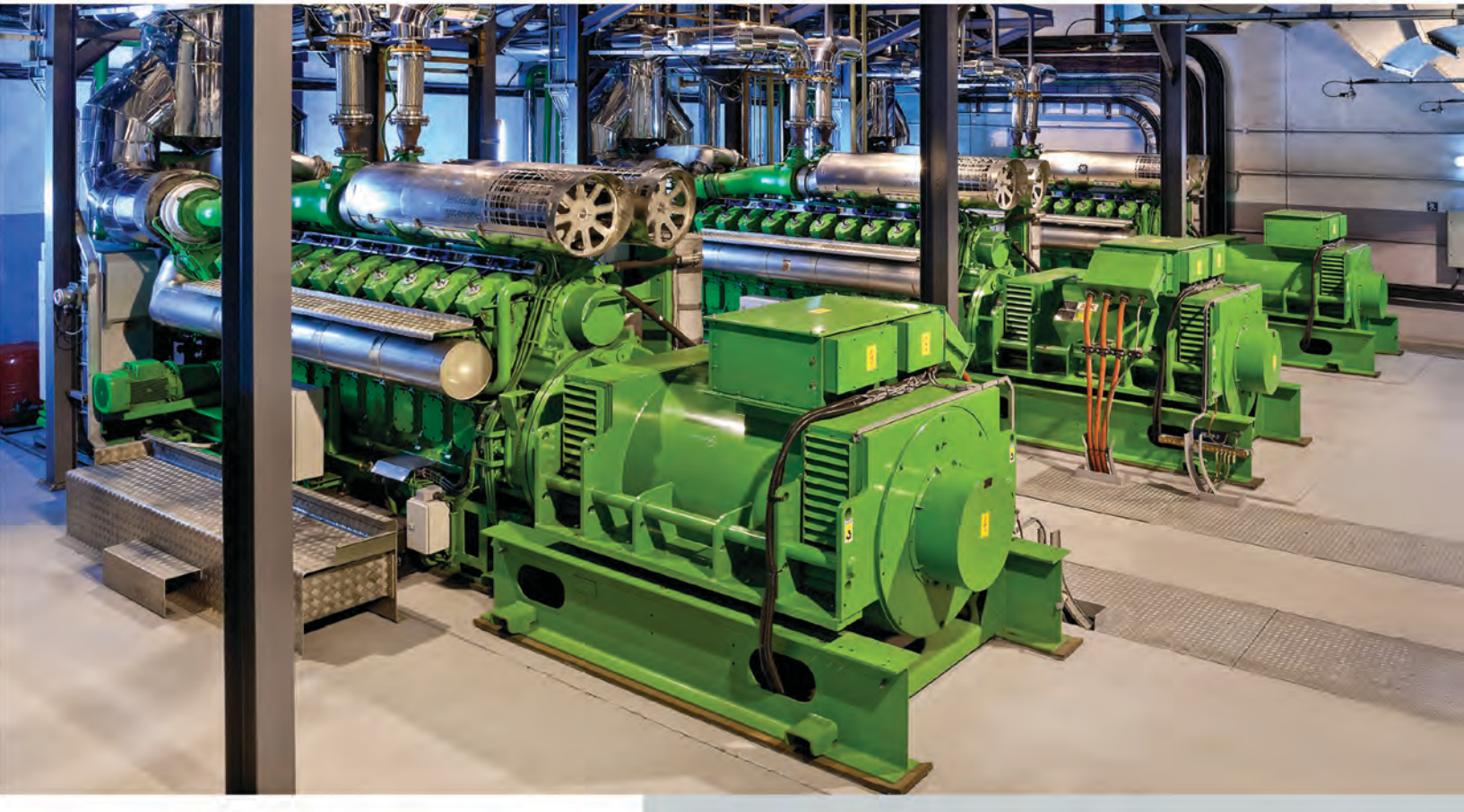
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Embrace the future of utility management with MTN Business Smart Electricity

In today's world, where energy efficiency and sustainability are top priorities, utility management needs a revolutionary approach. Enter MTN Business Smart Electricity solution - a game-changing product that blends intelligence, adaptability and seamless integration into business operations. As the need for efficient resource management grows, MTN's Smart Electricity solution stands as a beacon for both municipalities and enterprises, offering cutting-edge features that deliver real-time data, actionable insights and seamless adaptability.

What is MTN Business Smart Electricity?

MTN Business Smart Electricity solution harnesses the power of smart meters to transform the way electricity is used and managed. These smart electricity meters provide real-time data, allowing users to make informed decisions about their energy consumption. Whether you are managing electricity in an SME, a large business, or an entire city, MTN's solution adapts to your needs, ensuring efficient use of resources, reducing waste and fostering sustainable living.

MTN's smart meters are not your average utility meters. They are designed to anticipate your needs, adjusting consumption for maximum efficiency. By tracking your energy use in real time, they help you optimise your electricity usage, preventing unnecessary spikes and reducing waste. This not only helps you lower your energy bill but also reduces your carbon footprint, contributing to a more sustainable future.

How Does MTN Business Smart Electricity Work?

At the core of MTN Business Smart Electricity lies advanced technology designed to empower connected field data service workers. These professionals gather essential data from municipal households and businesses, facilitated by state-of-the-art smart meters from industry-leading original equipment manufacturers. These meters capture critical information, including usage patterns, potential tampering and load management insights.

Once collected, this data is seamlessly relayed to a centralised visualisation platform, giving municipalities and businesses easy access to real-time insights. The platform offers an intuitive dashboard that supports end-to-end utilities management, from energy consumption and customer management to alerting authorities about tampering events and high load throughput scenarios. This real-time data visualisation helps municipalities and enterprises make informed decisions, leading to better resource allocation, improved energy efficiency and reduced operational costs.

Benefits of MTN Business Smart Electricity

Migration from legacy meters to smart meters: For too long, legacy meters have been a barrier to efficiency. MTN's smart meters are a leap forward, providing accurate, real-time data that legacy systems simply cannot match.

Energy consumption management: With smart electricity meters, users can monitor and manage their energy consumption in real time. By tracking usage patterns, the solution allows businesses and municipalities to optimise their energy consumption, reducing waste and lowering costs.

Tampering event notification: MTN's solution is equipped with tampering detection capabilities. If any unauthorised interference occurs, the system sends instant alerts, allowing for quick responses and minimising potential losses.

High load throughput management: MTN smart meters are designed to handle high load throughput per household, business or district. This is critical for large enterprises or municipalities, ensuring that electricity distribution remains efficient and reliable even during peak demand.

End-to-end utilities management dashboard: The smart electricity solution provides a powerful, easy-to-use dashboard that allows for comprehensive utilities management. From real-time customer support to usage tracking, it simplifies electricity management, providing users with actionable insights that drive informed decision-making.

What Makes MTN Business Smart Electricity Stand Out?

While there are many electricity management solutions available, MTN Business Smart Electricity stands out with its unique and innovative features.

Reliable connectivity: MTN's smart meters come equipped with SIMs that offer reliable connectivity across multiple carriers within a single country.

Flexibility in deployment: MTN offers unmatched flexibility in deploying smart meters. Whether you are a small business, a large corporation or a municipality, MTN partners with you to deploy and optimise the use of smart electricity meters to suit your specific needs.

Over-the-air updates: With MTN's Smart Electricity solution, you can keep your devices up-to-date effortlessly. Over-the-air updates ensure that your system is always equipped with the latest features and security protocols, minimising downtime and improving performance.

24/7 technical support: MTN understands that utility management never sleeps. That's why our smart electricity solution comes with 24/7 technical support. Whether you have a question or encounter an issue, our team of experts is ready to assist, always ensuring smooth operations.

Scalability: One of the key advantages of MTN Business Smart Electricity is scalability. As your business grows, your energy management system can grow with you. Adding new meters is simple and seamless, ensuring that your system remains efficient and future-proof as your needs evolve.

Powering the Future of Electricity Management

MTN Business Smart Electricity solution is not just about improving personal energy consumption; it is about contributing to a larger goal of resource optimisation on a grand scale. By aggregating data from households and businesses, MTN's solution empowers municipalities and enterprises to allocate resources more efficiently, leading to smarter cities and more sustainable businesses.

In a world where energy management is critical to sustainability and economic efficiency, MTN Business Smart Electricity offers a future-proof solution that benefits everyone. Whether you are a small business looking to lower your electricity bill or a city looking to optimise resource distribution, MTN Business Smart Electricity is the intelligent choice for a connected, sustainable future.



Lawerence Juku
Head of IoT Products and Solutions, MTN

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Company advances towards decarbonisation, energy security targets



GREEN COMMITMENT
Private-sector initiatives aimed at bolstering energy sustainability are highlighted as a way of alleviating loadshedding

Real estate investment company Fortress Real Estate Investments continues to invest significantly in renewable energy and green technologies to achieve its energy security strategy and decarbonisation targets.

Data released in the company's financial report for the year ended June 30, shows that Fortress has invested a total of R337.9-million in its solar roll-out programme to date, which has enabled it to generate 22 180 MWh of the 246 141 MWh it consumes each year.

"Our renewable-energy penetration rate increased from 5% on June 30, 2023, to 9% by June 30, 2024. We anticipate this will increase to 18% by June 30, 2025, and we are looking to raise that to 23% by 2026," explains Fortress CEO **Steven Brown**.

In line with these targets, the company's renewable-energy strategy rollout accelerated significantly in the last financial year, helping Fortress remain on track to achieve its 2030 decarbonisation goal of reducing its Scope 1, 2 and 3 carbon emissions by 45% compared to its 2018 baseline.

The number of solar PV plants in operation more than doubled, from 25 as of June 30, 2023, to 59 by June 30, 2024. Fortress has since completed an additional ten plants, with a further 12 expected to be completed by December 2024.

"Our installed capacity increased by 130%, from 9.63 MWac to 22.17 MWac in the last financial year, which we aim to increase to 34 MWac by June 2025," continues Brown.

This installed capacity enabled Fortress to generate 22 180 MWh from its solar PV plants during the 2024 financial year, compared to 11 970 MWh generated in the previous comparable period.

The company has an additional R119-million committed to projects and will spend an estimated R174-million to complete its solar project roll-out, in addition to currently approved projects. This will bring 96 operational plants online by June 2025.

Discovery Green Agreement

Concluding a ten-year wheeling agreement with renewable-energy platform Discovery Green was another critical component in achieving the company's 2030 decarbonisation targets.

Discovery Green's platform combines scale, expertise, actuarial modelling and sophisticated systems. It simplifies the administrative management of renewable-energy wheeling to help businesses meet their decarbonisation goals while providing savings and certainty regarding electricity costs.

"This wheeling agreement will provide renewable energy to 14 of our Eskom-supplied properties, which will increase our renewable penetration levels to up to 100% in these specific buildings," continues Brown.

As a net consumer from the Eskom grid, the Discovery Green Renewable Energy Platform allows Fortress to purchase electricity generated from a mix of utility-scale wind and solar sources, ensuring a more consistent and cost-efficient supply of renewable energy, while achieving higher renewable penetration levels.

The platform connects businesses and their consumption profiles with leading international and local large-scale private-sector renewable-energy providers, benefiting from diversification and economies of scale.

"Under this agreement, Discovery Green will supply at least 70%, but potentially up to 100%, of the electricity consumption we are unable to provide from our own onsite solar PV plants," adds Brown, who says Fortress selected Discovery Green because it provides the flexibility that many other power purchase agreements lack.

"It allows us to buy a mix of renewable power for our retail operations, which we cannot supply on our own, at a competitive price. Importantly, by being part of this platform, we can benefit from the diversification of generation and consumption. This platform effectively reduces the risk of purchasing energy that cannot be consumed. Further, it does not compromise our current strategy of installing our own embedded solar systems."

In this regard, Fortress continues to make significant strides with its energy security strategy, which includes installing generators and rooftop solar plants, integrating solar with generators to reduce diesel consumption, wheeling and smart meters. Once financially viable, Fortress plans to add batteries to the solution.

This programme is anticipated to become operational in 2026.

Currently, 82% of the Fortress retail portfolio by gross lettable area is connected to backup generators, which is expected to reach 97% by December 2024. This includes 20 retail centres, with another ten nearing completion and four more due by December 2024.

Fortress has also installed smart electrical and water meters at 54% of properties in the Fortress retail portfolio, which will increase to 82% by December 2024. This includes 20 retail centres, with another 12 nearing completion and two more expected by December 2024.

"These meters, along with Internet-of-Things devices, form the backbone of a portfolio-wide utility management system, providing near real-time data on energy and water consumption and the complete energy supply mix, including grid-supplied, solar PV- and diesel-generated electricity," explains Brown.

"As a data-driven company this is how we approach energy security and water management. Our systems are interconnected through technology and data to help us improve our efficiency."

Investments such as these form a critical element in the private sector's efforts to address utility cost management and alleviate the energy security crisis in South Africa, with commercial solar PV installations emerging as a major contributor to the reduced demand on Eskom's generation capacity.

"Private-sector initiatives, coupled with the stabilisation in Eskom's energy availability factor through improved maintenance, have helped to alleviate loadshedding and its devastating impact on the local economy," Brown adds.

"In this regard, Fortress remains committed to delivering value to our shareholders, clients, the environment and our communities. We are encouraged by the positive strides made towards achieving our energy security and decarbonisation strategies in the last financial year and remain committed to realising our ambitious targets," Brown concludes.



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Komatsu Hot Tube Test

This test is run at 290 °C for 16 hours at which point the amount of deposits formed are measured against a pre-determined deposit scale to show how well oil resists or forms deposits. It helps relate to how well an oil will perform under severe high temperature operating conditions that the oil will experience.

Delo® Gold Ultra SAE 15W-40 was run in this test and showed excellent results, even when compared against competitor premium-tier heavy-duty engine oil formulations. These results indicate that Delo® Gold Ultra SAE 15W-40 provides excellent high temperature deposit control.

Pressure Differential Scan-ning Calorimeter

The PDSC measures the thin-film oxidation resistance of engine oils at 210 °C under dry air pressure of 100 psi. The onset of oxidation is detected by heat produced from the reaction. Higher rates of oxidations can cause more piston deposits, resulting in ring sticking and bore polishing.

Delo® Gold Ultra SAE 15W-40 and competitor top-tier heavy-duty engine oils were run in this test and the results compared to each other. Delo® Gold Ultra SAE 15W-40 showed very good performance as compared to competitor products highlighting its robust formulation.

