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Having invested for many years in digital innovations for mineral process optimisation and efficiency, Weir can now create more holistic solutions for mining. **Pg 6.**

COMMENT

Is South Africa doing enough to promote the mining sector?

Nelendhre Moodley.

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It seems that the tide, under the Government of National unity (GNU), is turning with government making a concerted effort to deal with aspects hindering economic growth, namely power and corruption, amongst others. In fact, speaking at the 22nd Africa Down Under mining and exploration conference in Perth, Australia, recently, Mzila Mthenjane, CEO of the Minerals Council South Africa, flagged the positives taking place in the country, such as the inclusion of the private sector to assist the government to stabilise and restore electricity generation and state-owned transport logistics services to nameplate capacities, and to tackle crime and corruption.

"As the South African mining industry, we are gearing for growth. We will continue to capitalise on the positive post-election sentiment as we see accelerating structural reforms and growing private sector participation in key areas that impact the economy. The government's mooted infrastructure investment drive will create demand for minerals which is also positive," Mthenjane said.

Mineral Resources Minister, Gwede Mantashe, gave assurance that the DMRE would "implement its customised online mining cadastre by June 2025 bringing South Africa in line with other mining jurisdictions with their modern, efficient and transparent cadastres".

> "DMRE would implement implement its customised online mining cadastre by June 2025 bringing South Africa in line with other mining jurisdictions with their modern, efficient and transparent cadastres."

On home soil, the Electra Mining Africa event with its upbeat vibe pulled in a record number of visitors with event organisers, Specialised Exhibitions – a division of the Montgomery Group, announcing that since its inaugural show in 1972, this year's event was its best by far. Speaking to exhibitors at the five-day event - the old faithful's and several new entrants who showcased their most advanced wares - many were optimistic of fruitful outcomes from the event given the interactions with potential buys.

And for more good news - the South African economy strengthened by 0,4% in the second quarter (April–June) of 2024. Although seven industries recorded gains – finance; real estate; business services industry; manufacturing; trade; electricity, gas & water and construction, three sectors - transport, storage & communication; agriculture, forestry & fishing and mining faced headwinds. According to Stats SA, mining recorded a second consecutive decline, with the industry's poor showing in the second quarter associated with decreased production of iron ore, coal, diamonds and gold.

Mining news

With gold trading at near record highs, gold majors who are keen to sustain output, continue to eye opportunities for mergers and acquisitions. Gold miner, AngloGold recently acquired its competitor, Centamin, for R44.8 billion – a deal which gives AngloGold control of the Sukari mine in Egypt. The mine has long been regarded as one of the best gold deposits in the world.

While gold continues to be a shining star, the platinum sector is not as fortunate - Northam Platinum's CEO, Paul Dunne, is forecasting a 10% drop in local output over the next five years and Anglo American has launched an accelerated bookbuild for shares in Anglo American Platinum, this as the miner effects its plan to spin-off the subsidiary.

In this edition

The topic: Funding the future: Mining companies get creative to finance their projects, remains a pertinent topic given that financing mining projects is an extremely challenging undertaking, particularly for junior miners and those seeking billions of dollars in project financing (pg 8). Also of interest is the recently rebranded coal industry research organisation, Coaltech, which has embarked on a revised strategy (pg 12) and EPC company, Fluor, which has also realigned to focus on underground mining opportunities (pg 18). Our Electra Mining Review feature has been well supported by the likes of Weir, SEW-EURODRIVE, Booyco Engineering, IPR, FLS, Integrated Pump Technology, Trafo Power Solutions, Tru-Trac and WEG Africa - all sharing insight into their latest offerings. Also, check out our cover story, Weir, which unpacks its holistic approach to digital integration in mining (pg 6).

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Bernard Swanepoel **honoured with Brigadier Stokes Award by SAIMM**

Bernard Swanepoel honoured with Brigadier Stokes Award.

At its Annual General Meeting the Southern African Institute of Mining and Metallurgy (SAIMM) announced Bernard Swanepoel, a distinguished leader in the mining industry, as the recipient of the prestigious Brigadier Stokes Award for his outstanding contributions to the field of mining. The Brigadier Stokes Award was instituted by the Southern African Institute of Mining and Metallurgy in 1980 in honour of one of South Africa's most respected mining pioneers, Brigadier Stokes, to commemorate his outstanding and unique contribution to the South African mining industry. This award recognises individuals who have made exceptional contributions to the mining industry through their leadership, innovation, and dedication. Bernard Swanepoel, with his remarkable career spanning over three decades, embodies the spirit and excellence that this award represents. Mark Munroe, Group Chief Technical Officer of Implats, in his citation said "The Brigadier Stokes Award is a testament to Bernard Swanepoel's exceptional leadership and contributions to mining and metallurgy, his dedication to advancing the industry and improving standards of practice has made a profound impact, and we are thrilled to honour him with this prestigious award." ■

Lucara recovers epic 2 492 ct diamond **from Karowe mine**

Lucara recovers exceptional 2 492 ct diamond from Karowe mine.

TSX-listed Lucara Diamond Corp. has recovered an exceptional 2 492 carat diamond from its Karowe Diamond Mine in Botswana. This remarkable find, one of the largest rough diamonds ever unearthed, was detected and recovered by the company's Mega Diamond Recovery (MDR) X-ray Transmission (XRT) technology, installed in 2017 to identify and preserve large, high-value diamonds. The stone was recovered from the processing of EM/PK(S) kimberlite, the dominant ore type that Lucara will continue to target during the first years of the company's underground mining operations. William Lamb, CEO of Lucara, commented on this historic discovery: "We are ecstatic about the recovery of this extraordinary 2 492 carat diamond. This find not only showcases the remarkable potential of our Karowe Mine, but also upholds our strategic investment in cutting-edge XRT technology. The ability to recover such a massive, high-quality stone intact demonstrates the effectiveness of our approach to diamond recovery and our commitment to maximising value for our shareholders and stakeholders." ■

Mining production declined again in Q2 2024

Total South African mining production suffered a decline of 0.9% quarter-on-quarter (q-o-q) in Q2 2024, according to Stats SA. This follows a contraction of 1.3% in the first quarter of 2024 and implies that the mining sector will once again contribute negatively in Q2 to the quarterly momentum in real GDP. The further decline for mining in Q2 is particularly disappointing against a backdrop where mining load-curtailment was absent for the entire second quarter. Electricity generation increased by just over 2% in real terms during Q2. Even so, it is clear from the numbers that non-energy headwinds continued to constrain the mining sector. When measuring production in the first six months of 2024 relative to the corresponding period in 2023, the news is somewhat better, with total mining production eking out a modest increase of 0.3% year-on-year (y-o-y). Although this is only a small rise in production, it is an improvement after real mining output declined by 0.2% in 2023. This followed a significant contraction of 7.2% in 2022. In overall terms, real mining production in Q2 was 8.7% lower than the pre-COVID level in Q4 2019. Manganese and chrome stand out as the only subcategories that increased over this period. At the other end of the scale, production of iron ore and gold performed the worst. This indicates that a record-high nominal gold price has not been able to arrest the deep structural decline in the domestic gold sector.

The latest set of mining production and minerals sales data continue to highlight that the mining sector is not yet substantially benefiting from the absence of load-curtailment. The positive impact of much improved power provision is being diluted by other constraints, including rail and port constraints (mainly impacting coal and iron ore), as well as an adverse commodity price environment (mainly impacting PGMs). ■

Kazera Global receives National Nuclear Regulator Certification for Whale Head Minerals project.

Kazera Global receives National Nuclear Regulator Certification

Kazera Global, the AIM-quoted investment company, has received certification from the National Nuclear Regulator (NNR) in South Africa, which enables its Whale Head Minerals project to imminently commence the mining and production of Heavy Mineral Sands (HMS). The company has remained engaged with several Potential Off Takers (POTs) in both South Africa and overseas who have approached the company with a view to purchasing its HMS. With the NNR Certificate of Registration now in place, these discussions can be progressed, with samples expected to be provided to the POTs once mining and production commence towards the end of this month. Following the analysis of these samples, the company expects to be able to finalise contracts with POTs. Offtake options open to the company range from HMS product being sold as run of mine at the mine gate, to the introduction of a magnetic separator to sell specific minerals to end users. A potential offtaker has agreed, in principle, to finance this second option. The company will consider all options available to it and seek to balance short-term cashflow generation with longer term value creation. ■

A digital solutions system installed on Warman pumps at a tailings facility.

Weir drives holistic approach **to digital integration in mining**

Having invested for many years in digital innovations for mineral process optimisation and efficiency, Weir can now create more holistic solutions that change the face of mining.

Ole Knudsen, Senior Director for Digital at Weir.

King Becerra, Director of Digital Product Strategy at Weir.

It is little surprise that the 'digital and innovation' category has climbed to fifth position in EY's ranking of the top 10 business risks and opportunities for mining and metals in 2024, says Ole Knudsen, Senior Director for Digital at Weir. The EY report highlights that mines are looking to digital solutions as a key enabler for reducing costs while improving productivity, safety and ESG outcomes.

"The challenge, however, is that the industry's solutions to date have tended to be siloed and isolated from each other," says Knudsen. "As the report points out, mines are generally very rich in data, but they struggle to manage this data effectively and to capture the insights that are hidden in the data. This limits the value that mines can gain from all the information they are collecting."

At the same time, he notes, original equipment manufacturers (OEMs) like Weir also have a wealth of design, manufacturing and operational data on their own equipment. Through greater collaboration between OEMs and miners, the combination of these two data sets holds considerable opportunity for optimising mineral recovery and reducing total cost of equipment ownership.

"We have invested heavily over many years in digital tools," he explains. "Our Synertrex® intelligent ecosystem was our first digital solution focused on condition monitoring. However, our offering has evolved alongside the needs of our customers and our new intelligent solution, provides actionable insights and predictive maintenance, improving uptime and making maintenance more cost effective."

"This puts us in a good position to develop an integrated solution, by taking a more holistic approach," says Knudsen. "This gives us better insights into the impact that equipment wear has on production performance as well as on how changes in production will affect the wear life of equipment."

This is particularly important because mines tend to separate the functions of operations and maintenance in the way they run their plants. These teams will not always be aware of how their decisions impact each other. However, mines themselves are becoming more data-driven and want to find new ways of tracking how their different activities impact on one another.

"There are some very useful solutions in the market, but there is not enough 'connection'

Digital solutions allow Weir to monitor key variables like vibration and temperature in real time.

between them," he says. "This is what Weir's new platform will deliver – a holistic solution that covers everything from equipment optimisation, predictive maintenance and expanding very quickly across to process optimisation."

King Becerra, Director of Digital Product Strategy at Weir, highlights the significance of being able to provide specific recommendations to customers that will optimise efficiency, recovery and profitability. The real value of the solution goes beyond monitoring each machine in isolation and aims to achieve two goals.

"Firstly, we want to extend the life of the machine by predicting wear and making the necessary recommendations to the customer," says Becerra. "Secondly, we want to achieve process optimisation without the need for any additional physical infrastructure."

For instance, if the mine is looking for reduced energy consumption – or wants to maximise production while maintaining quality – the system is able to provide clear instructions on how to achieve this. Using machine learning, making use of Weir's own equipment data, as well as the customers' operating data, to generate specific recommendations that will achieve goals that the customer has prioritised.

"This is not about replacing operators at all; rather, it is augmenting the resources available to them in carrying out their duties and meeting their key targets," he says. What such an approach acknowledges is that customers operate under different conditions and have a varied range of priorities and requirements. While the cost of energy may be critical to one site, another might be focused on reducing waste to extend the life of the tailings storage facility.

The digital solutions equipment can be installed on a range of equipment such as pumps, screens, hydrocyclones and HPGR.

Weir has been able to demonstrate the value of its digital solutions around the globe. In one recent case, a copper mine in North America with 12 processing lines increased recovery in its first pass by 30%, considerably reducing the recirculating load.

While the operating data gives insight into each machine's performance and condition, Becerra highlights that Weir's AI solutions also draw vital information from the process models that the company develops for each of its process solutions. These models are built from decades of experience in the field, working closely with customers on a range of machine applications.

Knudsen emphasises that new digital technologies are enabling Weir to consolidate the value of these models and field experience into standardised tools.

"As a company that prides ourselves on being close to our customers and developing knowledge-based partnerships, the digital space is a key enabler in our journey of transformation," he says. "This is important as process plants become more complex, with perhaps more items of specialised and interacting equipment to monitor and control."

Respondents to the EY report are excited by the potential of generative AI, and are seeking greater collaboration and partnerships to help speed up innovation; Weir has shown its leadership as one of those partners, he concludes. ■

Funding the future: **Mining companies get creative to finance their projects**

Net profits earned by the world's 40 biggest mining companies sunk by 44% in 2023 compared with 2022. With financing hard to come by, junior explorers have sought new avenues for capital.

Surging interest rates and a lack of investment from a market that is sceptical of the sector has resulted in difficulties in raising capital for mining projects, many of which will be required to meet the demand for green transition minerals. Research from McKinsey & Company forecasts that, by 2030, there is likely to be supply shortfalls of 20 to 50 per cent across some of the metals and minerals that are vital for renewable energy, power grids and electric vehicle batteries.

In recent cycles, according to McKinsey, "investors have favoured other sectors such as technology and healthcare". Therefore, with traditional investment proving challenging, some mining companies have been forced to get creative in order to raise funds.

Phoenix Copper

In May 2024, Phoenix Copper, the UK-based, but US-operating emerging producer and explorer, secured an investment that could be crucial in helping it to complete construction of its flagship operation, the Empire copper, gold and silver mine in Idaho. The significance of this investment is exacerbated by the looming deficit in copper supply, with the metal being used heavily in the fast-developing electric vehicle and renewable energy industries. According to the International Copper Association, global copper demand is forecast to grow from 28.3 million tonnes in 2020 to 40.9 million tonnes in 2040.

The deal is structured as a subscription agreement with NIU Invest SE, a European private equity investment firm. NIU subscribed for $80 million worth of copper bonds from Phoenix, which will be drawn down in tranches.

In drawing up the bond agreement, Phoenix took a couple of innovative measures. For one, the bonds issued were not convertible, providing protection against large-scale

Drilling at Oriole Resources' Bibemi Project, Cameroon.

shareholder dilution in the future. Furthermore, they linked the coupon of the bonds to the price of copper, protecting them from a price surge. If the coupon increases, it means the copper price will also have increased, which, naturally, benefits Phoenix. These measures were described by AIM Journal as "a now-rare instance of a financial innovation generated in London".

This sentiment is understandably echoed by Phoenix's management team, who are now "hopeful that our stars are finally aligning". The Empire mine is currently in the development stage, and the additional funds are likely to bring forward the timeline to production.

The success of Empire would not only be momentous for Phoenix, but would also contribute to the US' national effort to secure domestic critical mineral supply chains. Speaking earlier this year, President Biden emphasised that "we can't build a future that's made in America if we ourselves are dependent on China for the materials that power the products of today and tomorrow" – a topic that is unlikely to be subject to the whims of post-election policy changes.

Power Metal Resources

Power Metal Resources has also been inspired to explore new avenues for funding, drawing on a key aspect of the company's fabric; to deliver forward-thinking approaches to metals exploration. Power Metal utilises a project incubator model, whereby it acquires a portfolio of early-stage assets at a low cost, develops them to increase their value, and either sells them on for profit, or enters into a joint venture to carry them through to production.

As part of its global portfolio, the company has a huge landholding in the Athabasca Basin in Canada – the most

prospective region for uranium in the world. Uranium is the fuel most widely used by nuclear plants for fission, which could place the metal in a central position to energy transition efforts. The growing interest in nuclear energy caused uranium prices to surge in 2023 – one of the only commodities to do so. Power Metal has identified the uranium portion of its business as a key driver for growth and has been able to capitalise on the growing interest in the element through a strategic financing agreement and joint venture.

In June 2024, a subscription agreement was initiated with natural resources investor ACAM LP, whereby ACAM will invest £2 million through a loan note. The partnership comes with the intention of forming a joint venture involving Power Metal's entire portfolio of uranium licences. ACAM's willingness to invest across the entire portfolio puts weight behind the prospectivity of the licences. Pursuant to the proposed joint venture, the arrangement could even extend to a £10 million initial equity investment in return for a 70 per cent stake in Power Metal's Canadian subsidiary.

Geological analysis conducted by the company has already indicated the presence of high-grade uranium across a range of licence areas, and bringing in a partner to expedite exploration will ensure that this potential is realised in the context of a rapidly growing market, whilst ACAM's expertise as a natural resources specialist will prove invaluable.

Power Metal is proof that sometimes different is better; indeed, Mining Journal has hailed the company as "a rare success story on London's junior market", with its uranium portfolio as its "most exciting" asset.

Oriole Resources

The dream scenario for a small to mid-cap mining company is to have first-mover advantage in a new, highly prospective region. This is exactly the situation that Oriole Resources finds itself in; the gold and base metal explorer possesses numerous permits in Cameroon and delivered the country's first JORC-compliant gold resource in December 2022.

Like Phoenix and Power Metal, Oriole has counteracted the tough market conditions by implementing an intuitive financing arrangement. Keen to capitalise on its advantageous position, Oriole reached a deal in November 2023 with Ghana-based mining and civil contractor BCM International. The deal concerns the highly prospective gold projects Bibemi, located in the north-east of Cameroon, and Mbe, one of the licences within Oriole's Central License Package.

BCM will earn up to a 50 per cent interest in the Mbe licence in return for a $1 million initial signature payment, followed by $4 million in exploration expenditure. Oriole is also eligible for further JORC resource-based success payments. The deal for the Bibemi project follows a similar structure, with BCM acquiring 50 per cent, albeit with an initial signature payment of $500,000.

At Mbe, the investment will largely go towards defining the available resources, whilst at Bibemi, it will go towards undertaking resource-expansion drilling. The high cost of gold

Los Andes Copper's core shed in Santiago, Chile.

Test work taking place in the uranium-rich Athabasca Basin.

Striking blue rock in Phoenix Copper's drill core.

exploration means that any asset-level financing can prove to be crucial. This investment is an endorsement of Oriole's progress to date and the prospectivity of its licences, maximising the scale of the resources and fast-tracking the pathway to development. For the foreseeable future, the projects will no longer require any financial input from Oriole, whilst BCM's decades worth of experience in mining in West Africa and capacity for drilling will provide invaluable assistance.

The deal has huge upside potential for both parties and should enable Oriole to capitalise on their first mover advantage and spearhead the growth of a new gold frontier in Cameroon. Between January and June 2024, both Oriole's share price and market cap doubled, evidence of a thriving company in a tricky market.

Los Andes Copper

Los Andes Copper has taken a different approach again to maximising the value of its asset. It wholly owns the Vizcachitas copper project in Chile, which it is confident will become the South American nation's next major copper mine.

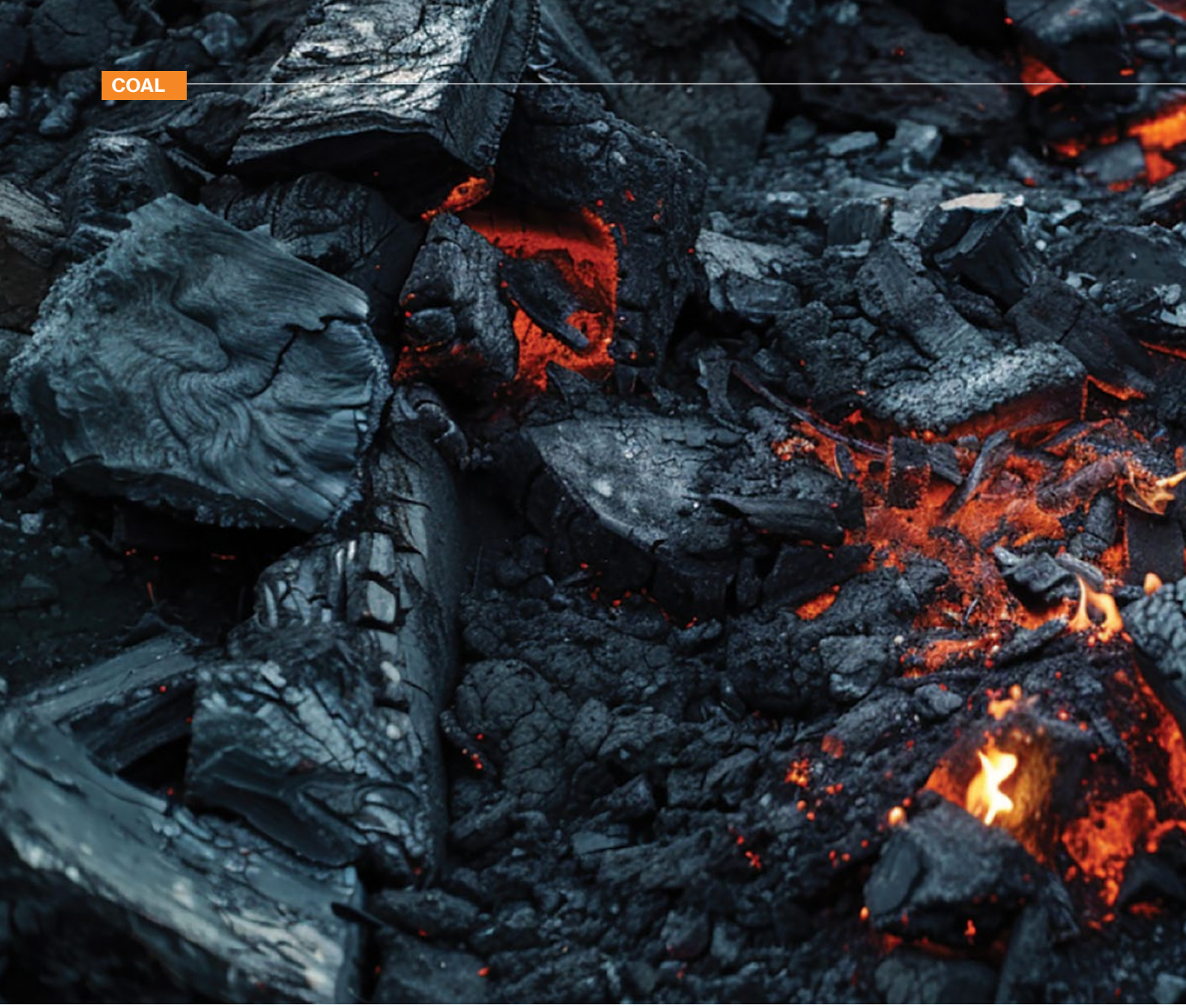
Los Andes entered into a royalty agreement with Ecora Resources in August 2023. In return for a $20 million investment, Ecora will receive royalties on minerals sold from open pit and underground operations. The investment allowed Los Andes Copper to accelerate the optimisations identified by the pre-feasibility study. A project of this scale and at this stage of development is also likely to see interest from larger mining companies that are looking for future copper production.

To generate this interest, much of the work to date has centred around demonstrating the value and prospectivity of the project, expanding on the exploration completed to date. The initial 'proven and probable' mineral reserves for the project are a massive 10.889 billion lbs of copper-equivalent, contained within a 26-year mine life and, once in production, Vizcachitas is expected to produce 180 000 metric tonnes of copper per year, with further underground potential beyond that.

A resource of this size will be attractive to larger mining companies looking to help meet the burgeoning global demand for copper whilst ensuring that there is a steady supply of the metal for rapidly advancing green technologies.

These four mining companies demonstrate the creative solutions that have been necessary to secure financing in a tough market. The variety in each source of growth illustrates that, at least in this environment, there is no set method for generating capital. Junior companies have little protection against tough market conditions, so forward-thinking ingenuity is vital.

Across the breadth of the industry, we see examples of corporate Darwinism; those that adapt, improvise, and perhaps thrive, and those that stagnate without ever realising the full potential of their assets. Phoenix Copper, Power Metal Resources, Oriole Resources and Los Andes Copper appear to be on the right track, even if sometimes it is the road less travelled. ■



Coaltech rebrands, embarks on revised strategy

By Nelendhre Moodley

Coaltech, a non-profit organisation focused on coal industry research, recently introduced its revised strategy and rebranded business, complete with new logo, at an event held in Johannesburg in mid-August, CEO Avhurengwi Nengovhela, tells *Modern Mining*.

Coaltech's CEO Avhurengwi Nengovhela.

Established in 1999 to address the research needs of the country's coal industry, the organisation's main purpose is the application of research findings and development of technology to ensure the industry remains competitive, sustainable, and safe.

While the mandate remains unchanged, Coaltech's mission is "slightly different" with a focus on aiding the coal industry become more sustainable within a low carbon emissions context.

Nengovhela, who took the helm at Coaltech in May this year, credits chairman, Philip Mulder, for his leadership role and the board for its support in the organisation's shift in focus.

"The symbolism of changing our brand also incorporates our fourth area of emphasis - future technologies, which complements our existing areas of mining, processing and the environment."

Nengovhela explains that the authorities and the coal mining sector's concern that "we may run out of coal reserves in the future", saw a few founding members including the Council for Scientific and Industrial Research (CSIR) and the then Chamber of Mines (Now Minerals Council South Africa) establish Coaltech in 1999

Coaltech's focus is on aiding the coal industry become more sustainable within a low carbon emissions context.

Acid mine drainage (AMD) collected at a water treatment facility versus AMD decant in Field 1.

as the research and development arm tasked with creating technologies to meet industry needs.

According to the Minerals Council South Africa, at current rates of production, South Africa has reserves sufficient to satisfy its needs for more than a century. However, the locus of production is gradually shifting away from the traditional Witbank or Emalahleni coal field as collieries approach the end of their productive lives. Emphasis is being placed on exploring and developing the Waterberg coal field as well as others in Limpopo province.

"Since the establishment of Coaltech, a lot has changed in the world. While the concern remains that we may still run out of coal reserves; the global energy landscape has changed dramatically, underpinned by the need to diversify away from coal towards renewable energy sources. This brings with it added pressures for the coal industry in its current form. Today, more than ever, there is need for research, development and innovation that focuses on slightly different things than 25 years ago."

Coaltech is hopeful that entities concerned with the Just Energy Transition (JET), clean coal technologies and climate change, will be receptive to aid in funding its fourth area of focus – future technologies.

"We are fortunate that our funders continue to support us, however, we are eager to expand our funding reach to entities that are not necessarily coal mining companies, but those also concerned with climate change effects and the perseveration of livelihoods within coal mining regions.."

Nengovhela says that while the research to date has served industry well, there is an imperative to engage in more research and development work related to clean coal technologies and alternative uses of coal.

"Through the application of research, our role now is to create new markets and establish whether coal has purposes other than its traditional role as a source of energy that is generated through power stations. Further to this, there are several conversations around the impact of the Just Energy Transition (JET) on the communities which are currently dependant on coal mining, in particular, Emalahleni, in the Mpumalanga Province. We believe that as Coaltech we have a role to play in repositioning our objectives to serve the communities that will be impacted by the JET."