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Singh explains that the country's energy regulatory framework is providing a good foundation to transform the energy sector to a liberalised one. Additionally, Nedbank CIB cites the evolution and role of aggregators in facilitating flexible, multi-offtake arrangements, contending that they will be an important disrupter in allowing more corporates to buy cheaper, greener power.

Projects, Investment Considerations

In outlining its commitment to decarbonisation and long-term sustainability, Nedbank CIB outlines that it is actively involved in the funding of the Envusa Energy project – a joint venture between diversified mining major Anglo American and French renewable-energy group EDF Renewables – as it is providing financing for the 520 MW wind and solar project, which will supply clean energy to Anglo American's mining operations.

Additionally, Nedbank CIB has also structured a R25-billion funding platform for IPP Pele Green Energy, enabling this company to deliver 850 MW of clean energy and expand its pipeline to 11 GW by 2027. Singh notes that this initiative is vital to enabling the just energy transition, while also supporting job creation and black economic empowerment.

He highlights that Nedbank CIB is also involved in co-financing the Impofu wind farms in the Eastern Cape, developed by renewable-energy company Enel Green Power, adding that these wind farms will generate 330 MW of clean energy, further contributing to decarbonisation imperatives.

The infrastructure for this project also includes 116 km of power lines to improve energy security and grid capacity.

When evaluating and selecting energy projects, Nedbank CIB evaluates each project's technical soundness, focusing on energy generation technology, construction timelines and operational efficiency. Singh also highlights that, proven renewable technologies, such as battery energy storage systems, wind and solar, are prioritised for their "reliability, quickness to construct and least cost status."

Nedbank CIB also ensures that it secures bankable power purchase agreements with credible offtakers, such as mining and industrial companies, to reduce risk and guarantee stable revenue.

The introduction of aggregators has necessitated that banks look to fund these projects with alternate security structures which the aggregators obtain from third parties. This will evolve as the market matures to a more liberalised market.

Looking forward, Singh says that renewable energy remains the most affordable form of energy and that the technology associated with this form of energy should be used to reduce exposure to above-average tariffs from Eskom.

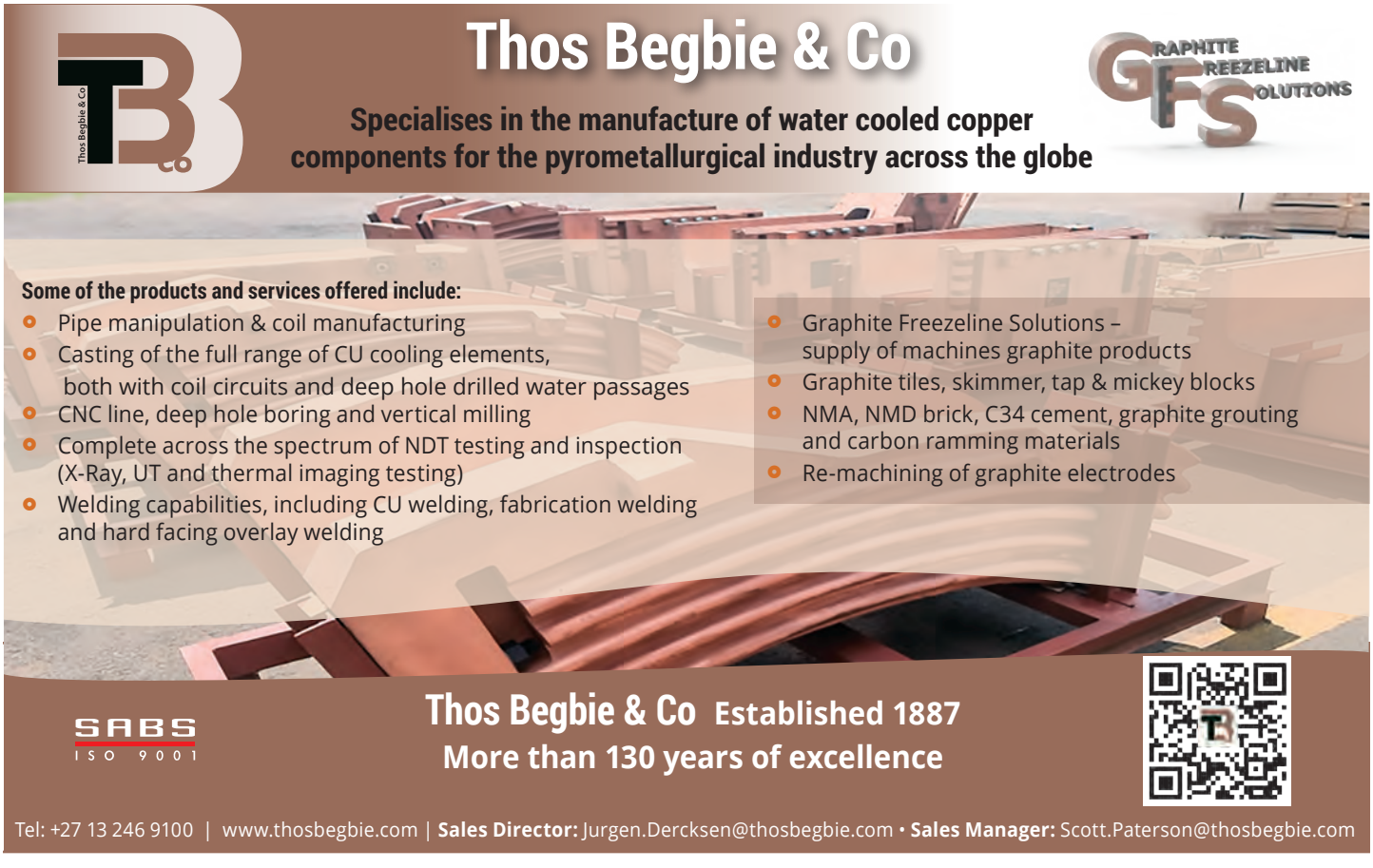
He adds that embedded-generation projects, such as solar PV, when combined with battery storage solutions are a cost-effect mechanism to accelerate clean electricity access. "We are also confident that Eskom has the skills and technology to manage the stability of the grid as the volumes of renewable energy in our grid increases."

Nedbank CIB will continue to increase its drive to finance private renewable-energy generation projects to position the economy for a sustainable future.

"South Africa's renewable-energy growth is critical for both economic and environmental progress.

"With the fast-approaching adoption of the EU Carbon Border Tax, which will make our exports non-competitive, resulting in job losses and contracting GDP, we must act fast to ensure we are prepared to mitigate the impact of this and other carbon taxes by increasing the penetration of renewable energy in our energy mix. We need a larger concentration of renewables in our energy mix quickly," Singh concludes.

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Beneficiation should be company-driven – industry body

NADINE RAMDASS | CREAMER MEDIA SENIOR WRITER



BENEFICIATION CONSIDERATIONS
South Africa lacks a clear cut comparative advantage in mineral beneficiation

With South Africa lacking a clear cut comparative advantage in mineral beneficiation – such as specialised expertise, abundant and affordable electricity, or a competitive manufacturing base – companies should have the discretion to determine whether pursuing beneficiation is economically viable, says minerals industry organisation Minerals Council South Africa chief economist Hugo Pienaar.

"We do not support coercion to drive beneficiation, forcing developmental prices or setting quotas for local sales. These measures fundamentally negate basic supply and demand dynamics, and risk damaging the primary mining industry," he stresses.

Relatedly, Pienaar also highlights the potential consequences of the introduction of tax on raw mineral exports, which he asserts will "hurt" the profitability of primary mining.

Typically, a response to these measures is for mining companies to choose to produce less of the respective mineral, resulting in lower export revenue and could lead to lower primary ores available for local beneficiation. As a result, introducing an export tax could undermine the goal of increasing local beneficiation. Further, export taxes on ore could deter new investment in South Africa's mining sector, as has already been evidenced by Statistics South Africa data that shows the country having experienced a significant decline in new mining projects, with the rate of new mine openings dropping notably since 1994, points out Pienaar.

Therefore, rather than imposing export taxes, he advises key constraints be addressed, such as the availability and affordability of electricity, in an effort to foster an environment conducive to growth and investment.

Further, Pienaar stresses that the government needs to comprehensively address the bottlenecks in electricity transmission and distribution to restore competitiveness with jurisdictions where electricity is secure and more affordable.

Energy Affordability

With the focus off loadshedding for the time being, the new concern is the cost of grid power, highlights Pienaar.

Through initiatives such as the National Energy Crisis Committee, along with private-sector investments in renewable energy, significant strides have been made to resolve insufficient electricity supply, he says.

Mining companies are increasingly investing in renewable-energy solutions, such as their own solar or wind plants, or power purchase agreements with third-party providers.

However, while complete independence from Eskom is unlikely owing to the need for significant baseload power of expansive and energy-intensive mines, Pienaar says investments into renewable energy nonetheless assist in stabilising mines' power, lowering electricity costs and contributing to decarbonisation targets. The increasing cost of electricity is also posing a major threat to the energy-intensive mining sector.

Pienaar explains that beneficiation processes are significant consumers of electricity, making the availability and affordability of electricity critical. Therefore, he says Eskom's proposed tariff hikes are "inconsistent with promoting beneficiation".

The Carrot Approach

Minerals Council South Africa advocates for an approach that focuses on incentives, rather than penalties, to encourage mineral beneficiation in South Africa and the revitalisation of the local mining sector.

Pienaar explains that this approach is crucial, as the local mining sector has contracted to roughly 85% of its 1994 size, making it now critical to encourage investment and stimulate growth in the industry.

Pienaar stresses that beneficiation of South Africa-mined minerals must not be considered in isolation, but rather as part of the entire mineral value chain, from exploration through to end-user applications.

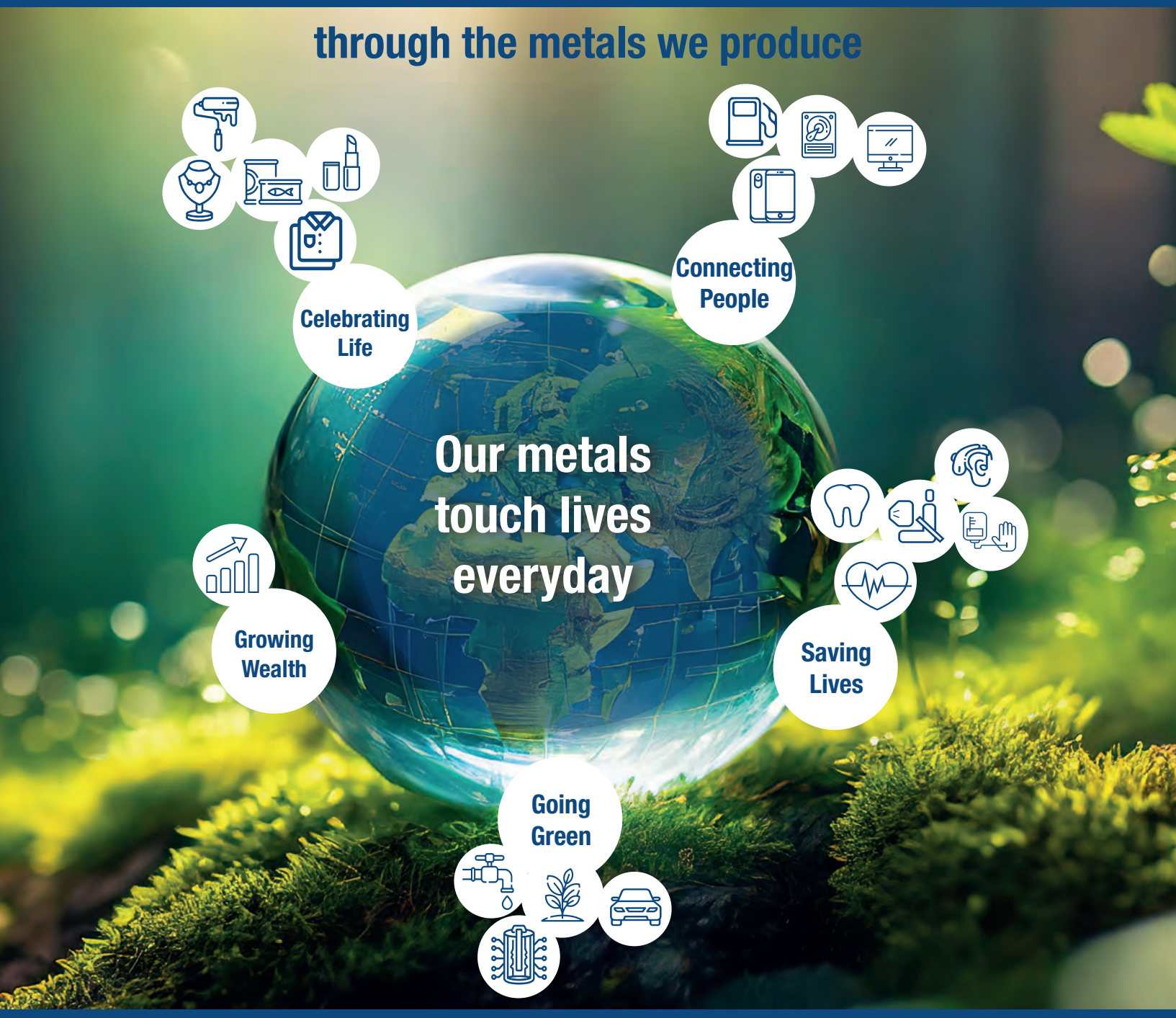
In this regard, he proposes a variety of

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AN

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S Africa growing leadership in mining RD&I

NADINE RAMDASS | CREAMER MEDIA SENIOR WRITER

While the global mining sector lags other sectors in terms of innovation spend, South Africa's mining research, development and innovation (RD&I) stands out as a key contributor within the country's overall RD&I landscape, says minerals industry organisation Minerals Council South Africa modernisation and safety senior executive Sietse van der Woude.

Despite research from 2020 showing that mining companies invested less than 1% of gross revenue in RD&I, significant investments are, nonetheless, being made in the development of new mining technologies as the industry aims to improve operational and efficiency performance to drive down costs and increase profitability.

It is critical that the industry constantly adopts new technologies and ways of working to ensure it is ahead in terms of modern mining, considering the fast pace at which technology now becomes obsolete, he notes.

In many instances, mining RD&I is classified under manufacturing, as the majority of new technology is found in the general equipment space.

"Mining cannot modernise without innovation, and often this innovation stems from outside the mining ecosystem."

One such mining-specific innovation is the Isidingo Drill, which was developed in 2022 through the Mandela Mining Precinct, the largest public-private partnership on sector-specific RD&I, hosted by the Minerals Council South Africa and the Council for Scientific and Industrial Research.

The drill presents "a new era of hard-rock drilling", with improvements to what was historically a dangerous, heavy and loud manually-operated rock drill, says Van der Woude.

The concept of the Isidingo Drill required the reduction of the weight of the drill from between 28 kg and 32 kg, to about 16 kg; the ability to be set up and taken down within 15 minutes; the use of an alternate power source (which was historically compressed air); and the incorporation of parallelism.

"South Africa is replete with similar examples, from advances in minerals processing technologies to the application of AI in ore processing, to more traditional mining equipment engineering."

An active innovation ecosystem should form the core of a persistently modern industry and must support the development of new technologies, as well as assist mining firms in successfully adopting and implementing them, adds Van der Woude.

Further, technology should improve the industry's ability to extract minerals in an environmentally responsible way by reducing energy and water consumption, says Van der Woude.

Research Partnership

For several years, Minerals Council South Africa and research institute the Human Sciences Research Council (HSRC) have independently undertaken research to understand the nature of investment in the South African mining RD&I ecosystem.

A partnership was established in 2023 to develop robust, accurate and comprehensive data on mining. The partnership is anticipated to continue to 2025, notes Van der Woude.

Facilitated by innovation-focused advisory firm the Research Institute for Innovation and Sustainability (RIIS), the partnership aims to produce an inclusive, industry-wide survey to gain critical insights into the key investment aspects that encourage or impede mining innovation in South Africa.

"The RD&I survey will further enhance our understanding of mining's innovation ecosystem and indicate how considered investment will ensure mining's position as a robust contributor to the South African economy," says RIIS CEO **Davis Cook**.

The partnership also aims to identify existing investment gaps and highlight opportunities that can support the mining sector's advancement towards a just energy transition, explains Van der Woude.

"By providing critical statistics on . . . mining RD&I investment, we can drive real industry impact, from assisting with the development of institutional innovation investment policies to providing industry RD&I investment benchmarks that have not been previously articulated," says HSRC Science, Technology and Innovation Indicators Centre executive head Dr **Glenda Kruss**.

COUPON ON PAGE 16 E683384

• From page 54

incentives that would be effective as part of a holistic strategy.

This includes direct financial support through government grants, which Pienaar states could play a pivotal role in encouraging local beneficiation initiatives by funding capital investments in processing facilities, research and development (R&D), or skills training.

In addition, government agencies can stimulate beneficiation by committing to serve as an anchor market for locally-processed products, thereby guaranteeing demand, enabling local miners to achieve economies of scale.

"To the extent that local beneficiated products are globally cost competitive, government procurement policies could prioritise the use of domestically-beneficiated metals or minerals in infrastructure projects, construction and public-sector manufacturing initiatives," he explains.

Encouraging the presence of companies that focus on end-user applications for South Africa's minerals is also crucial, as these offtakers can drive demand for locally-processed materials.

To achieve this, Pienaar explains that the government must create an enabling environment by offering tax incentives, reducing regulatory hurdles and improving infrastructure, such as reliable electricity and transport. This would make South Africa more attractive to companies that use beneficiated products, integrating them into the global supply chain.

Pienaar also underscores the importance of innovation and technological advancement for long-term beneficiation. Incentives for R&D, such as tax credits or government-backed research partnerships, would encourage local companies to develop new mineral processing techniques, improve efficiency and reduce costs. This could also attract international firms interested in collaborating on innovative beneficiation technologies.

"It is important that government does not [try to] force companies to beneficiate by taxing exports that are not beneficiated in-country. They [should] rather incentivise exports that are beneficiated. The approach is fundamentally different and allows companies to operate freely in an unconstrained market," concludes Pienaar.

COUPON ON PAGE 16 E683381

New boots provide high temperature, voltage protection

LYNNE DAVIES | CREAMER MEDIA REPORTER



HANDLING THE HEAT
The polyurethane and nitrile rubber outsole of the Emperor Smelter Boot is lightweight, durable and climate controlling, while being contact heat resistant for up to 300 °C for one minute

Safety equipment supplier Dromex continues to meet end-user requirements by providing them with "complete head-to-toe" safety solutions. To that end, Dromex has introduced two new styles in its footwear range – the Dromex Emperor Smelter Boot and Dromex Electrical Bolt Boot.

The flame-retardant and electricity-resistant Emperor Smelter Boot offers high performance, predominantly in foundries.

The fiberglass toecap and external metatarsal guard prevent injuries caused by hazard-specific incidents in foundries and smelters, as well as welding. The guard will protect the bridge of the foot from impact and molten metal liquid hazards.

Dromex marketing head **Andrew Mysell** explains that the design of the Emperor Smelter Boot's upper, inner lining and in-sock add to the ergonomic comfort of the boot.

The Dromex Electrical Bolt Boot, meanwhile, has been developed for use in dry electrical environments in mining and power production. It is designed to protect users' feet from mechanical and electrical hazards, while offering optimum comfort for daily use, complying with the State-owned power utility Eskom's 34-232 specification, which calls for electrical resistance to 20 kV for one minute.

The toecap of the Electrical Bolt Boot is made of a lightweight impact-resistant fiberglass that is rated up to about 200 J. The wider design provides extra room and comfort, preventing the toes and joints from rubbing onto the toecap.

Additionally, it features a padded collar that will ensure comfort and ankle support, as well as a leather pull tag to ensure that the boot is easier to put on and remove.

Both boots are manufactured from a "premium full-grain bovine leather" which is soft, flexible, water resistant and durable, while being hexavalent chromium free, making them environment-friendly.

The lightweight, anti-penetration midsole of both the Emperor Smelter and Electrical Bolt boots provides the foot with protection against heat and penetration, while the bellows tongue prevents liquids and/or particulates from penetrating the upper.

Both boots feature a slip-resistant, durable and lightweight polyurethane (PU) and nitrile rubber outsole, and an energy absorption heel. Additionally, both boots' outsoles are rated as contact heat resistant up to 300 °C for up to a minute.

Moreover, both boots come with a removeable and breathable PU and memory foam in-sock, designed to provide "extreme comfort", making the boots ideal for long standing hours.

Mysell concludes that Dromex is committed to ensuring the safety of all workers who use the company's products. All its footwear is designed and tested in accordance with the latest EU standards, including EN 20345: 2022 (Safety footwear used for general purpose) and EN ISO20349-1:2017+A1:2020 (Footwear protecting against risks in foundries and welding), with specific styles created to address various workplace hazards.

COUPON ON PAGE 16 E683288

PPE innovations showcased at Electra Mining 2024

Manufacturer of personal protective equipment (PPE) designed for women, Sisi Safety Wear, showcased its innovative range of women's PPE at Electra Mining Africa 2024, spotlighting its female-fitted safety footwear.

The company specialises in high-quality safety footwear and workwear designed specifically for women, placing an emphasis on inclusivity, comfort and protection.

Sisi Safety Wear's participation at Electra Mining was aimed at driving awareness about the critical importance of tailored female PPE in sectors such as mining, automation, manufacturing, power and transport.

Sisi Safety Wear brand manager **Desiree Hlubi** commented that the company is committed to improving safety wear by focusing on the unique needs of female workers.

Hlubi added that "it is not just about meeting the safety requirements; it's about ensuring comfort and well-being, which ultimately boosts productivity, health and morale".

While Sisi Safety Wear had showcased its existing women's PPE offerings, it is also noted that it was preparing to launch new styles. The designs are in the concept phase and promise to further address the needs of women in demanding environments.

A highlight of Sisi Safety Wear's presence at Electra Mining was its sponsorship of the Women in Mining Workshop on September 3, 2024, which was hosted by Women in Mining South Africa.

The workshop focused on empowering women in mining to drive inclusive growth, innovation and decent work, aligning with the eighth UN Sustainable Development Goal, namely, 'promoting inclusive and sustainable economic growth, employment and decent work for all'.

"We are proud to be part of such a pivotal event that not only highlights the achievements of women in the industry but also encourages further advancements and inclusivity," Hlubi added.

Sisi Safety Wear specialist podiatrist Dr **Anette Thompson** highlighted the critical importance of female-fitted safety footwear at the Women in Mining Workshop.

Thompson explained that properly fitted safety boots are essential, not only for the prevention of immediate workplace accidents, but also for ensuring long-term foot health and overall well-being.

"Ill-fitting gear can lead to discomfort, fatigue and even injury. At Sisi, our designs address [. . .] unique anatomical differences to support better posture, reduce risk and musculoskeletal issues, and enhance overall comfort and energy efficiency," she elaborated.

The company notes that Thompson's role as the consulting podiatrist for Sisi Safety Wear is instrumental in the brand's development of female safety footwear.

It commented that it is her expertise that ensures the footwear not only adheres to safety standards, but that it also provides optimal comfort and support, which is crucial for demanding work environments.

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Brand showcases products, solutions at exhibitions

Electronic parts supplier RS Group's trading brand, RS South Africa, exhibited its mining products and solutions at the Mining and Technical Exhibitions (MTE) for Sibanye-Stillwater on October 24, 2024, following its exhibition at MTE Steelpoort on October 3, 2024, in Limpopo.

Steelpoort is a mining town in the Sekhukhune district municipality, close to major chrome and platinum mining operations that include Samancor Chrome's Eastern Chrome Mines, Tubatse Ferrochrome and Tubatse Alloys.

Samancor's operations in the area are extensive, with Eastern Chrome Mines comprising three underground mines, two opencast mines, four surface beneficiation plants and four tailings retreatment plants.

The Sibanye-Stillwater Gold division, meanwhile, is one of South Africa's largest gold producers and the host of MTE's Sibanye-Stillwater Gold division expo.

"RS is well-positioned to supply the mining industry with high-quality, robust products designed for arduous and demanding operational conditions," commented RS sales director **Erick Wessels**.

He explained that RS South Africa partners with its suppliers to offer specialised equipment suitable for these tough environments.

RS South Africa showcased its RS PRO range – a comprehensive line of high-quality, cost-effective products tailored for the mining and industrial sectors – at the MTE Steelpoort and MTE Sibanye-Stillwater events.

The RS PRO range covers a broad spectrum of technologies, including electrical installations, automation and control, and personal protective equipment (PPE), all designed to enhance operational efficiency and reduce costs.

Built on the pillars of quality, choice and value, RS PRO offers reliable solutions that empower professionals to overcome the toughest operational issues with ease.

The full offering from RS South Africa extends from test and measurement equipment to tooling, PPE and machine safety.

RS South Africa has more that 750 000 products across 2 500 global brands.

Its own brand, RS PRO, which features over 88 000 products across different technologies, was spotlighted at the MTE events.

"MTE events provide us with the opportunity to showcase the latest industrial technologies and solutions for designing, building and maintaining operations in critical sectors like mining and industry," concluded Wessels.

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Ill-fitted female PPE risks safety, confidence

Despite the growing number of women in industries that are traditionally male-dominated, such as mining, construction and manufacturing, one critical challenge is apparent; the lack of inclusive safety gear designed specifically for female workers, with many grappling with ill-fitting personal protective equipment (PPE) that compromises safety, comfort and confidence.

According to workplace safety solutions provider BBF Safety Group's Sisi brand manager **Desiree Hlubi**, the importance of gender-specific PPE in heavy industries must be emphasised.

"PPE serves as the first line of defence, protecting workers from hazardous environments and potential injuries. However, when it fails to fit properly, it can become a liability rather than a safeguard," Hlubi points out.

She elaborates that, women, with their unique body shapes and clear physiological differences, often find themselves struggling with gear that does not accommodate their needs.

It should be noted that this can lead to discomfort, reduced mobility and a heightened risk of accidents in the workplace.

One significant challenge faced by women in heavy industries is the lack of appropriate breast protection and accommodations in PPE, particularly with fall arrest harnesses.

Hlubi states that "traditional PPE, designed primarily for men, often overlooks this vital aspect, leaving women vulnerable to life-threatening injuries in the event of a fall or impact".

Additionally, the weight and distribution of male or "unisex" PPE can be uncomfortable and even dangerous for women with larger breasts.

To address these issues, the design of harnesses and other fall protection equipment must be adapted to accommodate women's bodies, thereby preventing potential hazards.

According to Hlubi, workwear – such as overalls – should be tailored to the needs of female workers in heavy industries, as women typically have smaller waists, and larger hips and buttocks. This requires garments to have extra fabric to accommodate their body shape.

In addition to breast protection and the accommodation of different body shapes, other factors must be considered when designing PPE for women.

As an example, Hlubi explains that footwear is often designed for men as a default, potentially leading to discomfort and injuries for women with narrower or differently shaped feet.

She stresses that safety footwear that has been specifically designed to better fit women's feet offers improved comfort and reduced strain on the body.

"For women who spend more than eight hours a day on their feet, companies have a duty to provide the appropriate footwear to achieve the same level of protection afforded to their male counterparts," emphasises Hlubi.

Further, specialised maternity wear is also a need for women in heavy industries and companies can no longer ignore the risk to pregnant women in the workplace.

Traditional PPE often does not accommodate the unique needs of pregnant women, potentially causing discomfort and health risks. In comparison, maternity workwear is designed to provide a comfortable and safe fit throughout the pregnancy, allowing women to continue with their work without compromising their well-being.

Inclusive PPE

"Creating inclusive safety gear goes beyond simple size adjustments. It necessitates a deep understanding of women's specific needs and challenges in the workplace," explains Hlubi.

She adds that the limited availability of PPE designed for women is a critical safety issue that safety and procurement officers must address urgently.

This is a fundamental step in ensuring all workers have suitable protective gear and requires that procurement teams pay urgent attention to addressing the PPE needs of women, while actively seeking out gender-specific options.

At a workplace level where gender-appropriate PPE is not yet available, women workers need to know that they have the right to request that PPE is provided to meet their specific needs, to ensure their safety without compromising comfort or fit.

"By sourcing gender-specific PPE from local manufacturers, companies can empower women by providing them with functional and comfortable equipment that enhances their job performance."

She notes that inclusive safety gear goes beyond physical protection, it also positively impacts women's mental well-being.

Additionally, she points out that when workers feel confident and comfortable in their equipment, they are more likely to be engaged, productive and motivated.

"By prioritising the provision of PPE tailored to the unique needs of female workers, companies can significantly improve safety and productivity, showing that such an investment not only benefits individual women but also contributes to a more inclusive and equitable workplace," Hlubi concludes.