Finding solutions for coal emissions

According to Nengovhela, the challenge for the coal mining sector, is not the mining of coal per se, but the emissions that emanate from the burning of coal which has led to the industry being on the receiving end of a negative narrative.

Coaltech

The Coaltech Programme promotes collaboration among the key stakeholders, namely:

- Mining groups and mines
- Researchers and research organisations
- Educational institutions, academics, and students
- Government organisation

Coal mining in South Africa

- Coal mining's advent in South Africa can be traced to the start of gold mining in the late 19th century, particularly on the Witwatersrand, with the first coal in appreciable tonnages being extracted on the Highveld coal field close to the nascent Witwatersrand gold mines.
- The coal industry is an important employer in the country, employing some 90 977 people.
- In 2022, the country produced 231.2 million tonnes of coal with total coal sales of R252.3 billion.
- 70% of coal volume is consumed domestically and more than 70% of electricity demand is generated from coal power.
- Over the past four years, Coaltech has been involved in more than 160 projects.

Nengovhela references Thungela Resources CEO, July Ndlovu's keynote address at the Coal and Energy Transition Day, which highlighted the concern around the sustainability of the coal mining sector.

"Ndlovu noted that if industry were to find ways to capture emissions resulting from the burning of coal, the pressure on the coal mining sector would be significantly diminished."

The current dilemma underscores the key role that an organisation such as Coaltech plays in research and the subsequent development of innovative technologies to address such concerns.

Nengovhela explains that one of the main focus areas is for research to establish how to capture emissions, how to store it and how to use it in a variety of applications.

"At the moment, that is Coaltech's top priority. If we are able to achieve this feat, we will be able to prolong the life of the local coal mining industry beyond 2040. Secondly, we need research to investigate the potential of establishing new markets for coal. As it is, coal is used predominantly as a source of energy to fuel power stations, but by being able to convert coal into other forms of energy, such as South Africa's coal-to-liquids innovation, the sector may experience growth in new areas . And should the research unlock new opportunities, industry will no longer need to sell coal only to local power producer, Eskom, or the export market. Furthermore, the new avenues could ensure the viability of coal mining in the longer term."

"Nengovhela explains that one of the main focus areas is for research to establish how to capture emissions, how to store it and how to use it in a variety of applications."

Aligning with the revised strategy

On 09th of August Coaltech invited researchers at several local universities and consulting companies to put forth research proposals on potential future technologies.

Over the month, the entity expects to finalize new coal related research proposals from a myriad of institutions associated with clean coal technologies, alternative uses of coal, water stewardship and the circular economy. This is in addition to the long-standing mining and coal processing research areas.

"Aside from the several projects related to water stewardship, our focus is also on investing in the management of mine affected water and reprocessing coal dumps.

70% of coal volume is consumed domestically and more than 70% of electricity demand is generated from coal power.

Coaltech recently revealed its revised strategy and rebranding.

We believe that there are opportunities within our dumps to potentially extract some critical minerals making this an exciting area of research and development".

Interestingly, Coaltech is hoping to replicate the success achieved by the gold mining industry which has been reaping rewards from reprocessing gold dumps. Doing this successfully would have immeasurable environmental and socio-economic benefits.

Where the gold mining sector has already quantified its gold dumps and mapped out their locations, the coal industry is yet to undertake research to identify and quantify coal dumps across the country with a particular focus on the quality of the dumps.

"The renewable energy movement requires critical minerals, which include rare earth elements. It has been shown in China, the US and other coal mining regions that coal dumps host rare earths element (REE). If we are able to establish the quantity and quality of our coal dumps, successfully reclaim them and extract the REEs, we would be in a position to simultaneously support the JET and achieve a low carbon emissions future."

While Nengovhela is quick to affirm the existence of REE in the coal dumps, their economic viability remains in question, he says.

"We know that REEs are found in coal dumps but whether we have these in quantities that make it economically viable to reprocess, is the question. The research that is yet to be undertaken will reveal whether our existing coal dumps offer a viable business case to pursue."

"It is important to note that there are over 40 critical minerals and establishing which ones appear in coal dumps is an immediate imperative. If our research proves the coal dumps are viable for reprocessing, we get to clean up our environmental footprint and unlock economic benefits associated with extracting critical minerals. The initiative will also lend itself to job creation and potentially replace those lost from the JET move."

Coaltech eyes SADC partnerships

The South African entity has its eye firmly set on expanding its focus beyond local coal operators to engaging coal miners across the SADC region. Believing that it offers a value proposition useful to all coal miners across the continent, Coaltech is in fact, actively pursuing coal mining companies in Mozambique and Botswana.

"We believe strongly that we have an important role to play in the work that Future Coal is undertaking, given that the research done over the past 25 years is valuable to Future Coal's cause and the United Nations work on the JET. It is therefore important for us to widen our reach and partner with other coal operators."

> The latest exploration results from Argo have delivered positive intercepts at multiple targets across the permit area.

Nengovhela, who cut his teeth in the mining industry, working on mine closure at South32, explains that since joining Coaltech, the Association has focussed on raising its profile to ensure that all its potential members are familiar with the work it does. "Coaltech is a great organisation with an important history of making a tangible impact on the industry so it is important that people know what we are doing."

Further to this, Coaltech has introduced the concept of a 'Masterclass' where it invites selected researchers in the coal industry 'and beyond' to share relevant research they are undertaking with our members.

"This gives members insight into some of the latest developments underway in our sector," he concludes. It is important for Coaltech to provide this platform so that the conversation around the potential of coal is well understood. more sustainable within a low carbon emissions context. ■

Agility key to coal industry etching a place in energy mix

By July Ndlovu, CEO of Thungela Resources

Energy solutions in the future will be made up of a hodgepodge of renewables and fossil fuel sources. Just how coal will fit into that mix depends on how adaptable the industry is to an everchanging energy sector.

July Ndlovu, CEO of Thungela Resources.

Coal presents the modern world with a paradox that it cannot escape just yet: it is a fossil fuel that impacts the environment but at the same time it is a pre-eminent driver of economic growth, particularly for emerging economies. It is simply not possible to keep the lights on without coal.

Governments, particularly those from the more developed North American and European nations, are adjusting policies in favour of a mix of fossil fuels and renewable energies.

As a result, the coal industry has reached a point where it needs to adapt to a new energy future. One way of doing this is to make coal safe for consumption to ensure it remains a vital part of the energy mix while also trying to meet increasing demand from populous developing countries.

> With an in-depth understanding of how our equipment is performing, we can conduct component lifecycle management to reduce our unit costs.

Asia's pivotal role in coal's future

Coal's future is reliant on the increasing demand for energy from developing countries, which, according to the International Monetary Fund, make up a staggering 85% of the global population.

Asia, a continent that increasingly relies on coal, makes up more than half of that figure. Industrialised countries may hastily be phasing out coal and opting for renewable energies and natural gas, but Asia's influence as a coal-centric energy hub continues to grow. It is for this reason that coal will remain a dominant energy source over the next twenty years.

The International Energy Agency's (IEA) World Energy Outlook report for 2023 foresees an 18% increase in Central and Southern Asia between 2020 and 2040. Coal will represent 35% of the energy mix in Southeast Asia by 2030 and will increase to 49% ten years hence. Coal imports to Asian countries from the Organisation for Economic Co-operation and Development (OECD) will remain an important component of energy for the foreseeable future as Japan, Korea and Taiwan lack domestic energy reserves.

The report's most astonishing projection sees China and India accounting for over 70% of global coal consumption by 2026. Globally, coal will be the world's primary source of electricity

Coal will represent 35% of the energy mix in Southeast Asia by 2030.

through to 2040. By FutureCoal's estimate, that would be around 27% of total generation.

These statistics indicate that coal's place in the energy mix remains vital for countries with an upward economic trajectory. For a government looking to ensure unabated economic growth, coal would need to be the backbone of its energy strategy.

Investors agree with these sentiments. In December last year, the largest investment firm in the world, BlackRock, acknowledged that the growing world population will remain heavily dependent on fossil fuels.

This is an indication that while a gradual energy transition is underway, fossil fuels like coal will remain strong performers.

Coal is affordable and reliable

For developing countries, the path to socio-economic progress requires consistent power output, which coal provides. This is in large part to its affordability and reliability compared to other energy solutions. It can provide energy security because it is a domestic source for numerous developing nations. Furthermore, the coal industry is a massive contributor to job creation and a catalyst to manufacturing and transportation infrastructure development.

Southeast Asia is a great case in point. In the past few decades it has shifted from hydropower and gas to coal. The region was then able to fast track its socio-economic development because it created a more resilient energy system. Efficiency improvements and innovations that drove baseload power and energy security made energy more affordable in bulk.

Governments that want to become fully industrialised would be prudent to follow in Southeast Asia's footsteps and include coal as part of their energy transition. Dismissing coal risks a socio-economic tremor on a global scale.

In this unpredictable economic climate, agility in the form of incentives is key for an easy transition. Governments, investors and the coal industry must work together to incentivise clean coal technologies (CCT) that can aid growth while also meeting their carbon emission targets.

Clean coal innovations key to sustainable industry

Progress in CCTs and carbon capture, utilisation and storage (CCUS) research have already unearthed novel solutions for mitigating environmental impacts and meeting high demand.

In the US, the Great Plains Synfuels Plant got a multimillion-dollar cash injection to expand its CCUS operations in 2021 and has since demonstrated how proven technologies can reduce coal emissions by 90% to 99%.

German-based biomass materials production start-up, Sustainable Carbon Cycle Industries (SCCI), is looking at introducing sustainable, zero-waste and low-carbon emission charcoal by replacing traditional production methods that damage the environment. Their signature asset in Tanzania can remove some 33 000 tonnes of carbon per annum by 2030.

However, when it comes to sheer scale, China is in front. Its clean coal-to-hydrogen facility in Yulin, Shaanxi, is the largest in the world, producing 350 000 tonnes of hydrogen annually and reducing CO_2 emissions by approximately 220 000 tonnes each year.

There currently exist innovations that promise to be the go-to solutions of the future. Hybrid power systems combining coal and renewables can optimise energy supply. Advances in coal gasification and liquefaction can provide cleaner and more efficient energy solutions. And integrating CCT and CCUS technologies into existing coal-fired power plants can help them reduce their carbon footprint.

These examples spell a robust start to the clean coal revolution that can directly plug into the circular economy. Coal is a versatile commodity and every part of it can be reused.

Through its philosophy of Sustainable Coal Stewardship – which embraces a new way of looking at the coal value chain – FutureCoal supports initiatives that focus on innovative coal utilisation and emissions reduction technologies. We also encourage companies to partner with academic institutions and industry leaders to drive breakthroughs in clean energy.

Last year, the World Coal Association rebranded itself to FutureCoal, not only to demonstrate its agility as an industry but to also announce that it is prepared to be a part of the new energy future with cleaner, more sustainable products. The future of coal might look great. But the future of overall energy is clean. And that, in all honesty, will be the greatest achievement of all. ■

Realigned – Fluor makes its mark in underground mining

By Nelendhre Moodley

Just short of five years on since engineering, procurement and construction (EPC) contractor, Fluor, established the Underground Mining Center of Expertise, headed up by Charl Klopper, Executive Projects Director & Global Underground Lead Mining and Metals at Fluor, the Johannesburg based division has been making steady strides executing projects both globally and in Africa, to serve the growing number of projects with partial or entire underground mine plans.

Charl Klopper, Executive Projects Director & Global Underground Lead Mining and Metals at Fluor.

The underground mining environment is an extremely competitive one.

The strategy was based on expected robust demand for minerals and metals to meet the world's growing population needs and the expected progression of open-cast mines to underground mining.

Klopper, a seasoned executive and project leader with 30+ years' experience in underground mining, continues to bring a fresh perspective to the EPC space given his intimate knowledge of client needs, having designed, built, and managed underground operations.

"In 2019 Fluor brought me in to establish and grow the Global Underground Center of Expertise to serve our well-established client base. Moreover, with well over 150 professionals inhouse, we have now grown the local skills base to support our global underground projects across the Americas, Europe, Asia-Pacific and of course Africa. We are proud to execute a recently awarded large scale underground project on a flagship potash mine in Saskatchewan, Canada."

Discussing the competitiveness of the EPC segment of business, Klopper says that from an African perspective the underground mining environment is an extremely competitive one driven by client's challenges with cost containment, declining ore grades and/ or greenfield projects in lesser established mining jurisdictions. However, these challenges more so demand the expertise of an EPC partner with a proven track record to deliver projects safely, on budget, and on schedule. Bringing major projects successfully through the various project phases and being able to engage in thorough early-stage studies and trade-offs before moving into full execution. At Fluor we pride ourselves in being a trusted partner across the whole project lifecycle.

Filling the skills gap

The apparent and widening skills gap in the industry requires dedicated action by all market players. Attracting and developing top talent is a top priority for Fluor.

"The unpredictable cyclicality of the business, lack of investment in training and development and the perceived dirty image of the industry are reflected in workforce demographics. Mining engineering as a career choice has, over the recent past, lost its shine for most youngsters. Fluor is actively

Fluor's extensive resume of complex, logistically challenging projects is testament to Fluor's reputation.

promoting technical careers and the key role mined materials are playing for the energy transition, to make this an attractive industry for the youth and attract new engineering graduates coming out of university to join Fluor or take up positions with client teams. Fluor employees value the modern design tools we provide, flexible working arrangements and the opportunity to work with a tight network of subject matter experts and project execution specialists in an international environment. Innovative technologies across all engineering discipline are at the forefront of developing the mine of the future that is safe, sustainable, fully digitalized, connected and automated. We encourage the younger generation to join the Fluor family and be part of this narrative."