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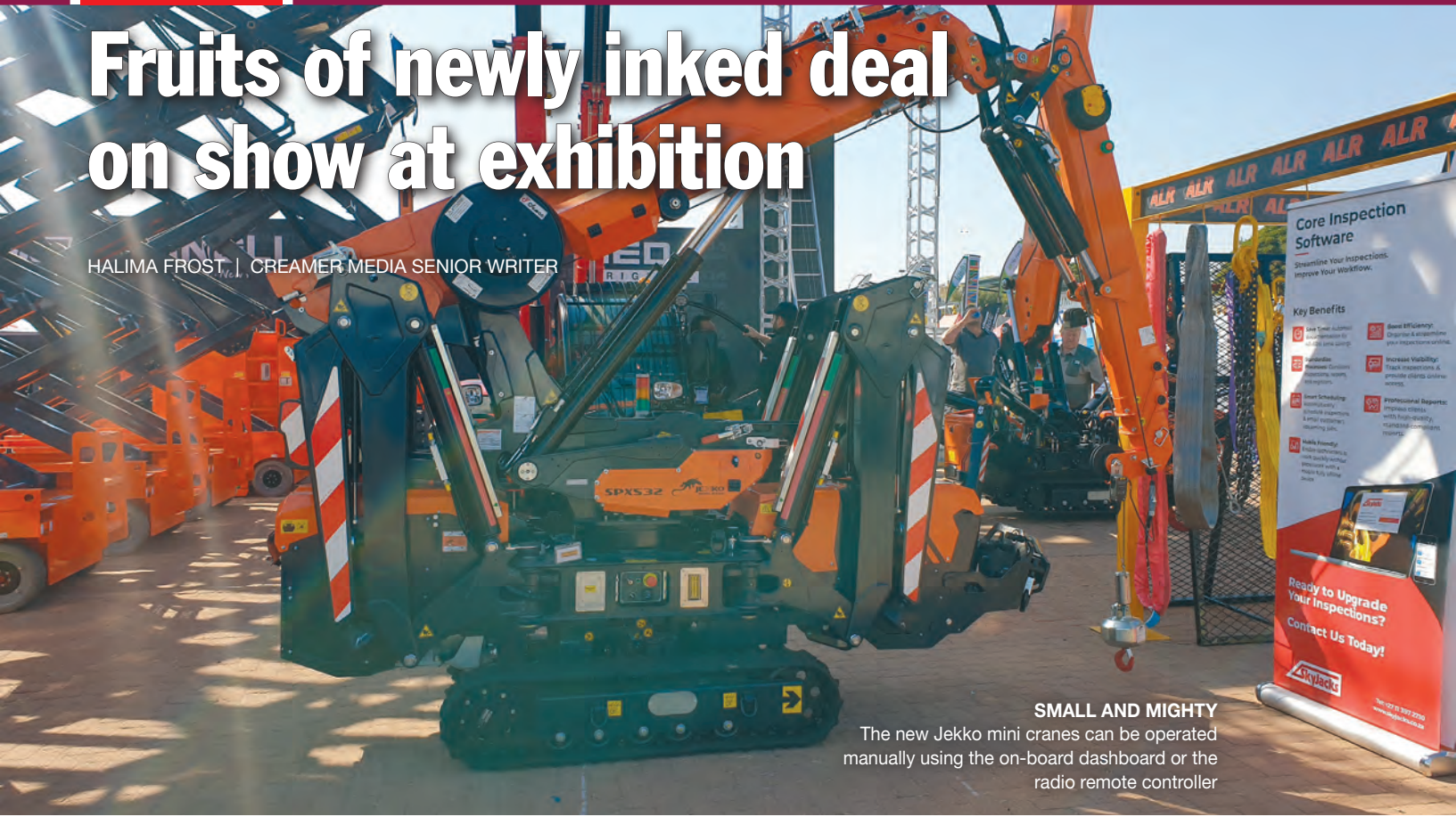
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Fruits of newly inked deal on show at exhibition

HALIMA FROST | CREAMER MEDIA SENIOR WRITER



SMALL AND MIGHTY
The new Jekko mini cranes can be operated manually using the on-board dashboard or the radio remote controller

Boksburg-based industrial powered access equipment supplier SkyJacks showcased its range of new and existing powered access, materials handling and lifting equipment at this year's Electra Mining Africa (EMA) exhibition, held last month at the Johannesburg Expo Centre.

SkyJacks also announced a new contract with Italy-based cranes company Jekko, to distribute its mini cranes in South Africa.

The Jekko contract, secured six months before EMA 2024, presents a new and exciting product for SkyJacks to share with clients, says SkyJacks MD **Alistair Bennett**.

SkyJacks displayed the Jekko SPX328CL mini crane, which is a lithium battery-powered crane, and the SPX532CDH, which is one of Jekko's diesel-powered mini crane model.

"The SPX328CL has a lifting capacity of 2.8 t, while the SPX532CDH can lift 3.2 t, making them both compact heavy-lifters. The Jekko mini cranes, developed and manufactured in Italy, are suited to applications in confined spaces while still offering great lifting capacity and agility," Bennett tells *Mining Weekly*.

Owing to an advanced tread and a double outrigger position design, Jekko mini cranes are suited to uneven ground or difficult-to-reach places.

They can be operated manually using the on-board dashboard or the radio remote controller, with software developed by Jekko.

Extensive Portfolio

SkyJacks represents a range of materials handling original-equipment manufacturers, including Dingli, Faresin, Jekko, GEDA and ALR, with a special focus on the markets of South Africa and the Southern African Development Community.

Bennett describes the Dingli BA44RT as "a modern piece of equipment", offering working heights ranging from 16 m to 44 m, and available with diesel, electric and hybrid power options to suit customer requirements.

Dingli can also supply reliable and efficient electric slab scissor lifts and vertical lifts.

The Faresin range of telehandlers includes models with diverse configurations catering to the agriculture, construction and mining sectors.

Known for their robust design, GEDA construction hoists enhance worker safety and operational efficiency, with models such as the GEDA 1500 Z/ZP F and GEDA Solarlift offering unique solar PV lifting qualities, as well as safe vertical transportation of valuable modules and the ability to hold sensitive cargo safely in place.

Designed to withstand demanding environments, the ALR lever hoist's and chain block's ranges feature durability and enhanced safety standards, making them suitable for underground mining and engineering applications.

"By showcasing our latest equipment, we have provided companies with the opportunity to identify solutions that match their unique requirements with our versatile product range designed to meet the diverse needs of the mining, construction and industrial maintenance sectors," concludes Bennett.

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Cooling experts ink partnership at expo

HALIMA FROST | CREAMER MEDIA SENIOR WRITER

A new partnership between industrial cooling specialists Industrial Water Cooling (IWC) and advanced engineering manufacturer Danfoss was forged last month at the Electra Mining Africa exhibition, held at the Johannesburg Expo Centre.

The two companies will work together to distribute Danfoss-made heat exchangers to IWC's client base, with further expansion in South Africa and sub-Saharan Africa.

"Importantly, we will be able to offer each client a bespoke solution for their heat exchanger requirements by merging our know-how and technologies," says IWC heat exchanger and spares manager **Deon Fawell**.

The heat exchangers to be supplied by IWC will mostly be custom solutions, although plans are under way to ensure that IWC will also hold stock of a range of standard heat exchanger components.

This option, according to IWC, will not only decrease lead time for clients, but also offer them the option to improve operational efficiencies.

"With any process that generates heat, whether it be mechanical heat or a chemical heat, the prime choice would be to repurpose that heat," says Danfoss technical sales engineer **Brett Aarons**.

Repurposed heat can be used to, for example, heat water for use in hot water applications across a client's facility.

IWC will be granted access to the Danfoss design and installation programmes needed to accurately design and supply heat exchangers to clients.

"Should the design not be to a standard template, IWC will be able to send us the data sheets and Danfoss will manufacture to those specifications," he adds.

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RED HOT
The Danfoss-made heat exchanger, which IWC will distribute, was on display at the IWC stand

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ACTOM stands ready with electro-mechanical excellence

Africa's largest electro-mechanical manufacturer ACTOM group business development executive Mamiki Matlawa says the company is going from strength to strength with its comprehensive electro-mechanical offerings to industries such as mining and energy.

The company offers manufacturing, service, repair, maintenance, project management and distribution services through 33 outlets in sub-Saharan Africa.

As the country gears itself up for more renewable power generation, ACTOM supports the sector by supplying robust electrical equipment, services and balance of plant to renewable-energy projects. It also holds technology, distribution and value-added reseller agreements with various partners locally and internationally.

While some coal-fired power plants remain in operation, ACTOM can also provide solutions for utility plants such as maintenance, repairs and retrofitting of boilers to keep large power plants operating optimally.

Its service further includes capacity and efficiency improvements to older boilers, supply of original-equipment spares, reliability studies, metallurgical services and computational fluid design modelling.

In turn, industries such as mining and metal processing benefit from ACTOM's drive, control and switchgear technology. The company typically manages projects from design stage to commissioning, as well as maintenance and repair services beyond commissioning.

ACTOM is a leading developer of medium voltage switchgear, and showcased its Gelpag solution at Electra Mining Africa this year. This dielectric switchgear uses fixed pattern, vacuum circuit breakers and are gas free. The equipment is suitable for 10 000 full load operations, with current ratings up to 2 500 A and voltages up to 12 kV.

With the logistics industry needing modernisation to improve efficiencies, ACTOM's transport division designs and manufactures signalling equipment and turnkey systems covering train control systems, track side equipment, interlocking, remote control, substations equipment, traction transformers, automatic train routing and train management information.

Mining companies are increasingly becoming involved in improving rail efficiencies, given the sector's dependence on rail for freight across the country to ports. The mining sector is also building more renewable-energy plants to gain independence from the grid and improve environmental, social and governance credentials.

ACTOM's energy division is versed in front-end engineering and technical services, while its KOEBEC electrical and engineering services is experienced in high, medium and low voltage installations and modifications, as well as project management and commissioning.

These offerings are complemented by ACTOM's distribution transformer business, which designs and manufactures a comprehensive range of distribution and power transformers ranging from 16 kVA single phase up to 10 MVA 88 kV.

In close collaboration with utilities, municipalities, general industry, mining and the renewable-energy sector, ACTOM has perfected a range of transformer solutions combining high performance, electrical suitability and compatibility with the natural environment.

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Advanced Group leading African market in total risk management

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Rooted in foundational principles of trust and quality, the group's exponential growth is supported by its three pillars of operation: risk management, risk mitigation and emergency response.

These core tenets have positioned it as the unequivocal market leader in total risk management across the African continent.



Advanced Group, with its subsidiaries servicing each facet of these pillars, is strategically poised to fulfil its commitment of saving lives and protecting assets. In the realm of risk management, risk mitigation and emergency response, it stands out as the premier choice. Safety is its paramount concern, and the satisfaction of its clients is the ultimate seal of approval.

Comprising a network of subsidiary companies and valued partnerships, Advanced Group's reach extends across diverse sectors including mining, municipal, commercial, hospitality, aeronautical, marine, petrochemicals, oil and gas, and industrial fields. Each subsidiary within Advanced Group holds a position of leadership in its specialised domain.

When it comes to saving lives and protecting assets, Advanced Group is the unparalleled choice to meet risk management, risk mitigation and emergency response requirements.



Scan the QR code to watch a video interview with Advanced Fire Global CEO Westley Barnardt

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AQS' pioneering liquid handling solutions making waves

At Electra Mining Africa 2024, AxFlow AQS Liquid Transfer showcased its latest innovations in liquid handling solutions. With over two decades of experience, the company has established itself as a leader in the Southern African pump industry, serving sectors such as mining, agriculture, industrial and utilities.

"Electra Mining is a crucial platform for us to highlight our commitment to excellence and innovation," says MD **Leon Fourie**, adding that the company is "eager to showcase our latest technologies and solutions that meet the evolving needs of our customers across various industries".

Founded in 2003, AQS Liquid Transfer has seen steady growth. In 2016, AxFlow, a division of Axel Johnson International and Europe's largest distributor of positive displacement pumps, acquired a majority stake in AQS. This partnership has significantly expanded the company's product range and enhanced its service capabilities.

Fourie highlights AxFlow AQS' diverse range of specialised pump solutions tailored for various industries. The Vega peristaltic pumps, AQS' own home brand, complement their positive displacement pump offerings, while their diaphragm pumps excel in handling viscous, abrasive and corrosive liquids. The company represents global brands such as Sandpiper, Versamatic, Vega Pumps, QUANTM and ABEL Pumps.

AxFlow AQS also offers a variety of borehole pumps suitable for domestic, agricultural, mining and bulk water supply applications, delivering up to 2 000 ℓ/m a minute with dynamic heads up to 457 m.

"We've carefully selected centrifugal pumps in different sizes, materials and configurations to match site conditions," Fourie notes.

In mining, operational efficiency in harsh environments requires heavy-duty end suction centrifugal slurry pumps, vertical spindle pumps and submersible pumps. These pumps ensure effective handling of abrasive and corrosive materials.

"From portable pumps to heavy-duty installations, we cover applications ranging from dirty water to mining slurries with a specific gravity of up to 2.4," says Fourie.

AxFlow AQS' air-operated double diaphragm pumps deliver versatile, reliable performance for mining, efficiently handling abrasive slurries and solids with excellent chemical resistance and self-priming capabilities.

For the industrial sector, AxFlow AQS provides a wide range of pumping solutions, including centrifugal and positive displacement pumps. This includes the newly launched electric double diaphragm pumps, designed for applications where compressed air cannot be used.

Sustainability Commitment

AxFlow AQS prioritises sustainability and customer service, offering solar pumps that reduce carbon emissions and boost energy efficiency. This aligns with global sustainability efforts and reinforces the company's commitment to responsible business practices.

"Our customer-centric approach drives our success," says Fourie. "We build lasting partnerships by providing tailored solutions and comprehensive support throughout our products' lifecycle. Our technical facility enhances our ability to meet diverse customer needs."

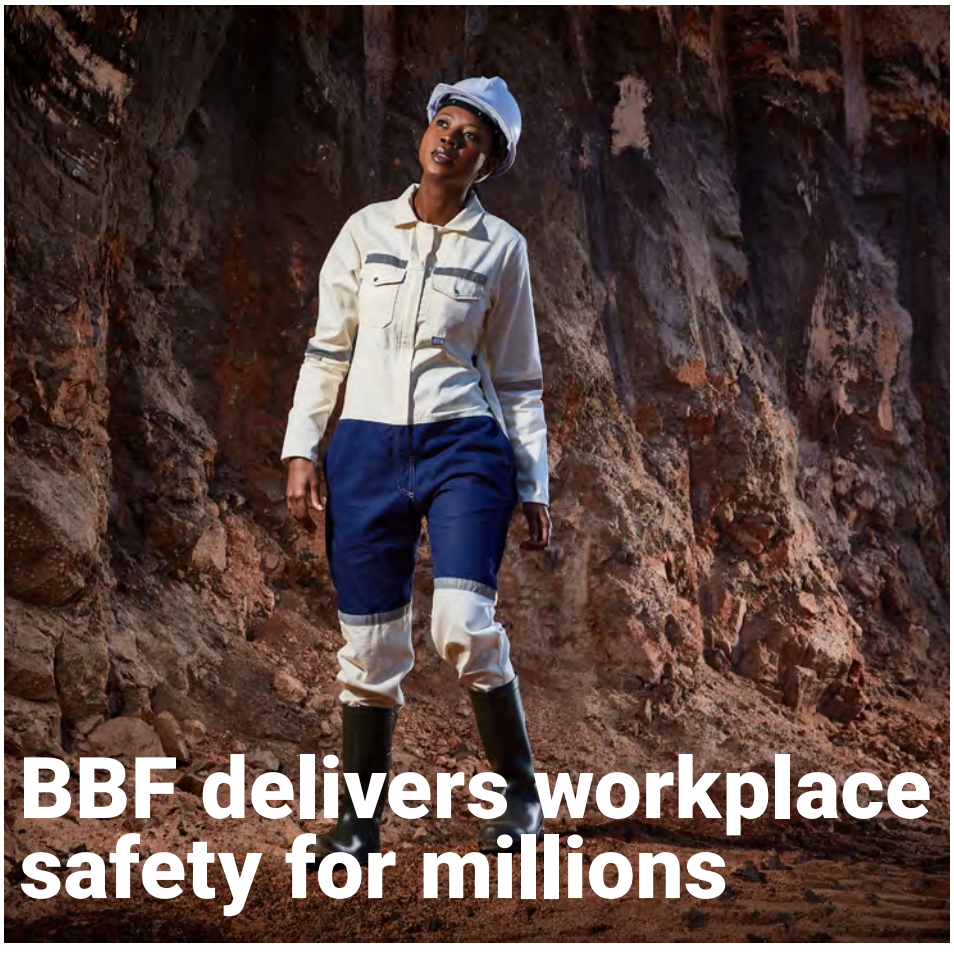
With a focus on quality, customer satisfaction and sustainability, AxFlow AQS stays ahead in technology and maintains high standards, positioning itself to tackle industry challenges and grow its market.

"We're excited about future opportunities," concludes Fourie. "Our goal is to continue delivering excellence in liquid handling solutions across Southern Africa."

Scan the QR code to watch a video interview with Axflow AQS Liquid Transfer MD Leon Fourie

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BBF delivers workplace safety for millions



BBF Safety Group is an integrated workplace safety solutions provider that helps its customers to create safe working environments for millions of people every day. The company manufactures more than 4.5-million pairs of safety footwear and gumboots a year and exports to more than 40 countries globally.

A 2014 merger of five of South Africa's largest safety footwear manufacturers launched the safety footwear powerhouse, which carries a broad portfolio of locally manufactured, market-leading safety footwear and gumboot brands.

As the business continued to evolve, it transitioned in 2017 from being South Africa's largest safety footwear and gumboot manufacturer to becoming an integrated workplace safety solutions provider. BBF Safety Group offers a full portfolio of head-to-toe personal protective equipment (PPE) through brands such as Bova Safety Wear, Nikki and Sisi, and professional occupational health and safety services that include training and consulting through Advantage ACT.

A proudly South African business, BBF Safety Group directly employs more than 1 200 people at its four ISO:9001-accredited manufacturing facilities across the country.

BBF Safety Group's ethos is to manufacture and source locally as far as possible. Its mission is simple – to keep people safe at work while simultaneously supporting South Africa's ongoing socioeconomic development and transformation by being focused on and committed to sustainable local manufacturing.

BBF Safety Group provides a broad range of PPE ranging from general, everyday use items to highly specialised, technical solutions. The company caters to the needs of customers across multiple industries – from agriculture to construction, mining and manufacturing.



Scan the QR code to watch a video interview with BBF Safety Group brand manager Desiree Hlubi

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BMG celebrates its 50th at Electra Mining Africa 2024



BMG – a complete process solutions provider to all sectors of industry – had much to celebrate at the 2024 Electra Mining Africa exhibition, with this year marking its fiftieth anniversary.

Through BMG, customers can access all essential quality branded engineering components, technical services and support from one well-established, reliable supplier. This integrated approach guarantees lower production costs and higher efficiencies.

BMG's Electra Mining stands at the Johannesburg Expo Centre from September 2 to 6, showcased the comprehensive engineering solutions and technical services that the company has developed over 50 years to optimise productivity and enhance process plant operating reliability.

"BMG has become an integral part of mining industry processes, providing design and a selection of equipment and solutions to project houses, supplying to original-equipment manufacturers and providing technical support to end-users.

"BMG has secured distribution and service agreements with some of the world's most respected manufacturers, and we are pleased that many of our suppliers were with us at this year's Electra Mining event," says BMG Engineering Division GM **Mark Barbour**.

BMG displayed the latest products from its specialist divisions – Bearings, Seals & Gaskets, Power Transmission, Drives & Motors, Materials Handling, Tools & Fasteners, Hydraulics, Filtration, Lubrication and Field Services.

"The BMG team focusses on every customer's specific process needs and the formulation of integrated product solutions to ensure high efficiency. By providing the correct components, we can improve machine performance, enhance reliability and extend maintenance intervals and service life for most mining and industrial systems. Our commitment to ensuring that each plant maintains full production encompasses 24-hour customer process support for production efficiency and reliability-centred maintenance," highlights Barbour.

Meanwhile, BMG's user-friendly online shopping platform, which is benchmarked on international best practice, has become highly popular in industry, as a convenient way to procure engineering products. This digital platform adds value to BMG's service offering and enhances convenience for customers, who still have the assurance of technical support and personal care from BMG specialists.

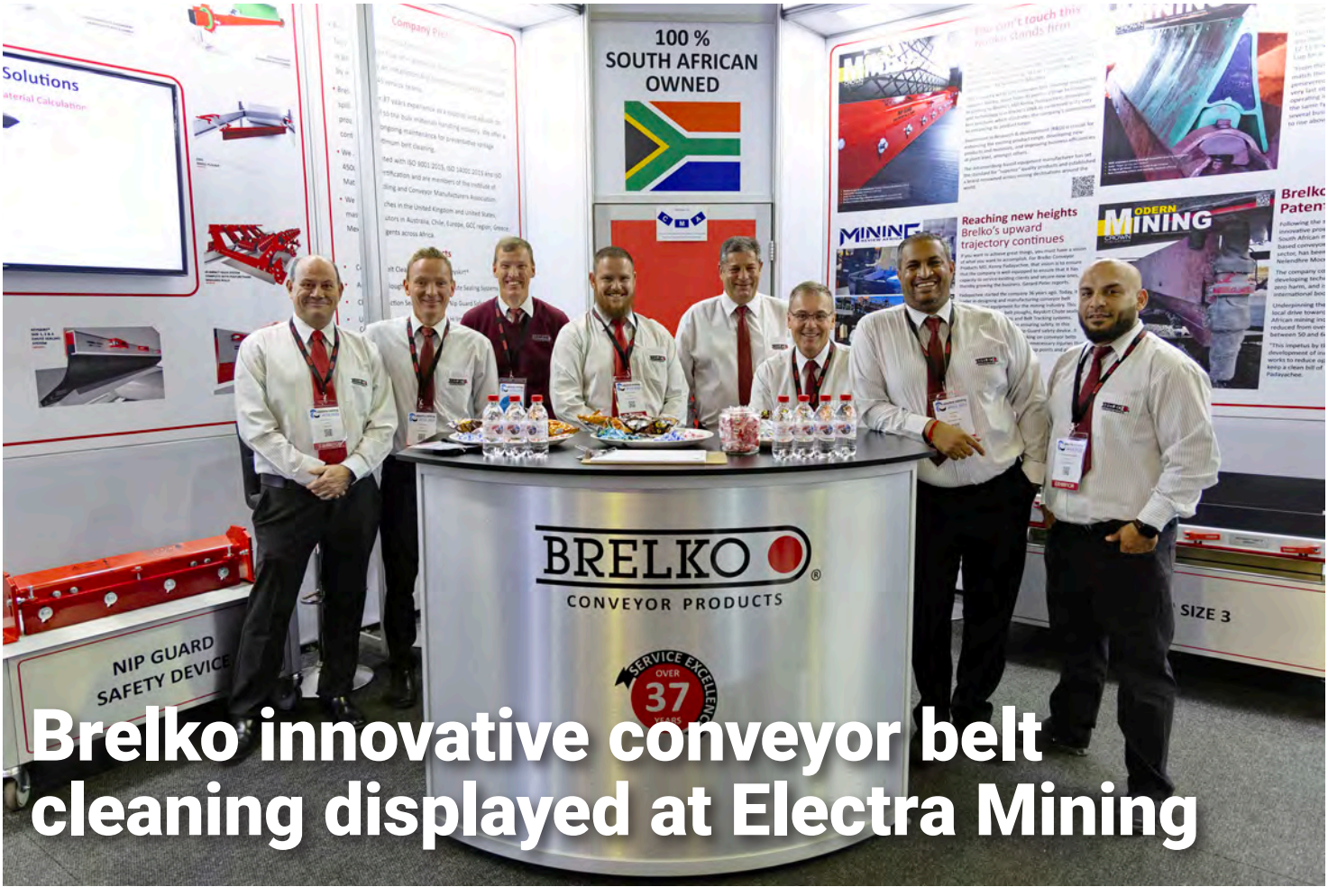
Over 75 000 BMG products are available on this platform, including bearings, seals, fasteners and power transmission components, as well as hand and power tools, abrasives, brushware, spanners, wrenches and sockets.





Scan the QR code to watch a video interview with BMG MD Robin Briggs

www.bmgworld.net
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Brelko innovative conveyor belt cleaning displayed at Electra Mining

Manufacturer Brelko Conveyor Products designs and manufactures conveyor belt cleaning equipment to ensure a smooth flow of materials at transfer and load points, supported by a comprehensive installation and service package.

Since 1987, the company has been a leading supplier and adviser on spillage control for the bulk materials handling industry.

Exhibiting at this year's Electra Mining Africa, Brelko also offers proactive and ongoing maintenance to prevent spillage and maintain optimal belt cleaning.

As a Level 1 broad-based black economic empowerment company, Brelko is accredited with ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications and is a member of the Institute of Materials Handling and the Conveyor Manufacturers Association of South Africa.

Brelko operates branches in the UK and the US, with master distributors in Australia, Chile, Europe, Greece, Mexico, Saudi Arabia and the UAE, and agents in over 40 countries.



Scan the QR code to watch a video interview with Brelko sales & service manager Jacques du Randt

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Mining industry needs innovation

The world is built on mining, from the chips in phones to the bricks that make up homes, and for every piece of equipment that contributes to the success of this sector, from draglines to conveyers, one factor runs true: everything needs to be cleaned.

Equipment operates at its best when it is well-maintained and looked after. This extends into ensuring that machinery is clean and free of excess dirt.

This is why Cleaning Equipment Manufacturing South Africa (CEMSA) has been at the forefront of innovation in the high-pressure cleaning industry for over 35 years, the company points out.

Mines are rigorous in terms of their health, safety and compliance factors and CEMSA's new range of autonomous petrol and diesel high-pressure cleaners are designed strictly with these applications in mind.

"With factors such as the ground they manoeuvre over, the environment in which they operate and the toughness of the cleaning all being considered – these high-pressure cleaning machines are a testimony to human-centric design," CEMSA highlights.

While South African businesses have traditionally imported high-pressure washers and industrial cleaning equipment, CEMSA has met the demand for high-quality, local equipment, and is manufacturing its meticulously tested, extensive range in Pretoria.

Further, CEMSA believes that industrial cleaning equipment should be suited to each individual customer's application, particularly those with a mining or industrial application, noting that both local and international manufacturers tend to have an umbrella approach to equipment design and production.

CEMSA offers an extensive network of dealers and an extensive after-sales service network, which stretches into Africa, tying in with the company's approach to finding cost-effective solutions that solve the needs of its customers.

The company boasts in-house manufacturing, assembly, electrical design and machine building, alongside a dynamic and driven research and development department, and has a near endless range of solutions for industrial cleaning applications, whether it is hot or cold water, petrol or diesel, portable or fixed.

At Electra Mining Africa 2024, CEMSA unveiled its range of PWP and PWD high-pressure washers – the perfect petrol and diesel high-pressure cleaners for mining applications.

Alongside the launch of its upgraded range, CEMSA CTO **John Rudman** delivered an informative presentation on the prevalence of continuous innovation and industry-first design for the mining industry.

"The importance of cleaning has never been more apparent as it is these days, even in industrial applications. This need has driven companies to continuously innovate, finding new ways to improve reliability and ease of service on equipment," he said.

Scan the QR code to watch a video interview with CEMSA CTO John Rudman

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Epiroc South Africa

Mining technology and equipment provider Epiroc South Africa underground regional sales manager Saltiel Pule has told *Engineering News & Mining Weekly* about its mission to "accelerate the transformation" through its latest products and services.

The Sweden-headquartered manufacturer develops and provides innovative equipment for surface and underground mining, as well as construction operations, across 150 countries, including drill rigs, loaders, mine trucks and ventilation systems.

Notably, the surface division develops and manufactures rock drilling equipment for use in surface mining, exploration, construction, quarries and water well applications, while the underground division manufactures tunnelling and mining equipment. The underground division also provides aftermarket support for added customer value.

The parts and services division ensures ample stock of spare parts, professional services, and training and support solutions for remanufacturing, electrical infrastructure and battery conversions.

The company's digital solutions division is at the heart of the company's digital transformation drive in the mining and construction industries, offering a range of dynamic digital solutions that improve safety, productivity and sustainability from the control room to the boardroom, including through automation, digitalisation and electrification.

With its product portfolio built for interoperability, flexibility and scalability, customers have the freedom to use equipment and software from various vendors. The company ensures seamless full fleet integration by using a vendor-agnostic, ecosystem approach.