"Mining clients are aiming to proactively address market demand and a lingering supply deficit, but are facing challenges in terms of ore grades, ore body accessibility, and a broad spectrum of technologies available to extract and maximize recovery."

Aligning with market trends

As the world population is projected to grow to almost ten billion in 2050, demand for fertilisers is increasing, to boast crop yields and ensure food security. Urbanisation is driving investment into the grid, which requires a high volume of copper. Likewise, the energy transition requires massive investment in renewables infrastructure, made of metals. Electrification of transport and energy storage are also driving exponential demand in mined materials.

"Mining clients are aiming to proactively address market demand and a lingering supply deficit, but are facing challenges in terms of ore grades, ore body accessibility, and a broad spectrum of technologies available to extract and maximize recovery," says Klopper.

"We need to go further, dig deeper, mine smarter. Fluor has expertise in key commodities including copper, potash, gold, diamonds, lead, zinc, PGMs, iron ore, bauxite, lithium and other critical minerals. We maintain a technology agnostic position that allows us to recommend the best technology, assess technoeconomic feasibility of innovative approaches and drive efficiency from pit to port."

When asked about the challenges of an operation transitioning from open pit to underground for higher ore grades, he indicates that higher capital costs, operational costs and health and safety risks need to be assessed carefully. "We maintain excellent relationships with our clients and aspire a full understanding of project specifics and key objectives as well as the operational framework the project needs to be integrated in. This approach has earned us the position of a trusted partner from early study phases through to execution, construction, completion and commissioning."

Fluor successfully straddles local and international business environments

Having achieved almost $70 billion in installed mining capacity over the last 20 years alone, the EPCM specialist has an unmatched footprint across five continents. With a continuous presence in all key mining jurisdictions, a resource pool of around 3000 professionals is serving the upstream and downstream sectors of the industry.

"Fluor's extensive resume of complex, logistically challenging projects is testament to Fluor's reputation in delivering projects safely, on time and on budget. The Fluor name is synonymous with excellence in project execution, having built some of the industry's most iconic operations," concludes Klopper. ■

Weir's Mill Circuit University ensures that technical staff skill levels are keeping up with technology.

Photographs courtesy of Fluor

Weir excites Electra Mining visitors with ESG and AI solutions

The latest technology to drive sustainability in mining – while achieving the 'sweet spot' in performance – was showcased by Weir at the recent Electra Mining Africa exhibition near Johannesburg.

Mufaro Muzvondiwa, Process and Products Director at Weir.

This sustainability focus underpins the company's support for its customers' strategic environmental, social and governance (ESG) goals, according to Weir's Process and Products Director, Mufaro Muzvondiwa. The event was another important opportunity to display Weir's leading role in helping mines to reduce consumption of energy and water – and to reduce carbon emissions.

"At Electra Mining Africa, we were able to remind visitors how seriously we take sustainability across all our products," says Muzvondiwa. "We displayed our WARMAN pumps with innovative WRT impeller and throatbush combination – for improved hydraulic profiles, reduced turbulence, extended wear performance and lower power consumption."

He notes that, while Weir's WRT® upgrade for WARMAN® pumps is not new to the market, many visitors were still discovering the value that this technology could deliver on their operations. The WRT® parts are retrofittable in the WARMAN® AH® range of horizontal slurry pumps and delivers improved hydraulic profiles, reduced turbulence, extended wear performance and lower power consumption.

Water conservation was also a growing issue for many of the mining visitors to Weir's exhibition stand, especially in water-scarce countries like South Africa. He points out there is more awareness that mines today must increasingly balance their water demands with those of communities and other local stakeholders.

"This also created plenty of interest in our CAVEX 2 hydrocyclones, which offer up to 30% additional capacity and improved separation efficiency, while delivering water and energy savings in mineral processing applications," he says.

Alongside the ESG focus, visitors at Electra Mining Africa were as usual looking for ways to optimise their processes for greater productivity, Muzvondiwa explains. This is where Weir's digital tools are playing a crucial role in facilitating smart mining.

"The only constant on mines is change; they are dynamic operations, with constantly changing geological and metallurgical conditions," he says. "This makes it vital that the performance of our equipment is being continuously optimised – by

Weir's CAVEX® hydrocyclones offer up to 30% additional capacity and improved separation efficiency.

modifying parameters to suit variables such as rock hardness, abrasiveness and chemistry."

Building on its existing digital solutions, Weir is developing new capability to not only monitor equipment condition but to facilitate more real-time optimisation. This applies across the product range from WARMAN® pumps to ENDURON® HPGRs (High Pressure Grinding Rolls), he says.

"We are using our deep knowledge of our equipment and processes – built upon decades of research, development and field experience – to take advantage of the latest analytical capabilities in digital technology," he explains. "This will revolutionise how we run equipment and what the landscape of sustainable mining looks like."

He highlights the virtuous circle that can be leveraged as equipment that is optimally run will, firstly, achieve a longer lifespan and, secondly, deliver the best throughput and recovery results. The challenge has always been that real-time optimisation must take into account many different factors, which are difficult to consolidate and analyse quickly.

"With the advent of AI, it is now possible to gather the relevant data and process it rapidly, so that valuable and precise recommendations can be generated and applied," says Muzvondiwa. "We have been working very hard to commercialise these solutions, and we will soon be able to share with customers the exciting opportunities which will be available to them."

Weir's proactive embracing of technology is enabled by pioneering skills initiatives which raise the bar for company staff and its customers. He points to the company's Mill Circuit University, a resource which ensures that skill levels are keeping up with technological advancement. More than that, technical staff understand more about the operating context of their specific equipment range.

"This enhances the quality of conversations between our frontline staff and customers, and improves the levels of collaboration we achieve," he says. "While some courses can be done online, we also bring our teams together for training from around the globe; we also conduct regional training events for customers' staff – even on their sites when required."

Weir offers a digital solution allowing their equipment to be monitored to facilitate real time optimisation.

In addition to learning about these services from Weir, Electra Mining Africa visitors were able to witness a modular wheeled plant solution – a fully mobile crushing and screening plant that can be transported by trailer.

"Visitors from the mines were also impressed by the extent of Weir's local manufacturing capability, as this is an important ESG imperative for the mining sector," he concludes. "With some 95% of our sales being supplied by our South African plants, we are proud to support the local economy and offer customers a secure supply chain." ■

Jonathan McKey National Sales and Marketing Manager at SEW-EURODRIVE.

SEW-EURODRIVE's growing local range drives entry into new markets

As its exhibition presence at Electra Mining Africa showed, SEW-EURODRIVE is rolling out an even greater selection of planetary drives as part of its strategy to 'close the loop' in its product offerings by expanding into more industry sectors.

Among the new ranges being introduced into South Africa are its SEW PPK series and the SEW P2.e series of planetary gear units – both showcasing new opportunities for industrial gearbox users. According to Jonathan McKey, National Sales and Marketing Manager at SEW-EURODRIVE, these new additions to the local range highlight the company's global engineering and applications capabilities.

"The PPK series was originally developed by SEW-EURODRIVE in Brazil, for instance, to serve their large and thriving sugar sector," says McKey. "Our design and engineering experts in Germany then further leveraged these advances when they developed the SEW P2.e series – aimed at larger applications."

He emphasises that both series built upon the key benefits that planetary gear units present to customers: a compact solution for space-constrained conditions, alongside high torque and low speed outputs. The SEW PPK series delivers 10 to 18 kNm of torque with a ratio range from 65:1 to 390:1, while the SEW P2.e series encompasses torque ratings from 24 to 124 kNm with ratios from 15,2:1 to 332:1.

"The SEW PPK satisfies the need for a lower torque requirement, and is well suited to southern hemisphere markets," he explains. The ratio can be further reduced by the addition of a primary reducer before the planetary head, to reach ratios up to 10,650:1 – for a much lower speed capability.

The SEW P2.e was then developed with all these benefits, but with a broader spectrum of diversity in its speed – up to 100 rpm – as well as in ratio and torque, he says. While most planetary gearboxes have a three-stage design, the SEW P2.e can also be supplied in a two-stage model.

Greg Lewis, SEW-EURODRIVE Business Development Manager for Projects, points out that the company has been careful to retain the same critical dimensions as previous SEW P-series models. This allows customers to migrate seamlessly to the more versatile SEW P2.e units without altering their operating environment or infrastructure.

Among the common applications in the mining sector for planetary gearboxes, says Lewis, are clarifiers, thickeners and

SEW MOVI-C® drive technology is a comprehensive modular automation system.

The ECO2 range boasts a coating-free design, so there are no solvents or coatings used on the outer surfaces.

The SEW PPK series delivers 10 to 18 kNm of torque with a ratio range from 65:1 to 390:1.

The SEW P2.e series encompasses torque ratings from 24 to 124 kNm with ratios from 15,2:1 to 332:1.

apron feeders. Other industrial applications include slewing drives, screw feeders and wood panel presses.

"In the agricultural sector, sugar mills are big users of planetary units," he says. "The SEW PPK series, arising as it did to serve the needs of sugar mills in Brazil, has exciting opportunities for application in African countries."

McKey highlights another important aspect of these planetary ranges: their reduced weight compared to traditional technologies.

"A sugar mill's crystalliser, for example, will conventionally have a multi-gear solution which applies considerable weight and strain on the system," he explains. "A compact planetary unit from SEW-EURODRIVE can now deliver the same results with much less weight – within an integrated design. The benefits are also felt in less wear on components like bearings and the civils structures, which leads to less maintenance being required."

Also, on SEW-EURODRIVE's showcase of new products is its high performance ECO2 geared motors, designed in line with the company's sustainability focus and the market's growing demand for products that are more environmentally friendly in their manufacturing process. The ECO2 range boasts a coating-free design, so there are no solvents or coatings used on the outer surfaces. This makes these units efficient and reliable in indoor applications where humidity levels can reach 60%, and they can operate in temperatures between minus 20° C and 60° C. Their aluminium construction reacts with oxygen to form a thin protective layer; the ECO2 design also meets the requirements of ISO 12944 corrosive category 1.

On the automation side, a highlight of the SEW-EURODRIVE offering is the SEW MOVI-C® drive technology – a comprehensive modular automation system designed to provide seamless integration and high performance for various industrial applications.

Willem Strydom, SEW-EURODRIVE's Manager Business Development Electronics points to applications like hoisting where MOVI-C® facilitates the use of regenerative power from braking and this energy can be fed back into the system or stored in battery packs. The MOVILINK® digital data interface (DDI) connects the drive train into the data system through a unique single hybrid cable solution

"This further allows customers to receive real-time information on a range of indices, such as energy efficiency, application performance and condition monitoring," he says. "This differentiates us significantly in the market. ■

Booyco Engineering supports mines' **ESG goals with diesel-saving innovation**

A truly groundbreaking diesel-saving innovation poised to revolutionise surface mining and quarrying operations was unveiled at Electra Mining Africa by Booyco Engineering. Recognising that diesel consumption is one of the highest operating costs in these sectors, Booyco Engineering has developed an anti-idle auxiliary Power Unit (APU) that when applied across operational fleets, particularly haul trucks, will result in significant cost savings and a reduction in carbon emissions.

The Booyco Engineering APU is designed to keep the HVAC system running inside an operator cab while the machine's main diesel engine is turned off. This ensures operators remain cool and comfortable during idle periods, such as waiting for loading. By eliminating the need to use the main engine to power the HVAC system while idling, diesel costs are dramatically reduced.

Grant Miller, Executive Director at Booyco Engineering, says the company, a specialist in heating, ventilation and cooling equipment for mobile mining machinery, engineered the APU to drive in-cab air conditioners. "In the high ambient conditions prevalent on southern African mines, mining truck operators must often keep the main engine running to maintain a comfortable cab temperature while waiting to be loaded. While this is understandable in terms of maintaining a cool environment from both a safety and productivity perspective, this practice can consume between 30 and 50 litres of diesel per hour," he explains.

Miller says that the Booyco Engineering APU addresses this inefficiency by allowing the main engine to be powered down during idle times. "And our APU consumes just 1.5 litres of diesel per hour while still keeping the cab cool and comfortable."

Safety is not compromised with the introduction of the Booyco APU. The unit ensures that all essential systems, such as proximity detection systems and communication systems, remain powered and operational even when the main engine is off. This attention to safety, combined with enhanced efficiency and reduced operating costs, makes the APU an indispensable tool for modern mining operations.

Developed in response to the need for comfortable working conditions and reduced costs, the Booyco Engineering APU is particularly valuable in hot climates such as those found across the African region where daytime heat necessitates constant use of HVAC systems. It maintains comfort during unproductive periods, such as when haul trucks are waiting to be loaded by mining shovels or similar equipment. Beyond reducing diesel consumption, the APU also helps lower carbon footprints, enabling mines to progress toward their ESG goals.

Significantly, the cost of the APU is offset by its relatively short payback period, thanks to its low running costs.

The robust 24 Volt air conditioning system used in mining trucks and other equipment integrates seamlessly with the APU. The APU is T3-rated and suitable for operation in ambient temperatures up to 46 degrees Celsius.

Further, Miller explains, it can be configured to suit individual customer requirements.