To supplement its rock drilling equipment,





Epiroc's tools and attachments division manufactures tools for rock drilling, exploration drilling and ground support, including hydraulic attachment tools.

Epiroc aims to maximise customer productivity, particularly as the world demands more minerals for smart technology and cleaner energy, while reducing operational costs, enhancing health and safety conditions and reducing environmental impact.

Its main distribution centres for parts and services are in Sweden, the US and Singapore, while it has equipment manufacturing facilities in the US, Sweden, India, China, Japan and Germany.

The company's offerings are made possible by more than 18 000 employees globally, which helped the company generate SKr60-billion in 2023. The group has been a leading supplier of rock excavation equipment for 150 years, having gained considerable experience and knowledge of mining techniques that are practiced globally.

Epiroc builds lasting customer relationships and its legacy is one of reliability and productivity. The group is accelerating the transformation of the mining industry by integrating sustainability in all its products and services, which goes hand-in-hand with customers' sustainability agenda.

The company remains a preferred technology partner for customers such as African Rainbow Minerals, Anglo American, Barrick Gold Corporation, BHP, Codelco, Glencore, Rio Tinto and Vale.

Scan the QR code to watch a video interview with Epiroc engineering manager Jeremy Tibbles

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ESAB shaping the future of welding, cutting in Southern Africa

From its new 5 000 m² state-of-the-art facility in Elandsfontien, Germiston, leading high-end welding and cutting products supplier ESAB South Africa is well equipped to shape the future of the welding and cutting industry in Southern Africa.

Servicing the Southern African industrial market, the company's new premises was officially opened in June this year and boasts a service centre, demonstration area, training room, warehouse, modern offices and a retail centre.



ESAB's new South African head office and central distribution warehouse have been carefully designed to meet the current and future needs of the Southern African fabrication market by connecting technology and people. With branches in Richards Bay and Durban, in KwaZulu-Natal, Cape Town, in the Western Cape, and Gqeberha (Port Elizabeth), in the Eastern Cape, ESAB is well placed to meet local customer's needs.

The company is commited to providing the welding industry and its customers with accessible expertise, exceptional productivity and data driven innovation. With more than 10 000 global employees, 35 manufacturing facilities worldwide and representation in 145 countries at its disposal, collaborating with ESAB provides customers with peace of mind that a solid reputable supplier supports them. ESAB has the most complete line of welding and cutting products available from leading brands that cover filler metals, gas control equipment, arc equipment, cutting and welding automation, manual plasma, personal protective equipment, speciality gas, digital solutions, and exothermic cutting, gouging and arc accessories.

With an extensive range of products spanning every fabrication category and application, ESAB can provide customers with complete workflow solutions that help them to be more productive than ever before. By connecting its products with the latest technologies and application expertise, ESAB is optimally positioned to solve any fabrication challenge.

Scan the QR code to watch a video interview with ESAB South Africa MD Chris Eibl

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Goodwin showcases slurry solutions at Electra Mining

Robust slurry pump provider Goodwin Submersible Pumps Africa exhibited a range of products at this year's Electra Mining. As the sole distributor of Goodwin's electrically driven submersible abrasion-resistant slurry pumps in Africa, the company offers an array of products and services, including new pump sales, spare parts, repairs, service exchange and rental options from its Edenvale-based workshop.

Engineered for the most challenging applications in mining and other sectors, Goodwin pumps are recognised for their capability to manage highly-abrasive slurries with densities reaching up to 2.8 kg/l. These pumps come in multiple configurations, including 100 mm, 150 mm and 200 mm discharge sizes, with motor options ranging from 30 kW to 112 kW. The product line also features high head dewatering pumps and super duplex stainless steel acid-resistant pumps, meeting a wide range of industry requirements.

What sets Goodwin pumps apart is their pioneering design, which includes a unique twin volute casing that balances hydraulic thrust, and an integral motor submerged in oil to manage heat dissipation effectively. These features ensure longevity, reliability and the ability to operate in fully submerged, partially submerged or non-submerged conditions. The innovative Goodwin inducer also facilitates the movement of settled solids within a 3 m radius, making the pumps highly effective in challenging environments.

Goodwin Submersible Pumps Africa primarily serves the mining sector, working with various commodities such as gold, copper, platinum and coal, while also catering to industries such as power generation, agriculture and municipal services. Despite facing challenges such as capital constraints and the inefficiencies of non-original equipment manufacturer replacement parts, Goodwin Africa has successfully expanded its reach across Southern Africa and into new markets such as Zambia and Ghana. The company's commitment to offering a high return on investment through durable and reliable pump solutions has allowed it to build strong, long-term relationships with its customers.



Scan the QR code to watch a video interview with Goodwin Pumps Operations & Marketing Director Rui Gomes

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Grinding Techniques brings advanced abrasive solutions at Electra Mining

Local manufacturer Grinding Techniques has been supplying premium abrasives since 1981, using only the finest raw materials, to offer the ultimate in stock removal and finishing solutions balanced with the best possible product life.

This year at Electra Mining Africa, the company had a purpose-built booth onsite for conducting physical demonstrations, giving some insight into their products' quality, durability and longevity.

Apart from displaying locally manufactured conventional and specialised cutting and grinding media, Grinding Techniques also featured its versatile range of non-woven abrasives, including the sought-after Tyrolit polishing kit.

Boasting one of the most popular polishing solutions to a mirror finish, the company demonstrated this three-step programme in conjunction with other surface conditioning products within the range.

Coated abrasives, including belts, discs, flap wheels, and buffing ball mop wheels with their respective polishing pastes, were available in various grits and sizes, and showcased alongside tungsten carbide burrs and mounted points for precise stock removal on point.

For hand programme solutions, Grinding Techniques had a selection of Superflex Premium and Professional abrasives on display. These are specifically manufactured for demanding jobs within any sector, including application solutions for exotic and heat-sensitive metals.

One of a kind products - including Tyrolit's Premium 2-in-1 Rondeller and the dual-purpose Superflex Cut & Grind disc - also featured in live demonstrations.

The Tyrolit Rondeller meets every requirement for vibration-free and ergonomic grinding applications, while the Cut & Grind disc is designed to operate safely as both an efficient cutting disc as well as a light grinding disc, the company says, adding that it is particularly useful for deburring, back grinding of welds and the cutting and grinding of weld roots in preparation for further welding.

"This product is ideal for maintenance on pipelines," the company states.

For grinding applications within the precision grinding industry, Grinding Techniques also had wheels on display manufactured with specialised vitrified and resin bonding systems, tailored to gear grinding, spring grinding and cam-and-crankshaft grinding.

The company's extensive range of abrasives allows it to supply almost any need, with the ability to offer custom solutions, including a full abrasive basket offering.

Local manufacturing allows for competitive lead times with continued onsite technical support and product training, the company adds.

Scan the QR code to watch a video interview with Grinding Techniques commercial manager Dewald Bodenstein

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Hexagon leverages data to bolster efficiency, productivity, quality and safety

Hexagon, a global leader in digital reality solutions, is leveraging data to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector and mobility applications.

It does this by combining sensor, software and autonomous technologies.

"Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future," the company says.

Hexagon's mining division solves surface and underground mine challenges with proven technologies for planning operations and safety.

The various mining technologies provide surveying, design, fleet management, production optimisation and collision avoidance capabilities in a single, life-of-mine solution that connects people and processes, reduces costs and improves the safety and productivity of mine sites.

Overall, the division aims to empower mines to connect all parts of their business with technologies that make sense of data in real-time, while integrating, automating and optimising critical workflows that deliver a competitive edge.

Publicly traded on the Nasdaq Stockholm exchange, Hexagon has about 24 000 employees in 50 countries and net sales of about €5.2-billion.



Scan the QR code to watch a video interview with Hexagon business development manager Yoshan Govender

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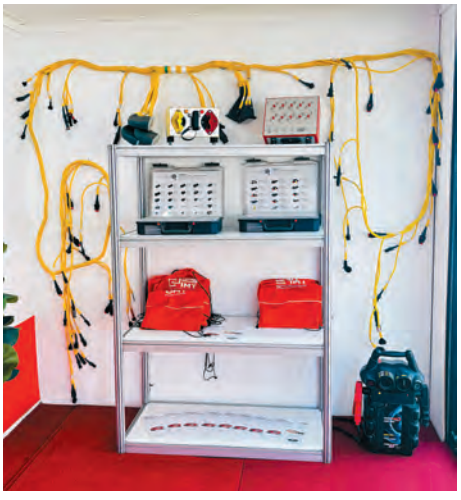


IMT showcases an extensive range of solutions at EMA 2024

Probe Integrated Mining Technologies (IMT) stands at the forefront of revolutionising the mining and construction industries by integrating cutting-edge solutions that prioritise productivity and safety.

IMT's vision encapsulates a commitment to excellence, innovation and sustainability, propelling it towards becoming a global leader and the most sought-after brand in the industry. What sets IMT apart? From operational Level 9 collision awareness systems (CAS) to intelligent sensors and advanced productivity and safety innovations, it provides a comprehensive suite of cutting-edge solutions. Its underground 5G network and advanced monitoring systems for air quality, fire and gas exemplify its commitment to safety and operational excellence. IMT's expertise also spans a broad spectrum of services, including 24/7 auto-electrical support; heating, ventilation and air conditioning field services; off-highway vehicles batteries; and a wide array of auto-electrical spares. Additionally, the company specialises in original equipment manufacturer harness manufacturing, delivering unparalleled solutions in this domain. IMT's commitment to innovation ensures that all your needs in the mining and construction industries are proficiently addressed.







Scan the QR code to watch a video interview with Probe Integrated Mining Technologies Group CAS Support Tsepiso Taole

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Innomotics South Africa

With a trusted Siemens legacy of over 150 years of innovation, large motor supplier Innomotics offers a portfolio of leading motors, drives and engineered solutions delivering high performance and efficiency across industries.

Motors and large electrical drive systems are at the core of Innomotics' business and its area of expertise laying a strong foundation for the delivery of game-changing electrical, automation and digital solutions for its customers. The name Innomotics combines the promise of innovative strength and reliability with the expertise and dependability gained from years of experience in manufacturing electric motors and converters.

Innomotics South Africa has been an integral part of the regional landscape since the inception of the mining industry. It has developed substantial local engineering expertise for solutions in the mining, cement and process industries. The regional company further supports key vertical markets across sub-Saharan Africa together with an expanding network of partners on the continent. Its commitment to the regional market is demonstrated through the investment in an upgraded local assembly facility for geared motors to offer local clients competitive lead times for custom assemblies.

Operating from its offices in Johannesburg, Innomotics supports its regional operations with a dedicated team of 90 employees, with a strong focus on delivering engineered electrical, automation and digital projects to the mining sector. A digital competence centre of excellence for the mining industry has been established in Midrand, where significant research and development efforts are dedicated to addressing the specific challenges of the industry through digital technologies.

Innomotics' experienced team of engineering project professionals and technical experts is eager to help you create sustainable value for your enterprise based on its world-class portfolio.



Scan the QR code to watch a video interview with Innomotics CEO Tim Walwyn

INNOMOTICS

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Invincible Valves strives to enhance customers' bottom line

Valves manufacturer Invincible Valves was established in 1982 and has since grown into a medium-sized enterprise located in Knights, Germiston. Invincible Valves prides itself on service excellence and flexibility by striving to enhance its customers' bottom line.

Boasting two facilities in Knights, which combined have 6 500 m² under roof, the company is fully equipped to serve as a one-stop resource for valves and ancillary equipment. Not only does the company have accredited agents in all major centres across South Africa but it also services all four corners of the globe.

As the head of the South African Valve and Actuator Manufacturers Association and an approved broad-based black economic empowerment Level 1 supplier to all major industries worldwide, Invincible Valves maintains expertise and experience across a broad spectrum of industries and applications with an offering that includes its Inval trademarked product range.

Invincible Valves' comprehensive range of locally manufactured and imported valves and accessories covers applications in mining, petrochemicals, power generation, water, sewerage and general industries.

Several valves and actuators are manufactured by Invincible Valves locally, in addition to custom designs that meet specific customer requirements. As a premier partner and accredited repair centre to one of the largest local valves manufacturers, the company also stocks several premium brands.

Invincible Valves' manufacturing premises offer an in-house rubber lining service for valves, pipes, fittings and vessels that is used by major South African valve manufacturers.

In addition, the company has offered complete service, repair and valve reconditioning for all valve types since its inception. Invincible Valves' reconditioning and repair centre focuses on restoring all valves to the original equipment manufacturer's specification. A fully equipped workshop undertakes these repairs which are tested and certified prior to leaving the company's premises.

Invincible Valves believes in treating its customers with respect. The company grows through creativity, invention and innovation, while integrating honesty, integrity and business ethics into all aspects of the business's functioning.

Its mission is to build long-term relationships with clients to provide exceptional customer service by pursuing business through innovation and advanced technology.



Invincible Valves strives to be a leader in the valves industry by providing enhanced services, customer service and profitability. The company is a proud supplier of high-quality valve products and ancillary equipment that is backed by service excellence worldwide.

Scan the QR code to watch a video interview with Invincible Valves MD Pam du Plessis

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Kal Tire supports customers on their sustainability journey

Mining companies across five continents rely on tyre management and service provider Kal Tire for mining tyre management expertise and independent supply.

As trusted partners with a focus on innovation at every stage of tyre life, the company is committed to helping customers achieve their goals.

To support customers on their sustainability journey, Kal Tire has established proven repair and retread solutions as well as the Maple Program, which gives customers actual and accredited data about the emissions savings when choosing Kal Tire retreads or repairs instead of purchasing new. At a circular-certified thermal conversion facility in Chile, Kal Tire's recycling and refining technology transforms end-of-life OTR tyres into valuable commodities.

To make its tyre technicians work as safe and productive as possible while enhancing tyre performance, Kal Tire designs proprietary mining tyre tools at its Innovation Centre. Other proprietary Kal Tire offerings include TOMS (Tire & Operations Management System) and TireSight autonomous tyre inspections.

As another way to ensure the highest standards of safety, quality and service on every site, it certifies and continuously trains its tyre technicians to its international standard, The Kal Tire Way.

More than 2 700 team members help serve more than 150 mine sites across a vast range of site conditions and commodities.





Scan the QR code to watch a video interview with Kal Tire VP of Southern Africa John Martin

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MacLean takes its EV mining vehicle leadership above ground

Canada-based underground mining equipment manufacturer MacLean has been designing, manufacturing and supporting underground mining support vehicles around the globe for over 50 years, including on the African continent, where the company established its first-ever international branch in the late 1990s and now supports over 100 MacLean mining vehicles working in South Africa, the Democratic Republic of the Congo (DRC), Mali, Tanzania and Namibia.