By significantly cutting diesel consumption and carbon emissions, the Booyco Engineering APU is a pivotal advancement for the mining industry, enabling operations to enhance efficiency, reduce operating costs and meet carbon emission targets while ensuring safety and comfort for operators. ■

Greater move towards dewatering pump rental

In what is probably the most exciting development in the dewatering pump industry is the news that IPR (Integrated Pump Rental) has become part of Atlas Copco's Specialty Rental Division within the Power Technique Business Area. Announced just ahead of Electra Mining Africa, this acquisition is expected to bring significant benefits to the mining sector.

Lee Vine, Managing Director of IPR, says the mining industry, known for its complex and demanding operations, relies heavily on effective water management solutions to ensure operational efficiency and safety.

"We have seen a shift where dewatering pumps, essential for managing water ingress and maintaining dry working conditions, are increasingly being rented with appropriate accessories," he says. "This trend is driven by several factors that reflect the evolving needs and challenges of the mining sector and our recent acquisition by Atlas Copco will allow us to continue to grow both our geographic footprint in Africa while increasing our already comprehensive dewatering pump rental fleet."

The company's recent participation at Electra Mining Africa highlighted some of the pumps within its extensive range. This included Atlas Copco diesel self-priming pumps and submersible units as well as the range of Toyo heavy duty slurry pumps and IPR's in-house designed SlurrySucker dredging unit.

"It is a fact that renting dewatering pumps offers mining companies a significant degree of flexibility," Vine explains. "Instead of committing substantial capital to purchase

equipment, companies can allocate resources more efficiently by renting dewatering pumps as needed. This approach allows for better financial planning and reduces the burden of maintenance and storage costs associated with owning dewatering equipment."

Vine says the rental market for dewatering pumps is highly competitive, and IPR has stayed ahead of the curve by continuously updating its rental fleet to include the latest technological advancements. This, he says, means end-users benefit from access to state-of-the-art pumps that offer improved efficiency, reliability and environmental performance.

"Feedback from our customers underscores the major advantage that renting offers in terms of being able to leverage the newest technology without the need for frequent capital expenditures," he says.

Another important advantage when renting dewatering and other pump solutions is that the mining operations can choose pumps that are tailored to the specific requirements of their projects. Whether the need is for high volume water removal, handling abrasive materials or operating in challenging conditions, IPR offers a diverse range of pump types and configurations which ensures that the most suitable equipment is selected for specific application needs.

IPR offers the market the advantage of comprehensive maintenance and support services, ensuring rented pumps and ancillary equipment remain in optimal working condition. "This reduces downtime and the risk of operational disruptions due to equipment failure," Vine says. "Additionally, our experienced and skills team can provide valuable insights and assistance, further enhancing the efficiency of dewatering operations."

"The ability to scale dewatering solutions up or down based on project demands is another significant advantage when renting pumps. This is important for both underground and surface mining operations, which often face fluctuating water management needs, as they can quickly adjust their dewatering capacity by renting additional pumps or returning underutilised equipment," he continues. This scalability ensures that mining companies can respond rapidly to changing conditions without the delays associated with procuring new equipment.

The IPR rental fleet comprises modern dewatering pumps designed to meet stringent environmental and regulatory standards. By renting newer models, mining companies can ensure compliance with environmental regulations, reducing the risk of penalties and contributing to sustainable mining practices. Advanced features such as energy-efficient motors and reduced emissions are increasingly called for, and the company can accommodate these requirements. ■

FLS is driving sustainable productivity with zero waste and zero emissions.

New regional strategy for FLS builds capability in Africa

Mining customers are to benefit from the stronger regional capability being developed by FLS, which is making the company even more responsive to customer needs.

Bernard Kaninda, FLS President Sales and Service for Europe, Middle East and Africa (EMEA).

This is one of the key outcomes of the company's strategic evolution underway, according to newly appointed FLS President Sales and Service for Europe, Middle East and Africa (EMEA), Bernard Kaninda. As a leading full flow sheet technology company, FLS occupies a distinctive place in the market, says Kaninda, giving it a special relationship with customers.

"Being a partner through all their mineral processing requirements, FLS walks with customers throughout the lifecycle of a comprehensive range of equipment and solutions," he says. "This engagement gives us greater impact in helping the mining industry achieve its sustainability goals."

FLS aligns itself with industry imperatives by committing to energy and water reduction targets, and committing to reach zero emissions by 2030. To achieve these goals, he says, it was imperative to further grow the region's capability – shifting from the previous regional definition which comprised sub-Saharan Africa, Middle East and Southern Asia to a more cohesive EMEA region.

"We believe the move to an EMEA region will better create the capabilities we are looking for, combining the strengths of Africa and Europe, and our learnings in the Middle East," Kaninda explains. "We expect to be able to respond more quickly with services, spares and equipment, and are building local resources to achieve these improvements."

The focus on communication and partnership is being fostered through clusters within the region, which are empowered with adequate resources for quick response times and effective support for end-users.

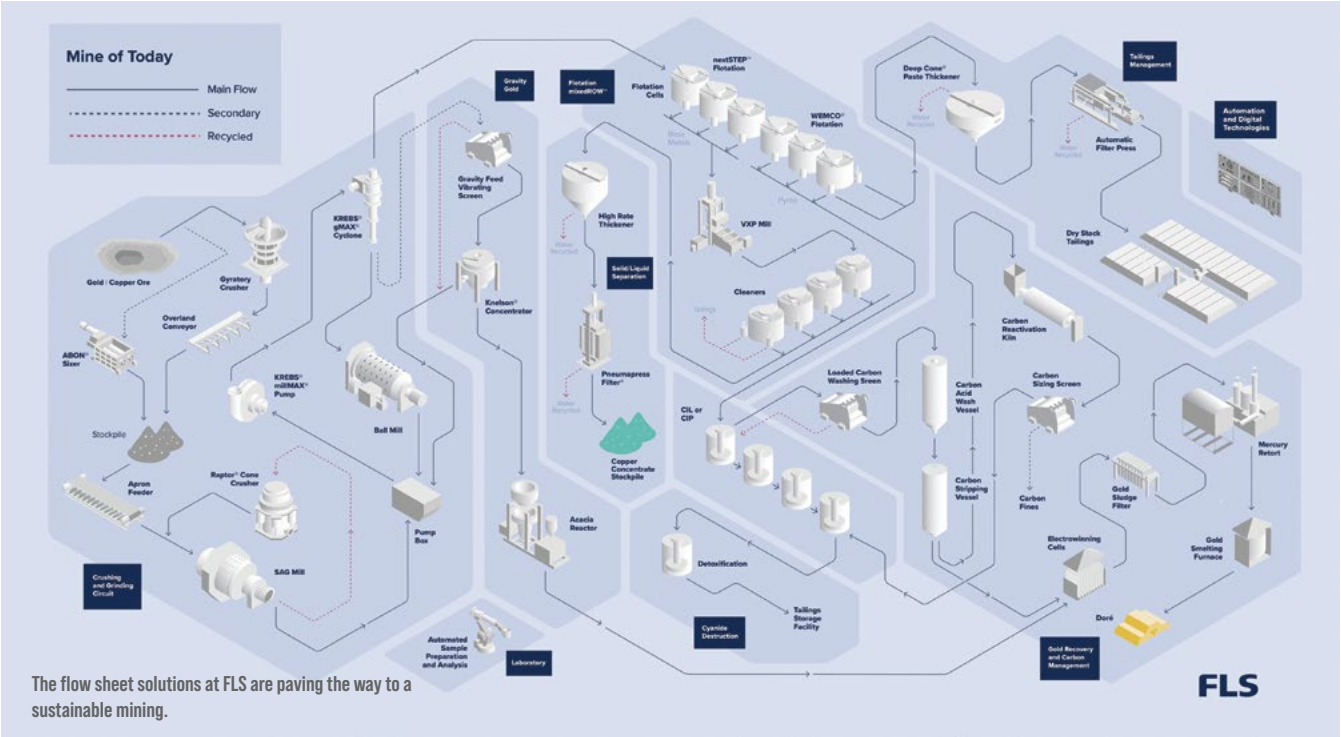
"As a partner that tailor-makes solutions for our customers, we go further by guaranteeing the performance of that equipment," he says. "This means being able to respond effectively as and when the situation demands, so we need to be in close proximity to the customers' sites – and very familiar with the conditions they experience."

The clusters in Africa ensure a strong presence in Southern African countries – including South Africa, Zambia and the Democratic Republic of Congo – as well as West Africa and North Africa. These are areas where FLS already has a significant footprint of equipment in operation.

"The mining sector is dynamic, however, so we are constantly expanding our equipment footprint and will be establishing a presence wherever we have a significant installed base," he says. "It has always been a matter of pride for us that FLS customers will receive the same close attention irrespective of where they are around the globe."

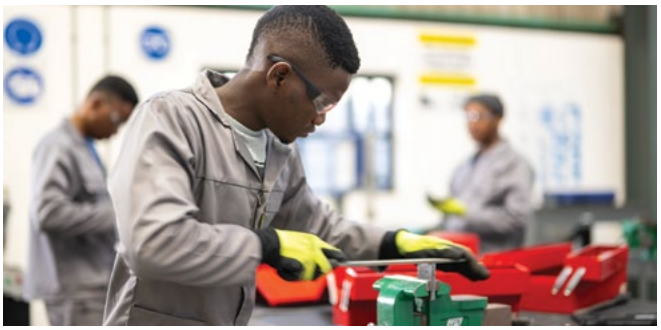
Streamlined logistics are an important aspect of the strategic shift, which will reduce delivery times through better availability of inventory in-country. Teams in the clusters will also facilitate faster access to service and parts.

"We are also committed to the communities in the regions where we operate, and are increasing our local employment as we develop our presence



The flow sheet solutions at FLS are paving the way to a sustainable mining.

The Training Academy at the FLS Service Centre facility in Chloorkop, South Africa.



Foundational practical skills development is done at the FLS Training Academy at Chloorkop.

in different countries – especially in Africa," says Kaninda. "We believe in building local capability and this is visible in our teams, in which 90 to 100% of staff are already local in the various clusters."

These teams are supported by specialised training provided by facilities such as the FLS Training Academy at the Chloorkop service centre in South Africa. This well-equipped regional training hub underpins ongoing skills transfer to build the company's skills base and succession pipeline, he says, ensuring all customers receive the same FLS experience. So successful is Chloorkop's model of combining technical services with training, that the company plans to replicate such a facility in the Middle East.

"This will allow us to upskill youth and enhance our positive economic and social impact on the community," he explains. "There is no reason why we shouldn't even look at another such centre in Africa, as there is growing demand for artisans and other specialised skills."

Africa remains vital as a provider of mineral resources for the transition to a lower carbon future, concludes Kaninda, highlighting that FLS will continue to partner with customers so that mining itself becomes more responsible to the environment and community. ■

Rapid response is vital in dewatering Africa's mines

Availability of the right equipment – and the expertise to ensure ongoing performance – are proving to be important differentiators in the market for Integrated Pump Technology, as it forges further growth in Africa as a dewatering pump specialist for the mining sector.

The Grindex ra… and slurry pumps ep… performance.

Good stock levels are crucial in responding to customer's urgent dewatering needs, says Jordan Marsh, Managing Director at Integrated Pump Technology – and this was once again confirmed at the latest Electra Mining Africa exhibition.

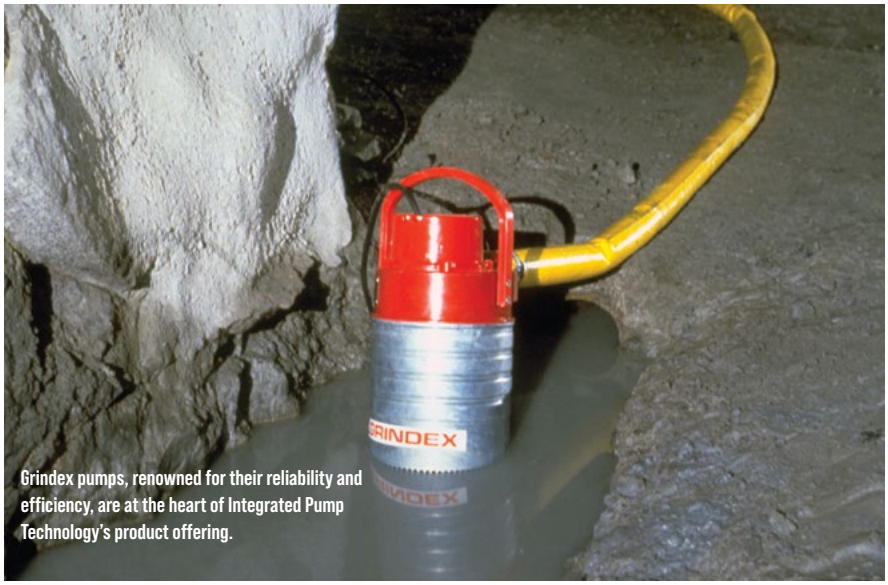
"With visitors to our exhibition stand coming from all over Africa, it was clear mining customers need a dewatering equipment partner who is responsive and has the right equipment in stock," says Marsh. "They also need quick turnaround times on the larger diesel-powered pumps, which we can achieve with our Godwin units."

The mining regions in which Integrated Pump Technology operates have some of the wettest mines in the world, where dewatering is essential for safe and efficient operations. With its range of Grindex submersible pumps and Godwin diesel driven pumps, the company has the depth of experience and local expertise to provide the optimal dewatering solution.