In South Africa, Parys remains the hub of MacLean's manufacturing activities, along with a facility in Phalaborwa that offers parts and technical site support to underground mines in that region of the country.

MacLean has a long and storied history as a Canadian-based manufacturer of specialty mining vehicles for hard rock mining, but the company's focus from its South African branches is on a "Made in Africa, for Africa" strategy, whereby full assembly of customised mining vehicles is assembled in South Africa. The company also recently announced a dealer partnership with Kanu Equipment, which greatly improves MacLean site support capabilities in the DRC and Tanzania in particular.

MacLean's electric vehicle (EV) mining vehicle leadership took a decisive leap forward at the recent MINExpo convention in Las Vegas, Nevada, where the company announced an EV motorgrader partnership with one of the world's leading iron-ore producers and energy companies, Fortescue, which will see a fleet of 30 EV surface graders delivered to Fortescue's iron-ore operations in Western Australia by the end of this decade.



Scan the QR code to watch a video interview with MacLean GM: Africa John-Paul Theunissen

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Manitou Solutions at Electra Mining 2024

Material handling equipment supplier Manitou South Africa once again showcased its latest advancements in mining material handling solutions at Electra Mining Africa 2024.

"We put our customers at the centre of everything we do by offering more than machines and attachments; we offer end-to-end solutions," says Manitou South Africa MD **Darren Hall**.

Manitou's customer focus at the exhibition was complemented by machine and attachment innovations on display. Each has been engineered to reduce customer costs through increased machine versatility, resulting in faster operations, improved uptime and increased safety.



Previously launched at Electra Mining 2022, the impressive MHT-X 11250 mining telehandler was again on display. The first of its kind on the African continent, this heavy load (25 t) capacity telehandler is ideal for all types of maintenance and servicing and has already proved to be an asset on several mine sites. Paired with a range of available attachments, such as tyre and cylinder handlers, jibs, winches, forks and personnel cages, the MHT-X 11250 offers extreme versatility for a multitude of functions.

This year, Manitou launched the MLT-X 850 underground mining machine. With its 5 t capacity and 8 m lifting height, this machine expands Manitou's current underground equipment offering.

Additional machines on display included the Manitou MHT-X 790 and MT-X 733 mining specification telehandlers as well as the 2600R skid steer loader.

To maximise the potential of Manitou machines, a range of support services is available. From maintenance and training to warranty coverage, Manitou services provide peace of mind. These offerings ensure your Manitou equipment maintains maximum uptime, continues to comply with safety regulations and is serviced to original equipment manufacturer standards.

Manitou SA is a subsidiary of the global Manitou Group, which is a leading supplier of rough terrain telescopic handlers and forklifts, skid steer loaders, backhoe loaders as well as aerial platforms, offering a wide range of construction, agriculture, mining and industrial equipment.

Scan the QR code to watch a video interview with Manitou GM Southern Africa Regional Network Gavin Leask

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Multotec delivers efficient, cost-effective minerals processing

Mining success relies on efficient and cost-effective minerals processing. Mineral processing equipment and services supplier Multotec partners with its mining customers to achieve this vital goal.

Recognised as an industry leader in metallurgy and process engineering, the company has driven technology development in this field for 50 years. Today, minerals processing plants on six continents are reliant on Multotec's equipment and expertise.

Multotec's broad global footprint ensures that the company can work closely with its customers to understand their operating conditions and meet their specific requirements. The company's customised solutions are, therefore, effective in driving process efficiency and reducing operating costs.

What Multotec learns in the field is channelled into a continuous improvement loop, leading to innovations across a range of products, including screening media, processing equipment, wear-resistant lining, mill and scrubber lining, solid-liquid separation and conveyor belt solutions. The company also monitors and, where possible, incorporates Fourth Industrial Revolution technologies into its products and manufacturing processes to add value to customer operations.

Key to Multotec's value proposition is its in-house test facility, where the company can test customers' mineral samples through various equipment to prove which is optimal for the particular application. This crucial step helps customers to reduce their process uncertainty and procurement risk in any project.





Scan the QR code to watch a video interview with Multotec South African operations MD Bheka Majola

MULTOTEC

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www.multotec.com



RGM Cranes excels at delivering advanced lifting solutions

Crane manufacturer RGM Cranes showcased the latest technological advancements and solutions for overhead lifting needs – providing unparalleled efficiency, reliability and safety – at Electra Mining Africa (EMA) 2024 from September 2 to 6 at the Johannesburg Expo Centre, in Gauteng.

With more than 35 years of experience, RGM Cranes has established itself as a premier manufacturer and supplier of overhead cranes and gantries across Africa. The company offers comprehensive services, including design, manufacturing, installation and maintenance of lifting equipment, tailored to meet the specific requirements of various industrial environments.

"Our extensive experience and commitment to quality have earned us a reputation for delivering robust and reliable lifting solutions," says RGM Cranes Group CEO and Chairman **Alex Dowling**.

As part of their continued evolution and commitment to innovation, RGM Cranes also unveiled a newly updated logo at Electra Mining Africa 2024, marking a significant milestone in the company's journey since its founding in 1988. This modernised logo reflects RGM Cranes' dedication to excellence in the crane industry and their ongoing mission to deliver advanced crane solutions. "Our new logo represents our growth and the forward-thinking approach we bring to the industry," says Dowling.

RGM Cranes also presented its cutting-edge technological offerings, including an advanced crane management system called Nexxus and its revolutionary Gravity Ant manipulator. These innovations reflect RGM Cranes' dedication to integrating modern technology into the company's products, ensuring customers benefit from the highest levels of operational efficiency and safety.

Dowling adds: "Our technology offerings are designed to provide superior control and efficiency, helping our customers maintain peak operational performance."

The Nexxus system represents a significant leap forward in crane management. The cloud-based platform offers real-time monitoring and comprehensive asset management capabilities, enabling users to track crane performance, schedule maintenance and access critical data remotely.

"By leveraging IoT technology, Nexxus provides actionable insights that help streamline operations and enhance productivity," Dowling explains.

The Gravity Ant was one of the highlights at the RGM Cranes stand. The advanced electrical manipulator, designed by the company's European partner Güralp, is engineered to support nonstop production. The Gravity Ant features a compact, portable design and impressive lifting speeds of up to 75 m a minute, offering unmatched versatility and operational flexibility.

The Gravity Ant's innovative IBOX control system allows for intuitive handling, while the float mode feature enables precise load positioning by simply touching the load. With multiple safety mechanisms, such as hand presence sensors and emergency stop functions, the Gravity Ant ensures secure operation. Additionally, its sophisticated monitoring system, similar to Nexxus, provides real-time performance data and maintenance alerts, enhancing reliability and efficiency.





"The Gravity Ant's advanced features and safety mechanisms make it an indispensable tool for modern industrial environments," highlights Dowling.

The RGM Cranes team was poised to discuss specific lifting challenges with EMA visitors and demonstrated how the company's products can meet their various needs with unparalleled efficiency and safety.

Scan the QR code to watch a video interview with RGM Cranes Group CEO and Chairman Alex Dowling

RGM CRANES
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RS Group's product range serves expanding market

One-stop industrial and electronic solutions provider RS South Africa sales director Erick Wessels says the company's more than 750 000 products across 2 500 leading brands continue to serve an ever expanding market.

The company is a leading global omni-channel provider of electrical components, tools and equipment for engineering and maintenance, which has been demonstrated as valuable for industries such as mining, manufacturing, energy and transportation.

With a focus on streamlined operations, the company's expert staff help engineers and other professionals to improve efficiency of their operations.

RS South Africa prides itself on its purpose-led culture, unrivalled product range, innovative service solutions, effortless customer experience and smart, scalable operations.

The company solves industrial challenges through its extensive product portfolio, global supplier relationships, high-touch services and digital innovation, providing optimised multi-market inventory processes and predicting maintenance requirements to ensure uptime – all the time.

RS Group was established in London in 1937 and has since grown to have operations in 35 countries, with more than 9 000 employees. Its South African distribution centre is headquartered in Midrand.









Scan the QR code to watch a video interview with RS South Africa sales director Erick Wessels

shop at za.rs-online.com



Specialist manufacturer displays range of instruments at expo

SA Gauge is a specialist South African manufacturer of pressure and temperature measuring instruments.

Pressure gauges, thermometers, diaphragm seal systems, pressure testing kits and related accessories are manufactured to standard and original equipment manufacturer specifications with short lead times.

The SA Gauge pressure and temperature calibration laboratory has been accredited to SANAS ISO/IEC:17025 standards for calibration.







Scan the QR code to watch a video interview with SA Gauge product specialist Ranay Khedan

SA GAUGE MANUFACTURERS

031 579 2216 – Head Office
sales@sagauge.com



Schauenburg Systems

Schauenburg Systems' mission is clear: "Innovation that Saves." As a leading system integration specialist in the mining and industrial sectors, it is dedicated to delivering comprehensive turnkey solutions designed to meet the demanding conditions of mining operations while prioritising employee safety.

Schauenburg Systems director of sales and business development **Martin Marais** emphasises an unwavering commitment to transforming mining operations through cutting-edge technology. At the forefront of its digital offerings is the SmartMine IoT platform, a sophisticated tool that transforms raw data into actionable insights, significantly enhancing safety and efficiency across all levels of mining operations.

With a strong presence across the country and a wealth of experience, Schauenburg is at the forefront of developing Collision Prevention Systems. These systems have become essential in improving safety underground and on the surface, providing real-time visibility that empowers customers with crucial information precisely when it matters most.

Its gas detection systems, including the renowned GDI Sentinel, are designed to perform in the harshest environments, offering multiple gas detection capabilities. Equipped with long battery life and inductive charging capabilities, its systems ensure continuous monitoring of industrial environments without interruption, safeguarding lives and assets.

At the core of its connected worker ecosystem is the GDI SmartConnex, a versatile portable gas detector and connectivity hub. It monitors multiple gases in real-time while integrating with smart wearables and third-party devices, streamlining instrumentation and reducing costs. SmartConnex enhances safety and efficiency, empowering workers with critical information and functionality in remote environments.

Marais highlights the critical importance of reliable and robust safety equipment in the perilous environments of mining, where adhering to stringent environmental, social and governance principles is non-negotiable. "At Schauenburg, maximum protection and safeguarding of the workforce are not just goals; they are guarantees, driven by our steadfast commitment to excellence and responsible innovation."



Scan the QR code to watch a video interview with Schauenburg Systems sales and business development director Martin Marais

SCHAUENBURG
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Innovation that Saves

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SEW-EURODRIVE closing the loop

Automation company SEW-EURODRIVE expanded its presence at Electra Mining Africa with added exhibition space in Hall 7, showcasing its innovations in automation and electronics.

This complements the company's landmark stand in Hall 6. Both stands reinforced the message that SEW-EURODRIVE is 'closing the loop' with its growing portfolio of product developments.

This expansion means diversifying into new opportunities within the mining and industrial sector value chains, introducing products to support this strategy. Visitors saw how sustainability is integrated into SEW-EURODRIVE's growth across the continent including intensive upskilling at its local facilities in various African countries.

As industry leaders, SEW-EURODRIVE plays a key role in empowering artisans—both in-house and for customers—through its Drive Academy, which leverages augmented reality as a learning tool. This helps consolidate their foundation of expertise, upon which the market relies.

At the SEW-EURODRIVE stand in Hall 6, visitors witnessed new solutions like the purpose-built SEW X.e agitator, fresh from its launch in Europe last year. Also launched was a range of planetary solutions for new market segments and the new ECO2 design drive featuring environmentally friendly manufacture.

The SEW-EURODRIVE team discussed DriveRadar® technology with visitors, as the mining sector embraces predictive maintenance to achieve better uptime levels and enhance equipment lifespans. Another sustainability focus is the careful use of natural resources, including their lubrication solution.

In Hall 7, visitors explored the latest generation SEW MOVI-C® modular automation technology offering advanced features in a simpler-to-use format. This refined offering ensures customers get just what they need, with the option to add more features later. SEW-EURODRIVE also helps customers navigate the complexity of automation in drive technology ensuring a smooth migration process.





Scan the QR code to watch a video interview with SEW-EURODRIVE's Jonathan McKey and Willem Strydom

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SkyJacks celebrates 45-year milestone at Electra



For over 45 years, Johannesburg-based supplier of powered access and materials handling solutions SkyJacks has been trusted by South Africa to provide innovative and safe solutions to working at height and for materials handling.

SkyJacks is the Southern African distributor for leading original-equipment manufacturers (OEMs) and offers a comprehensive range of access and lifting equipment and related services.

This includes temporary suspended platforms, mobile elevated work platforms, telehandlers, construction hoists and mini cranes as well as a comprehensive selection of lifting products. The company's workshop and load testing and inspection services ensure that customers are legally compliant, and that SkyJacks' training and learning services enable staff to be qualified, efficient and safe.

The SkyJacks team live by a set of values and are driven by a shared purpose of making it possible for people, companies, communities and environments to thrive.

"We are part of Waco International, an equipment rental and industrial services business with operations throughout Southern Africa and other selected sub-Saharan African countries, Australia and New Zealand," the company adds.

Scan the QR code to watch a video interview with SkyJacks MD Alistair Bennett

SkyJacks

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SolarAfrica reveals virtual power for mining, manufacturing

Independent power producer and renewable energy experts SolarAfrica launched its suite of virtual power solutions at this year's Electra Mining Africa trade exhibition.

The suite, called Electricity 2.0, addresses a dire need in the commercial, industrial and mining sectors to mitigate increasing electricity prices while managing local and international pressures to go green.

SolarAfrica head of commercial **Brandon Horn**, headlined the Seminar Hall on Day 1 to chat about the role of Electricity 2.0 in today's energy landscape. "We're seeing a lot of uncertainty out there. Volatile tariff hikes make it nearly impossible to forecast electricity spend, while loadshedding has fluctuated from record highs to almost zero," he explained.

Electricity tariffs have soared by more than 450% over the past decade – putting considerable strain on the mining and manufacturing sectors' profitability – while the threat of missing net-zero targets is fast approaching.

"Businesses have traditionally been forced to rely on a single source of electricity: utility power. They never had control over how much they spent on power with restricted options to cut their carbon footprint. Many installed on-site solar and batteries to take matters into their own hands, but these solutions offer a limited amount of affordable, renewable power," he added.

With Electricity 2.0, businesses have more control over where they buy power to get cheaper, greener electricity.

Electricity 2.0 consists of several virtual power options, with wheeling as the first available for sign-up. Wheeling allows businesses to buy power directly from SolarAfrica at a tariff that is up to 50% cheaper than Eskom's. The power will be generated from several solar farms including the 1 GW SunCentral project in the Northern Cape.

The suite includes enhancements in energy trading, billing consolidation and AI innovation for metering data. Thanks to being 100% virtual, Electricity 2.0 does not require on-site installation or construction.

"Electricity 2.0 offers something South African businesses have been in desperate need of: certainty. Now you can know what your power will cost over the next 20 years and have more control of how quickly you can reach your sustainability goals," he said.

Those who prefer an on-site system can still get SolarAfrica's solar and battery solutions, available as financed or cash options. Electricity 2.0 can fully integrate with its on-site counterparts, significantly boosting a business's progress along its green energy journey.

For example, by combining Electricity 2.0 with on-site solar and batteries, a 24-hour user of electricity with a R16-million a month bill can reduce its bill by about R4.5-million a month and grid utility use by 60% – equating to R54 895 550 in yearly savings. Virtual power is also 100% green, so businesses can finally fast-track their carbon targets.

"For SolarAfrica, it's always been about giving business owners the power to choose where they get their power from – whatever that source may be. With Electricity 2.0, you now have more options available to create an energy mix that helps you save money and go green in a sustainable, meaningful way," he concluded.

Scan the QR code to watch a video interview with SolarAfrica's Head of Commercial Brandon Horn

SOLARAFRICA

www.solarafrica.com
Tel: 012 881 4800

TLT-Turbo Africa drives innovation in ventilation solutions across sub-Saharan Africa and beyond



Ventilation specialist TLT-Turbo Africa, a subsidiary of globally renowned, Germany-headquartered TLT-Turbo, is at the forefront of delivering advanced solutions tailored to the unique ventilation challenges of sub-Saharan Africa's mining and industrial sectors.

With a deep commitment to innovation, reliability and energy efficiency, Pretoria-based TLT-Turbo Africa has rapidly expanded its footprint across the region, becoming a trusted partner of major mining operations in countries that include the Democratic Republic of Congo (DRC), Ghana, Zimbabwe and South Africa.

The company's success is driven by its ability to provide customised ventilation systems that ensure safety and productivity in even the most challenging environments. Its A&B fan range, known for its robustness and adaptability, has not only gained traction in sub-Saharan Africa but has also made significant inroads into international markets such as South America, the USA, Australia and Kazakhstan.

Through its local expertise and a client-centric approach, TLT-Turbo Africa has positioned itself as a leader in the market, offering solutions that meet stringent safety standards while enhancing operational efficiency. As the company continues to grow, it remains committed to pushing the boundaries of ventilation technology, ensuring that it meets the evolving needs of its African, as well as global, clients.

With a strong vision for the future, TLT-Turbo Africa is poised to continue its expansion, delivering cutting-edge solutions that contribute to the success and sustainability of the industries it serves.

Watch a video in which TLT-Turbo Africa sales director **Vusi Madlopha** speaks to *Mining Weekly* at Electra Mining Africa 2024.



Scan the QR code to watch a video interview with TLT-Turbo Africa sales director Vusi Madlopha

TLT-Turbo Africa

www.tlt-turbo.com



Tontrac increases weighbridge efficiency with software platform



With truck weighing processes being crucial to mining operations, weighbridge automation and access control specialist Tontrac System Analytics' platform comprises cutting-edge systems and on-the-ground support that is tailored to meet the unique demands of mining.

While the company demonstrated its platform software at this year's Electra Mining Africa exhibition, CEO **William Hugh Butler** says the company is committed to technological excellence and operational efficiency.

At the heart of Tontrac's offerings is a sophisticated weighbridge automation system designed to streamline and optimise the weighing process. Leveraging state-of-the-art software and advanced analytics, Tontrac's solutions provide real-time, accurate data for efficient load and logistics management, enhancing overall productivity and efficiency.

Integrated with the automation system is a cloud-based mine access control system that enhances mine security by limiting unauthorised access to site and placing entry and exit decisions in the hands of the system. With Tontrac's cloud-based pre-authorisation, only authorised drivers and trucks gain access to site, thereby safeguarding high-value stockpiles.

Tontrac prides itself on delivering tailor-made, integrated solutions that align with the specific needs of mining operations, supported by a dedicated team of experts.

The company is committed to evolving in tandem with technological advancements globally, particularly to remain at the forefront of innovation to empower mining enterprises across South Africa to operate with precision, security and efficiency.



Scan the QR code to watch a video interview with Tontrac System Analytics CEO William Hugh Butler

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Tel: +27 465 9663
www.tontrac.co.za



Xylem transforms water management into a strategic advantage

Global leader in water technology Xylem is dedicated to solving the world's most challenging water issues. With decades of experience, Xylem offers innovative solutions across the entire water cycle, from water sourcing and transportation to treatment and reuse.

Its comprehensive portfolio includes cutting-edge digital technologies and services that enable efficient, sustainable and reliable water management across diverse industries.

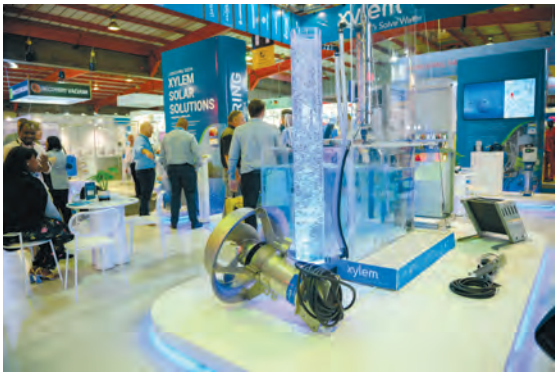


Xylem works together with its customers, collaborating to help optimise water usage, reduce costs and ensure environmental compliance.

In the mining sector, it knows that effective water management is crucial to success. Xylem combines its extensive experience in water management with a robust portfolio of advanced digital solutions to address the unique challenges of each mining operation.

Its team of mining experts work together with clients to safely, efficiently and sustainably manage water throughout the production process. Are you ready to transform water management into a strategic advantage? Let's solve water!





Scan the QR code to watch a video interview with Xylem strategy and marketing manager Chetan Mistry

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Alcohol Breathalysers (Pty) Ltd

Alcohol Breathalysers supplies the iBlow10 no-contact breathalyser, a high speed no-contact alcohol breathalyser screener for testing drivers at road blocks and workers entering industrial sites and mines.

The iBlow10 provides up to 12 tests per minute without the use of mouth pieces and offers active and passive testing for when drivers or workers have difficulty exhaling. The iBlow10 can also be used with paper straws for no-contact breath testing.

The breathalyser also comes with replaceable and washable blow caps.

The unit is manufactured with a built-in magnet, which can be attached to most metal surfaces including poles, beams and security gates for no-touch self-breath testing.

iBlow10's bright LED lighting can be used in various ways at night and displays in white/red blinking, red light or red and blue light, making it ideal for traffic law-enforcement officers to direct traffic at road blocks to perform safer sobriety testing.

Alcohol Breathalysers has over 18 years of experience in providing breathalysers and device calibration services to mining, private individuals, law-enforcement and regulated industries.

The company offers the widest range of alcohol testers available in Africa, including professional, industry, law enforcement, business and personal models.

Alcohol Breathalysers save money, time and lives!

Basic Pack Option



Full Pack Option



#SoberDriving is #SafeDriving



Both options supplied with a rubber protective cover

MM





iBlow10 Technical Specification

Sensor type	SuraCell Sensor (Fuel Cell Sensor)	
Battery	6 x AA Size alkaline batteries (included) **OR** 6 x re-chargeable batteries (Non-Manganese)	
Weight	385 grams including batteries (excluding carry case / carton)	
Dimensions	275mm X 50mm X 50mm (excluding carry case / carton)	
Test Result	**LED Alert**	Zero: Green / Low: Red / Hi: Blinking Red 0.00/LO/HI or numerical result
	Display	(Display "HI in numerical result mode means higher than 0.48 Mg/L BrAC) Zero: 1 Beep sound
	Buzzer Alarm	Low: Repeating short beep sound High: Long Beep
Warming up time	2 to 10 seconds depending on temperature	
Analysis time	Within 2 seconds at 0.00 Mg/L BrAC	
Tests per minute	12 Times / 1 Minute	
Operation temperature	-5°C ~ 55°C	
Storage temperature	- 10 °C ~ 60 °C	
Mouthpiece	Blow cap (Replaceable & washable passive cone type)	
Auto power off	Adjustable 30 to 900 seconds.	
Display time	Adjustable 1 to 9 seconds	
Calibration interval	Default - Every 65,000 tests or 12 months whichever comes first	
Additional functions/ features	Built - in Magnet Reminder for calibration & grace period Calibration protection Manual LED lighting: White, Red blinking, Red, Red & blue Stores up to 5000 tests in memory which can be downloaded	

Alcohol Breathalysers

To learn more, please visit www.breathalysers.co.za or call +27 10 140 0785 or email: sales@breathalysers.co.za Whatsapp: +27 64 615 4337 Visit us in JHB • Durban • CT

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Branislav Bibic

Philip Morris International



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Full Name: Branislav Bibic

Position and Company Name: Area VP for sub-Saharan Africa at Philip Morris International

Main Activity of the Company: Tobacco and nicotine products, including cigarettes and smoke-free products. Our smoke-free portfolio consists of our flagship heat-not-burn product, IQOS Iluma, and our oral nicotine pouch, ZYN. Our cigarette portfolio consists of Marlboro and Chesterfield, which we distribute domestically and export to markets in the region. Our affiliate, Leonard Dingler, manufactures tobacco products such as pipe tobacco and nasal snuff, as well as market-leading pipe tobacco brands Boxer and Best Blend

Date and Place of Birth: December 10, 1970, Zadar, Croatia

Education: MBA, Saïd Business School, University of Oxford; MA in European Studies, College of Europe; Master of Engineering, University of Zagreb

> *"I believe in being straightforward and forthright, valuing honesty and clear communication to build trust and strong relationships. I am driven by the innate need to positively influence the people I work with and to make broader societal impact"*

First Job: Sales representative for classical music concerts

Size of First Pay Packet: It was commission based, and I earned nothing in my first month

Career Path to Date: From early in my career in sales in Austria, I have progressed through diverse leadership roles in nongovernmental organisations (NGOs), government and business. My 17-year tenure at Philip Morris International culminated in senior executive positions, honing strategic thinking, global organisational leadership, commercial development and regulatory expertise

Number of People under Your Leadership: About 600 staff in sub-Saharan Africa

Management Style: Coaching, empowering and fostering independent thinking, autonomy and teamwork. However, I don't hesitate to adopt a directive style when the situation demands it

Personal Best Achievement: Founding an NGO that aims to cultivate a democratic political culture and boasts a network of more than 500 young leaders across various sectors, including politics, government, business, media and civil society

Person Who Has Had the Biggest Influence on Your Life: My mother and my wife. As a concentration camp survivor and a former child refugee, my mother instilled humility, hard work, discipline and tolerance in me

Person Who Has Had the Biggest Influence on Your Career: Ante Cicin-Sain, a former ambassador and central bank governor. Although he held high-powered positions, he took the time to give back to the community and mentor young people

Businessperson Who Has Impressed You Most: Drago Azinovic, my former boss at Philip Morris International. He had a brilliant strategic mind, was a bold decision-maker and led teams with trust and autonomy

Philosophy of Life: I believe in being straightforward and forthright, valuing honesty and clear communication to build trust and strong relationships. I am driven by the innate need to positively influence the people I work with and to make broader societal impact

Biggest Ever Opportunity: My first GM position at Philip Morris International

Biggest Ever Disappointment: Witnessing a war in my 20s and realising the cruelty of humanity and what happens when systems fall apart

Hope for the Future: The complete transformation of the tobacco industry to a smoke-free future. It's happening and it's irreversible, and that excites me

Favourite Reading: Geopolitics – the latest book I read is *The Power of Geography*, by Tim Marshall

Favourite Food/Drink: Water is life

Favourite Music: Jazz

Favourite Sport: Running and swimming

Hobbies: Travelling

Car: Electric car

Pets: I have a labradoodle puppy named Mochi

Miscellaneous Dislikes: Bureaucracy and meanness

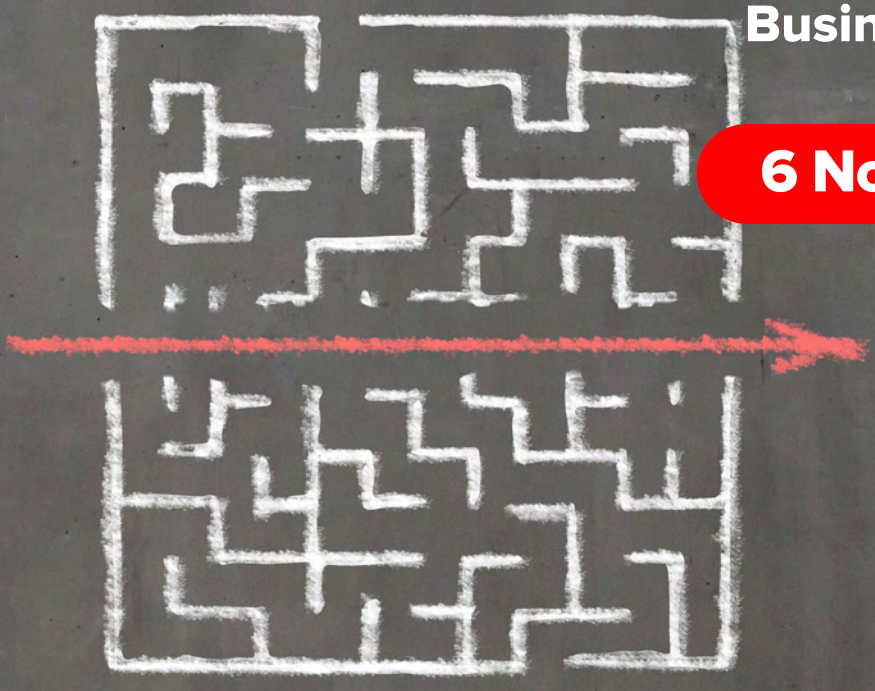
Married: Yes

Children: A 14-year-old son

The Art of the Exit

Webinar

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6 November 2024 at 14:00

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Confirmed panel members:



Michael Avery
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Rick Grantham
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Andrew Bahlmann
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