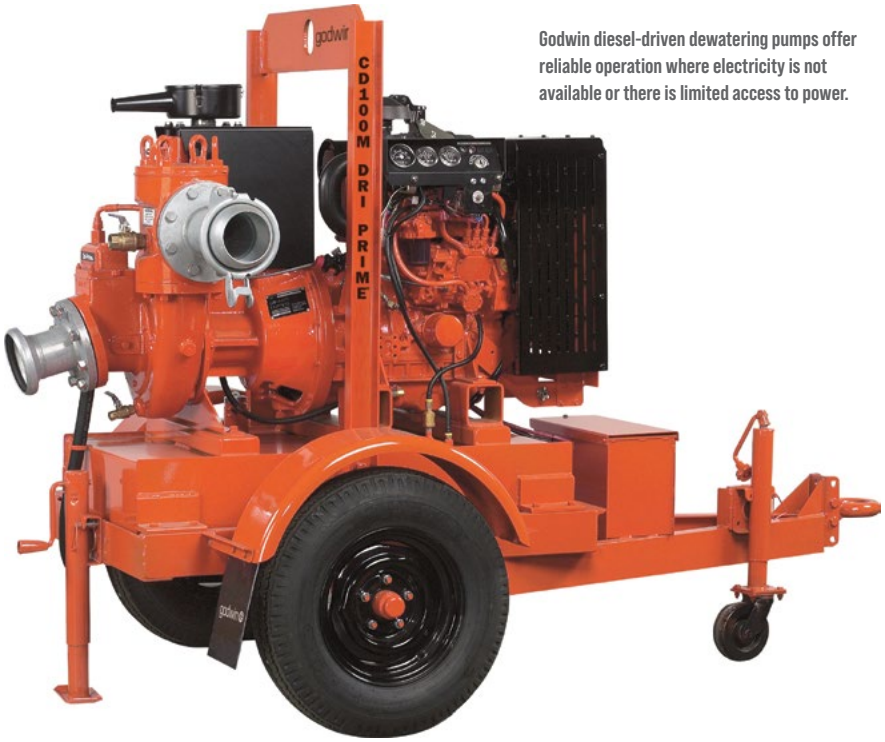
"In one of our recent customer engagements in Zambia, we supplied suitable 90 kW pumps to a contractor who urgently needed to dewater a section of a mine," he explains. "Due to our deliberate policy of holding extensive stock in-country, we could quickly get the units on site so that the customer could achieve their goal even quicker than they had planned."

In addition to timeously receiving a quality solution, the customer also has the comfort of Integrated Pump Technology's distributor's high level of experience and knowledge of the product – which is further backed up by the company's field staff who support its distributor network. Marsh highlights that the company's localisation policy ensures local distributors are carefully chosen for their knowledge of customer needs, their regulatory compliance and their technical resources.

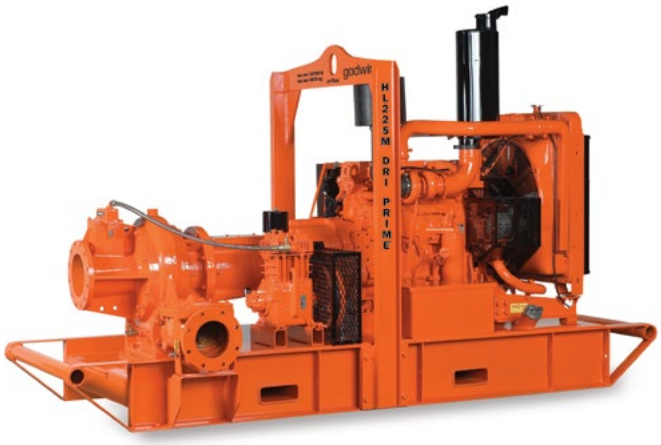
Holding good stock levels of relevant equipment is one aspect of being able to respond quickly to customers' emergencies. Another important element



Grindex pumps, renowned for their reliability and efficiency, are at the heart of Integrated Pump Technology's product offering.



Godwin diesel-driven dewatering pumps offer reliable operation where electricity is not available or there is limited access to power.



The well-respected Godwin range of diesel-driven pumps was recently added to the company's product offering.

is being able to put together pumps systems locally, he says.

"With our well-equipped technical facilities in South Africa, we apply our 'local build' approach to speed up the supply of the larger self-priming diesel pumps," he says. "We know that mines can face lead times of 22 to 30 weeks when they order a fully-assembled pump from abroad. We can do the same job in just two to three weeks, all in accordance with original equipment manufacturer (OEM) specifications."

The long lead times for overseas builds are often due to the availability of diesel engines in the country of assembly, he points out. By leveraging its local partnerships with diesel engine OEMs, Integrated Pump Technology can rather source its engines in countries like South Africa. This allows the company to bring in only the wet end of the system, to conduct the assembly locally – and closer to the customer.

"With our strong technical capability, we provide the option of trailer or skid mounted diesel driven pumps," he says. "The customer may also have a preference for a certain make of diesel engine, to suit their on-site skills set; we engage with a range of OEMs and can source various options for the customer."

Marsh notes that similar priority is placed on the technical capabilities of its distributors, as Integrated Pump Technology regards their distributors' in-country workshops as an extension of its own facilities. For this reason, these workshops are inspected and accredited, so servicing and repairs can be conducted to OEM standards. Skills development is also a key part of the process.

"When we appointed our distributor in Zambia, for instance, we brought the technical staff to Johannesburg for specialised training in working on our equipment," he says. "This includes understanding the detailed procedures for stripping and repairing units, which they can practice hands-on in our facility."

Integrated Pump Technology's success in southern and central Africa is now opening doors for further expansion into west African countries, he adds. With the confidence of their OEM partners behind them, the company will soon be making its complete offering of Grindex and Godwin solutions available to the mining and other sectors in this region. ■

Minimal maintenance for dry-type transformers

With minimal levels of maintenance needed, dry-type transformers offer reliable performance over lengthy lifespans, with few of the risks and hazards associated with oil cooled transformers.

According to David Claassen, Managing Director of dry-type transformer specialist Trafo Power Solutions, the fact that these units are air cooled means much of the limited servicing required relates involves maintaining clear air channels, which can be compromised by the accumulation of dust layers.

"To allow for the transformer to cool effectively, it is important to regularly check that there is not an excessive build-up of dust on or around the transformer," Claassen explains. "Depending on the ambient conditions, dust can build up in these confined spaces and start to impede the free flow of air."

Dust accumulation can be easily addressed by using a leaf blower or similar appliance to remove the dust from the transformer. This method quickly disperses the dust, leaving the surfaces clean and allowing for more efficient heat transfer.

He highlights that a regular maintenance schedule is especially vital in applications such as coal mines, where there are often high dust levels. Where dust layers prevent adequate cooling, the transformer could run at temperatures higher than its design parameters. This, in turn, degrades the insulation material faster and could significantly reduce the unit's lifespan. Even in the event that a completely sealed enclosure is used (≥ IP55), it is possible for dust to enter the enclosure while the doors are opened or in cases where the doors are left open accidently.

"It is also important to check that the temperature probes are measuring accurately," he notes. "This, of course, ensures that any unexpected temperature rise will trigger the necessary alarm, and that the feed-in circuit breaker to the transformer is tripped in the event of overheating."

Terminals on the transformer should be checked, as it is possible for these connections to loosen due to vibrations or other factors. This is a simple process of checking the torque on these connection points, as any looseness could lead to partial discharge, heat build-up and further damage.

To guide the customer in their maintenance planning, Trafo Power Solutions provides a maintenance manual with each installation. This details the required frequency of service interventions, which in a clean indoor environment is usually only once a year. Under dusty conditions that might be encountered outdoors, the maintenance should normally be conducted every six months.

"Beyond our standard requirements, we also provide our customers with site-specific servicing guidelines that suit their application and environment," says Claassen. "Indeed, we can provide the actual maintenance service should the customer require – ensuring that they have access to a detailed log of results and recommended interventions."

He explains that, while the maintenance tasks are generally straightforward, the transformer does need to be de-energised by a qualified technician before this work is conducted. This ensures the necessary compliance to regulations relating to medium voltage equipment, including procedures for lock-out and isolation.

"A key advantage of dry-type transformers is that this maintenance is relatively quick and simple compared to oil cooled transformers," he notes. "A key difference in the servicing of these two technologies is that conventional oil cooled transformers require oil samples to be regularly taken and sent away for testing and analysis. This is a costly and time-consuming addition to their total cost of ownership." ■

A dry-type transformer installed in modular substation.

To guide the customer in their maintenance planning, Trafo Power Solutions provides a maintenance manual with each installation.

Tru-Trac launches RIP PREVENT+ at Electra Mining Africa

Maintaining its market leading position in conveyor solutions, Tru-Trac unveiled an innovative system at Electra Mining Africa which will have a major impact on all operations that use conveyor belts.

The Tru-Trac Rip Prevent+ system, now available in Africa, allows mines to optimise their conveyor lines' performance by preventing costly interruptions due to rip events.

Using a data-driven model and artificial intelligence (AI), the Tru-Trac Rip Prevent+ system can detect anomalies or rip events on any conveyor belt type.

Early detection of potential issues on conveyor systems is crucial in mining and other materials handling applications and to address this need, Tru-Trac introduced the Rip Prevent+ system. This cutting-edge monitoring technology, which is set to disrupt the sector, identifies and mitigates conveyor belt anomalies and damages, thereby minimising downtime and enhancing efficiency and productivity.

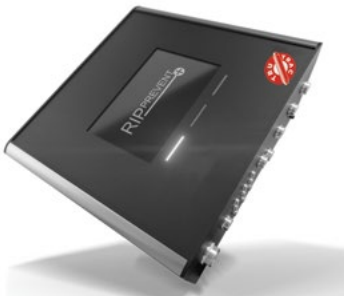
The Tru-Trac Rip Prevent+ system, now available in Africa, allows mines to optimise their conveyor lines' performance by preventing costly interruptions due to rip events. The system has already proven effective in global mining operations and was debuted locally at Electra Mining Africa.

Using a data-driven model and artificial intelligence (AI), the Tru-Trac Rip Prevent+ system can detect anomalies or rip events on any conveyor belt type, including metal cord, pipe and fabric belts.

The innovative system was designed to avoid the need for sensor elements inside the belt, making it versatile for all conveyor systems. The Rip Prevent+ system analyses data from the conveyor belt using an AI-based model. This AI, combined with an innovative algorithm, detects anomalies and rips, generating data and signals that allow customers to stop the conveyor line before significant damage occurs. The system's model computes data 50 times per second and can generate a signal to the Programmable Logic Controller (PLC) within 0.2 seconds, reducing the impact of rip events.

By stopping the conveyor belt when a possible rip event is detected, the system minimises associated damage, potentially saving millions in downtime, belt replacement, and cleanup costs. The system's data-driven model offers significant advantages over inductive, magnetic and laser-based systems including reduced wear risk, suitability for all conveyor types and lower investment costs.

The Rip Prevent+ system is web-based and accessible via an Ethernet network connection, featuring a user-friendly interface with a dashboard displaying key information. Additionally, the system incorporates several functions beyond rip detection, including mass flow calculation, condition monitoring, drive or motor monitoring, energy efficiency and electrical network analysis, aligning with predictive maintenance strategies.



Tru-Trac unveiled the Rip Prevent+ system at Electra Mining Africa, introducing advanced monitoring technology that detects and addresses conveyor belt issues early.

The Rip Prevent+ system is also easy to install, requiring only 30 minutes to an hour, with minimal downtime for electrical connections. Commissioning the system can be completed within two to five hours, depending on preparatory work and available system parameters.

Notably, Rip Prevent+ is the first rip detection system offering a more affordable alternative through a subscription model that minimises initial capital investment. ■

Spoilt for choice by WEG's hybrid power, sustainability solutions

Mines today look to partner with original equipment manufacturers (OEMs) who share their commitment to sustainability, and can offer the latest technology to optimise production while reducing their carbon footprint.

WEG W23 Sync+ electric motors are the most complete line of high efficiency units, with exceptional efficiency regardless of speed or load variations.

Eduardo Werninghaus, CEO at WEG Africa.

"WEG's important differentiator is that we can draw from our wide selection of energy generation solutions, so we are really unbiased when helping customers find the most suitable design for their specific conditions," says Eduardo Werninghaus, CEO at WEG Africa. "By including renewable energy sources in our offering, we ensure customers can optimise sustainability while not compromising productivity."

In the field of solar power, WEG has an extensive portfolio of products for all stages of the photovoltaic solar generation projects, with solutions for energy conversion and internal distribution systems. These cover aspects all the way from the plant to the point of connection with the electrical system through high voltage substations.

The focus on clean energy is also driving the expansion of biofuel production, making steam power increasingly relevant to the local economy. WEG has established a leading role in turbogenerator solutions in Brazil, for example, where it has recently supplied systems that this year will add 140 MW of clean energy to that country's capacity.

"WEG also provides customers with the technology they need to improve energy efficiency – thereby reducing not only their costs but their carbon footprint as well," he says. "Our WEG W23 Sync+ electric motors are the most complete line of high efficiency units, with exceptional efficiency regardless of speed or load variations."

These motors can deliver energy savings of up to 30% in comparison to conventional IE3 induction motors using frequency inverters. Werninghaus also points to the cutting-edge technology employed in WEG's frequency inverters, allowing speed variation in three-phase induction motors.

Quantifying the impact of sustainability initiatives is also important, which is why WEG has developed its WEGSEE+ platform for calculating potential energy savings. This allows customers to predict the potential savings achievable by replacing motors, gearboxes and inverters. The tool provides the necessary data for making smart decisions so that resources can be optimised.

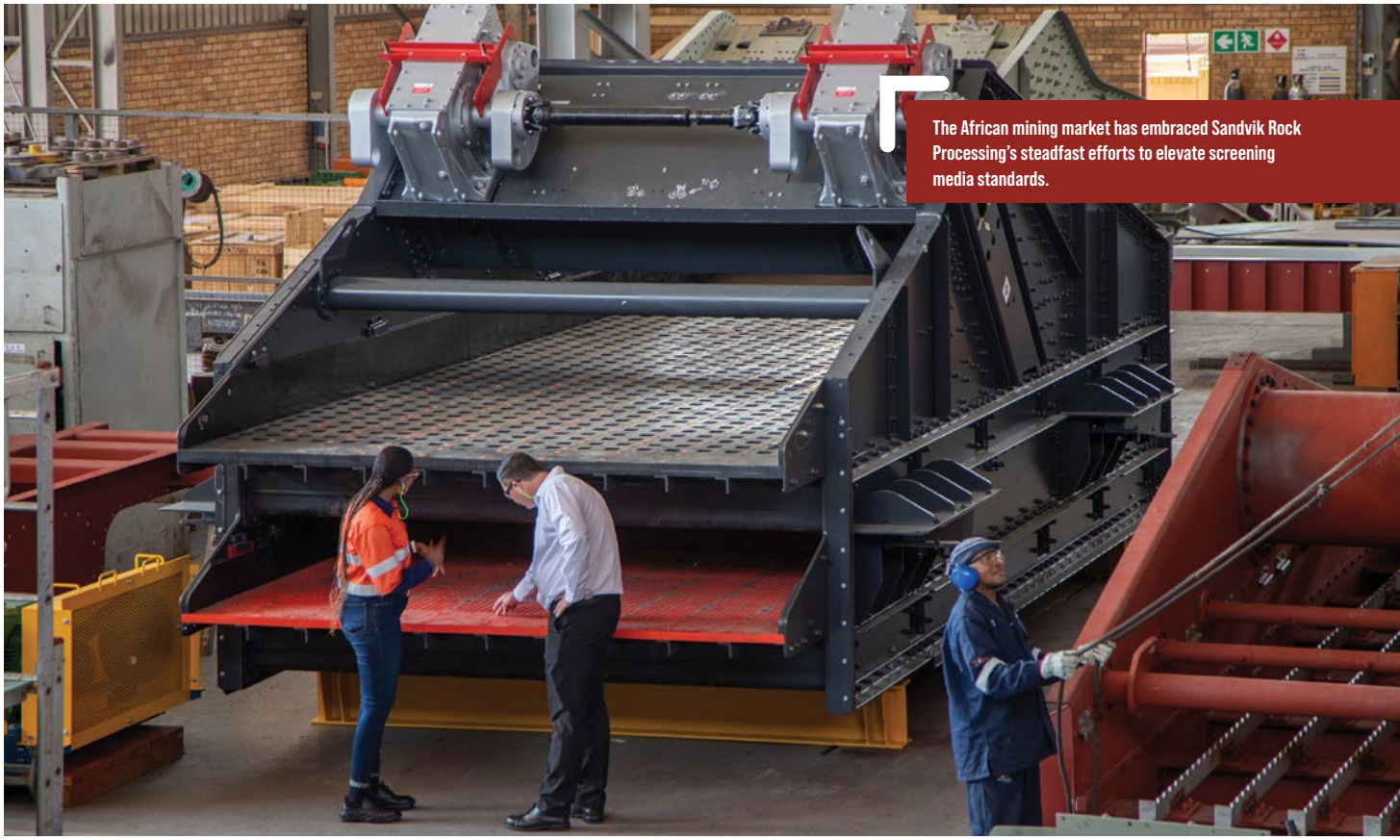
Werninghaus highlights how WEG has embraced sustainable production in its own operations, emphasising its understanding of how important this priority is for its customers. As a measure of this commitment, WEG was awarded Gold Medal status from Ecovadis last year. Ecovadis is one of the world's main global rating agencies for corporate sustainability management.

WEG's extensive range of energy technologies include solar.

"We are also judged to be a 'leader' company by CDP Climate Change, who focus on assessing companies' decarbonisation management," he says. "Our environmental, social and governance (ESG) risk is also classified as 'low' by Sustainalytics."

Part of WEG's sustainability drive is also to promote local production, which reduces the carbon footprint associated with long haul transportation of products, and promotes the local economy while reducing lead-times for customers. The company's electric motor production lines in Johannesburg are just one example of WEG's local resource base. Among its many South African facilities is the Robertsham operation which engineers automation systems, the genset manufacturing operations in Cape Town and now also in Johannesburg, and the transformer manufacturing facilities in Wadeville and Heidelberg.

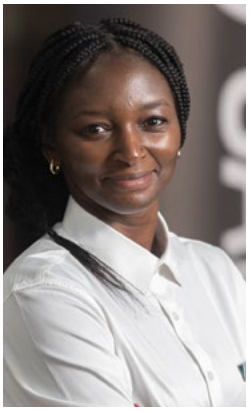
"Sustainability is at the centre of how we operate as a company, and we were able to reinforce this message at the Electra Mining Africa exhibition," says Werninghaus. "This drive ensures that we are continuously developing our technology to support our customers' sustainability goals." ■



The African mining market has embraced Sandvik Rock Processing's steadfast efforts to elevate screening media standards.

New era in screening media

The African mining market has embraced Sandvik Rock Processing's steadfast efforts to elevate screening media standards. There has long been a need for new players in this market, placing value on close collaboration with end-users and providing integrated solutions to reduce operating costs. Currently, no company is better positioned to meet this need than Sandvik Rock Processing, which offers a comprehensive suite of crushers, screens, screening media, lifecycle services and digital technologies from one stable.



Phumelele Motsamai, Regional Manager: Screening Media & Wear Protection – Africa at Sandvik Rock Processing.

Following its acquisition of Schenck Process Mining in 2022, Sandvik Rock Processing has added a broad range of screening media to its offering, enhancing the company's position among key mining customer groups in Africa and beyond. This was naturally progressed by upgrading the local manufacturing facility and integrating Sandvik Rock Processing's own highly skilled research and development (R&D) team and engineers. This integration has ensured that world class screening media is accessible to customers throughout Africa.

"The acquisition of Schenck Process Mining was designed to further grow Sandvik Rock Processing's product offering. In addition to our comprehensive range of screens, we can now offer screening media as well, giving mining customers the benefit of sourcing all their screening needs from a single, trusted source," says Phumelele Motsamai, Regional Manager: Screening Media & Wear Protection – Africa at Sandvik Rock Processing.

Although screening media constitutes a minor cost when compared to larger equipment in a mine, Motsamai stresses that it is a crucial part of any operation's profit machine. "Screening efficiency is not only dependent on the screen alone, but also the screening media used. Thus, having both the screen and screening media from a single manufacturer controls the overall quality and ensures customers can achieve their targeted efficiencies and productivity," says Motsamai.

Excitement in Africa

Initially, Sandvik Rock Processing's entry point for screening media was new-build screens, with some operations ordering replacement panels. However, the situation has evolved, with existing and potential customers now actively seeking Sandvik screening media for their current screen installations. This increased demand is due to Sandvik Rock Processing's approach, which prioritises

understanding customer challenges and providing tailored solutions to help mineral processing operations achieve their production targets.

The company's efforts have not gone unnoticed. The market has responded positively to Sandvik Rock Processing's innovative approach, recognising the value of the integrated offering. By combining advanced technology with a deep understanding of customer needs, Sandvik Rock Processing is setting a new standard in the screening media industry.

"Our entry into the screening media game has generated a lot of excitement in the mining sector in Africa. Traditionally, customers on the continent have been concerned about the lack of screen media accessibility and the ultimate lack of support in some of the regions. With four Sandvik entities across southern Africa and a total of 11 across Africa, Sandvik Rock Processing has the necessary touchpoints to keep stock close to our customers which reduces lead times and maximises uptime," adds Motsamai.

Apart from the widespread Sandvik reach in Africa, customers are also excited about the performance of the Sandvik screen media. To provide context, a large mining house in South Africa recently trialled Sandvik screening media with great success. Having previously struggled with limited life and premature bending of panels, the company deployed Sandvik screening media in a sizing application together with three other competitor offerings. While Sandvik was not the cheapest in terms of upfront cost, it came out tops in respect of the life of panels and overall value.

"Our screening efficiency in this tough application was 20% higher than the nearest competitor, while the life of our panels was 150 hours higher than that of the nearest rival," says Motsamai. "Mining customers in Africa have become sophisticated; they are no longer just concerned about the upfront cost of solutions, but the total value achieved. In this case, they understand that frequent screen media changes and the cost of downtime can be much higher than the price of the panels."

Wide range

Sandvik Rock Processing manufactures a variety of screening media including polyurethane, rubber and wedgewire panels. Each type of panel is designed to address specific challenges within the mining industry, ensuring that operations can maximise efficiency and productivity.

In addition to its screen media range, Sandvik Rock Processing offers a broad range of wear protection solutions. Through its long history of materials expertise and research, Sandvik has developed materials that meet the highest quality standards and offer advantages such as long wear life, less maintenance, reduced noise levels and a better working environment.

Sandvik Rock Processing is setting a new standard in the screening media industry.

Motsamai makes special mention of the new Sandvik HX900 cast-in carbide, a unique wear material that combines the wear resistance of cemented carbide with the shock resistance, malleability and forming capability of nodular cast iron. This ideal combination provides a wear-resistant material that withstands tough environments and has a long wear life in many extreme applications.

In line with Sandvik's commitment to sustainability, the tungsten carbides used in the Sandvik HX900 wear plates are 100% in-house recycled. Using recycled materials consumes 70% less energy and cuts overall carbon emissions by 40%.

"The Sandvik HX900 has a wear resistance that is comparable with cemented carbide and a strength that is 80 to 90% that of pure nodular iron. This makes the Sandvik HX900 a unique, high-performing wear protection material for applications with high abrasive wear as well as for applications with heavy impact, or a combination of both," says Motsamai.

""From our trials so far, the Sandvik HX900 has proven to be more durable than any other wear protection solution on the market. It stands out as the premier product in our lineup, and we are thrilled to announce its readiness for commercial launch," concludes Motsamai. ■

Optimising grinding performance **for efficient milling**

Pilot Crushtec International is launching the Metso HRC™ 8 high pressure grinding roll (HPGR) in southern Africa. While manufactured sand is the primary target market, the HRC™ 8 will also find application in mining, particularly in pre-milling applications to help increase mill efficiency and capacity.

Oldemar Meneses, Product Manager, HRC Technology at Metso.

Francios Marais, Sales and Marketing Director at Pilot Crushtec.

The Metso HRC™ 8 provides an optimal crushing force with the use of adjustable hydraulic cylinders and variable speed.

In response to the growing demand for process flexibility, energy efficiency, increased throughput and reduced operating costs in mining, Metso's HRC™ 8, now available locally from Pilot Crushtec, ushers in a new era in applications where a high degree of size reduction is principal. The machine is ideally suited for several ore types, including chrome, lithium, copper and gold, amongst others.

Part of Metso's proven HRC family, which is known for its efficiency and energy-saving capabilities in comminution processes, the HRC™ 8 uses a method of inter-particle comminution by in a bed of material between two rotating rollers. The rollers, one of which is in a fixed position and another one floating, generate an extremely high pressure, extruding the feed material down to the desired smaller grain sizes.

Typical applications

In the mining sector, the HRC™ 8 can be deployed as a pre-grinder to help improve mill efficiency, explains Oldemar Meneses, Product Manager, HRC Technology at Metso. "To get the best out of their circuits, mines want to feed their mills with as fine material as possible to increase mill efficiency in terms of both reduction and power ratios, and that is exactly what can be achieved by using the HRC™ 8," says Meneses.

Francios Marais, Sales and Marketing Director at Pilot Crushtec, says pre-milling is generally a daunting task with conventional solutions such as impact crushers. This is usually the case in abrasive applications where producing fine material has proven to be costly due to the subsequent high wear costs associated with traditional solutions such as impact and cone crushers.

Pilot Crushtec International is launching the Metso HRC™ 8 high pressure grinding roll (HPGR) in southern Africa.

"When it comes to mining, chrome will be a perfect application for the HRC™ 8. In this application, pre-milling – the need to take material down to a minus 5 mm size – has traditionally been done with impactors. While the capital cost of going the impactor route seems favourable, this is outweighed by the exorbitantly high wear costs, especially when dealing with highly abrasive ores," says Marais.

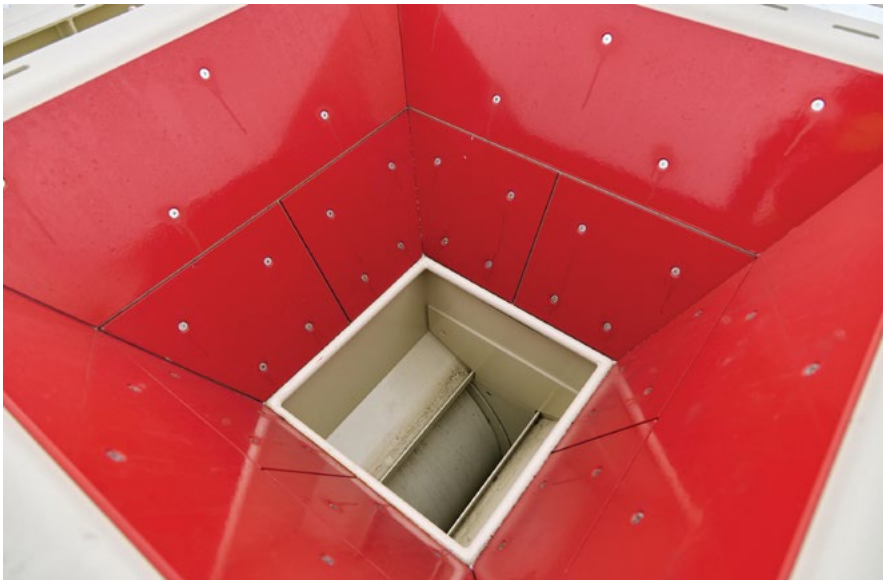
"We therefore also see a big opportunity for the HRC™ 8 in lithium, a highly abrasive ore, where it will be more effective than traditional cone crushers. With its robustness and longevity of wear components, the HRC™ 8 will significantly reduce the cost of producing a minus 5 mm product," says Marais.

Key features and benefits

One of the major characteristics of the HRC™ 8 is its versatility. It delivers great performance across applications including mining, industrial minerals, manufactured sand and recycling. The machine offers easy and versatile adjustable product gradation. The production gradation does not depend much on the adjusted space between the rolls, but on the choke feed condition and the constant pressure. Pressure can be adjusted to regulate the product gradation curve. This feature allows the customer to meet any product gradation specification requirements for the desired fine size material.

To remain profitable in the face of declining ore grades, mines are increasingly looking for efficient comminution technology. By using a combination of high pressure and a unique patented

The Metso HRC™ 8 is highly efficient in terms of energy consumption and throughput.



The Metso HRC™ 8 feed chute.

roller design, the HRC™ 8 is highly efficient in terms of energy consumption and throughput. The inter-particle crushing concept produces considerably more fines than conventional crushing.

As a result, the required product size is met in one pass, eliminating the need to recirculate the load, thus driving plant efficiency. Based on statistics from Metso's global installed base of more than 130 machines, the HRC™ 8 provides energy savings of up to 50% compared with conventional crushing solutions.

"The HRC™ 8 provides an optimal crushing force with the use of adjustable hydraulic cylinders and variable speed," explains Meneses. "One can adjust the speed and pressure of the machine depending on the material conditions and application requirements. Pressure influences the reduction ratio, while speed influences the throughput."

The HRC™ 8 features Metso's patented Arch-frame, which eliminates the need for a spring-loaded frame. This design differentiates it from traditional HPGR equipment with its anti-skewing features that eliminate variation in product gradation and prevents bearings from being damaged due to misalignment. The unique design also ensures even pressure distribution across the width of the rolls, resulting in optimal performance and longer wear life.

"By reducing energy consumption and increasing wear life of components, the HRC™ 8 helps lower operational costs," says Meneses. "Existing customers are particularly happy with the minimal need for maintenance. The robust components and high-pressure rock-on-rock crushing enables long wear life of the manganese. In fact, the requirement for maintenance is low compared with impactors; the machine runs at a very low speed, a maximum of 32 rpm, thus significantly reducing wear on the rollers. Depending on application, some customers are only replacing their manganese once in a year or even after two years."

Designed for high reduction in a single pass with minimal ultra fines in the final product, the HRC™ 8 is suitable for mining operations. "With a maximum feed size of 32 mm, the machine is rated at 60 to 90 tonnes per hour (tph), depending on feed size," explains Marais.

"We have brought the first unit into South Africa. We will offer a complete static module on a skid frame with handrails and walkways. Also available from us is a mobile version, which is completely tracked. While Metso has a wheeled option, we will offer the first tracked HRC™ 8 in the world, which will also be beneficial for demo purposes because it allows for easy movement of the machine on and between sites," concludes Marais. ■

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& NOT ONE BEARING FAILURE.

Only Enduron® HPGR comes with a 10-year bearing warranty. Not that you'll need it. After all, there hasn't been one premature bearing failure to date. Enduron® HPGR delivers unmatched grinding efficiency, even when processing the hardest rocks, boosting mineral recovery. Expect ≥95% equipment availability, so operators can rest assured production targets will be achieved whilst using the lowest possible resources. With lowest energy consumption and no water or grinding media required, typical operating costs for HPGR based circuits are over 20% lower compared to conventional SABC circuits whilst reducing comminution CO_2 emissions by 30%. It's no wonder we say Enduron® on and on and on.

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Babcock Education and Training unveils **programmes to elevate workforce skills**

Babcock Education and Training (BET) has made its educational programmes available to external companies and individuals, announced at an open day on 18 July at its bespoke facility in Gauteng. This initiative highlights Babcock's dedication to enhancing workforce capabilities and fostering professional development across southern Africa's key industry sectors.

BET is an accredited Skills Development and Training Services Provider dedicated to enhancing both technical and soft skills in the mining sector.

Despite industry spending billions of rands annually on upskilling its workforce, a significant skills gap persists at technical and operational levels. According to the Minerals Council South Africa, the mining sector alone spends approximately R7-billion a year on human resource development, covering mandatory operational and safety training as well as broader education and skills enhancement.

By offering a range of advanced training programmes, BET is poised to play a pivotal role in bridging these gaps and addressing the evolving needs within the industry. Located in Bartlett, Boksburg, BET is an accredited Skills Development and Training Services Provider dedicated to enhancing both technical and soft skills across the construction, mining, logistics, manufacturing, and automotive sectors.

Dr. Hamilton Sithole, HR Director – Africa states, "BET's approach is rooted in a thorough skills gap analysis, which allows for tailoring training solutions to meet the real needs of the industry. This strategic focus ensures that programmes not only address current competencies but also prepare participants for the future."

The comprehensive curriculum addresses a wide range of professional needs, with training qualifications spanning plant and machine operation, occupational trades/apprenticeships, and skills programmes. Core programmes focus on Occupations in High Demand (OIHD) and Jobs for the Future, ensuring alignment with both DHET and international market requirements. Courses cover areas such as operator training for earth-moving equipment, cranes, forklifts, and trucks, as well as short courses for novice, recertification, and refresher training.

Apprenticeship programmes are offered in the fields of Automotive and Hot Works to address the critical shortage of Class A (Redseal) welders in

South Africa. This highlights the necessity for programmes that address both technical and foundational skills.

Significant resources are allocated to ensure training programmes are comprehensive and effective. The school utilises a diverse range of SETA and OEM-related equipment, reflecting a commitment to leverage OEM backing and cutting-edge technology to enhance the training experience.

Commitment to quality and industry standards is reinforced by accreditation with the South African Qualifications Authority (SAQA). This accreditation affirms BET's position as a reputable institution dedicated to delivering high-calibre training and development.

A significant strength of BET's programmes is the expertise of its facilitators, who are developed from within the Group and possess a deep understanding of customers' operational needs.

A key feature of BET is its focus on leadership development. In collaboration with respected business schools, BET offers specialised courses designed to cultivate the next generation of leaders in the industry. This programme aims to bridge the gap between technical expertise and strategic management, providing participants with a holistic approach to leadership.

Each year, BET trains approximately 200 operators on-site at client locations, focusing on practical, hands-on technical skills essential for operating heavy equipment and machinery. Additionally, the school enrols around 80 apprentices annually, including 20 new apprentices every quarter specialising in diesel mechanics and hot works; and supports 50 entrepreneurs and small businesses through entrepreneurship development programs. Approximately 100 individuals annually participate in BET's technical programmes, while another 100 are enrolled in soft skills programs, which include crucial training in basic computer literacy, and occupational health and safety.

In addition to its focus on individual skill development, BET is committed to community development. The educational programmes are designed to support local communities by providing essential skills training and development opportunities, and promoting economic and social growth within southern Africa.

Dr. Hamilton Sithole, HR Director – Africa.

As part of its commitment to community development, BET aligns with contractual obligations that require sourcing 30% of project personnel from local communities. This approach not only supports local economic growth but also ensures that artisans from these communities are qualified, proficient, and upskilled to meet the demanding requirements of their roles.

The launch of BET is a significant milestone in Babcock's mission to promote sustainable workforce development and leadership. "Babcock is dedicated to providing top-tier training that meets the evolving needs of the industry," says Sithole. "We are passionate about contributing to the growth and advancement of the industry and the communities in which we operate through this initiative." ■

Hitachi Construction Machinery Africa **introduces two new product lines**

Hitachi Construction Machinery Africa is expanding its offerings in Southern Africa with the introduction of two new product lines. The launch of its Zaxis -7G series and the BX100 Shinrai-Power backhoe loader is a strategic move to enhance the company's already robust selection of construction machinery, which includes a range of excavators, wheel loaders, and rigid dump trucks, designed to meet the diverse needs of the construction and mining industry.

Both these product lines embody Hitachi's dedication to innovation, customer-centric solutions, and environmental stewardship, aiming to meet the evolving demands of the construction industry while prioritising sustainability.

According to Riaan Carstens, Director of Sales & Marketing, Hitachi Construction Machinery Africa: "We live in an increasingly turbulent economic environment. We believe these new product offerings, with the focus on high productivity and lower Total Cost of Ownership, will allow us to continue helping our customers to remain competitive."

The Zaxis -7G series represents a significant advancement in the evolution of excavators, building upon the strengths of the preceding -5G models. This latest lineup is engineered to meet the rigorous demands of key market sectors, offering a suite of improvements that underscore its commitment to innovation. With a focus on enhanced reliability and durability, the Zaxis -7G excavators are designed to perform consistently under challenging conditions.

The performance enhancements increase operational efficiency but contribute to a noticeable reduction in fuel consumption, which are both cost-effective and environmentally conscious. Safety features have been meticulously upgraded to ensure operator protection, while ease of maintenance and servicing reduces downtime and increases productivity. The robustness of the Zaxis -7G range is unparalleled, setting a new benchmark for the industry and offers a compelling choice for businesses looking to invest in top-tier excavation equipment.

> "The backhoe market is indeed a significant segment within the construction equipment industry, reflecting a substantial demand for these versatile machines."

The latest 'R-specification' lineup includes the ZX490LCR-7G, ZX690LCR-7G, and ZX890LCR-7G designed for the Mining and Quarry industry and the ZX350LC & LCH-7G models engineered to handle the challenging construction environment.

"The enhancement of the -7G lineup is a strategic move to address the evolving demands of the industry. By focusing on increased safety and productivity, we are not only responding to the critical need for machines to perform more efficiently, but also ensure the well-being of their operators with the latest ergonomical enhancements of

the new -7G Cabins. Furthermore, advancements in engine technology and hydraulic systems have led to the -7G series not only being more precise in their operations but also significantly more fuel-efficient. As operational costs are a major concern, integrating maintenance and safety practices has shown to be effective in reducing these expenses, ensuring that the machines are not only safer and more productive but also more economical to operate in the long term. The commitment to these enhancements reflects a deep understanding of the Voice of the Customer," says Carstens.

The Shinrai-Power BX100 backhoe loader is a significant addition to the Hitachi Construction Machinery Africa's portfolio, offering a blend of versatility, performance, and safety. This robust machine is designed to tackle a variety of tasks with reduced fuel consumption, ensuring cost-effective operation. Its exceptional durability and adaptability make it suitable for a wide range of applications, reflecting Hitachi Construction Machinery Africa's commitment to providing solutions that meet the evolving needs of the construction industry.

Its name originates from the Japanese word 'Shinrai' meaning Reliable, Trustworthy and Capable; coupled with Power (powerful, optimised, world-class, efficient, reliable).

The BX100's features, such as a powerful 99HP engine and an operating weight of 8 680kg, are tailored to enhance productivity and user comfort, making it a reliable choice for professionals seeking a machine that delivers both strength and efficiency.

The integration of a reliable transmission and axles into the BX100 was crucial for ensuring consistent performance under demanding conditions. A low-maintenance design not only reduces downtime but also lowers long-term operational costs, making the BX100 an economical choice for any business.

Furthermore, a robust hydraulic system is essential for providing the precise control necessary for complex tasks, significantly boosting digging power and overall productivity. The synergy of these components results in a machine that can tackle a wide range of applications, with enhanced efficiency and reliability. This holistic approach to design and functionality reflects the advancements in engineering that prioritize both performance and ease of use.

"The backhoe market is indeed a significant segment within the construction equipment industry, reflecting a substantial demand for these versatile machines," says Carstens "With the introduction of our BX100, to the Southern Africa market, we will be a key player to be reckoned with."

Importance of the Southern African Markets

Hitachi Construction Machinery Africa's strategic focus on the Southern African market is a testament to the region's promising potential. The introduction of cutting-edge machinery like the Zaxis-7G series and the Shinrai-Power BX100 Backhoe Loader is a direct response to the unique challenges and opportunities presented by the local market. These machines are designed to meet the high standards of safety, performance and cost-efficiency that are essential in the region's diverse operational environments. With a commitment to innovation and customer satisfaction, Hitachi Construction Machinery Africa is poised to make a significant impact on the construction and mining industries in Southern Africa, contributing to economic growth and development.

The recent launch of new equipment categories by Hitachi Construction Machinery Africa marks a significant commitment to Africa's development. The rapid development of infrastructure in Africa is a testament to the continent's growth potential. Urbanisation and industrialisation are propelling this expansion, with foreign investment further fuelling the momentum. Hitachi Construction Machinery has positioned itself as a key player in this sector, with a strong commitment to innovation and sustainability. Their machinery is engineered to tackle the demanding African environments, ensuring reliability and high performance. Moreover, Hitachi's forward-thinking approach means their equipment is designed to be future-proof, ready to meet not just today's requirements but also tomorrow's unforeseen challenges. ■

What can the GNU do to connect mining to green industrialisation?

By Dr Ross Harvey, director of research and programmes at Good Governance Africa (GGA)

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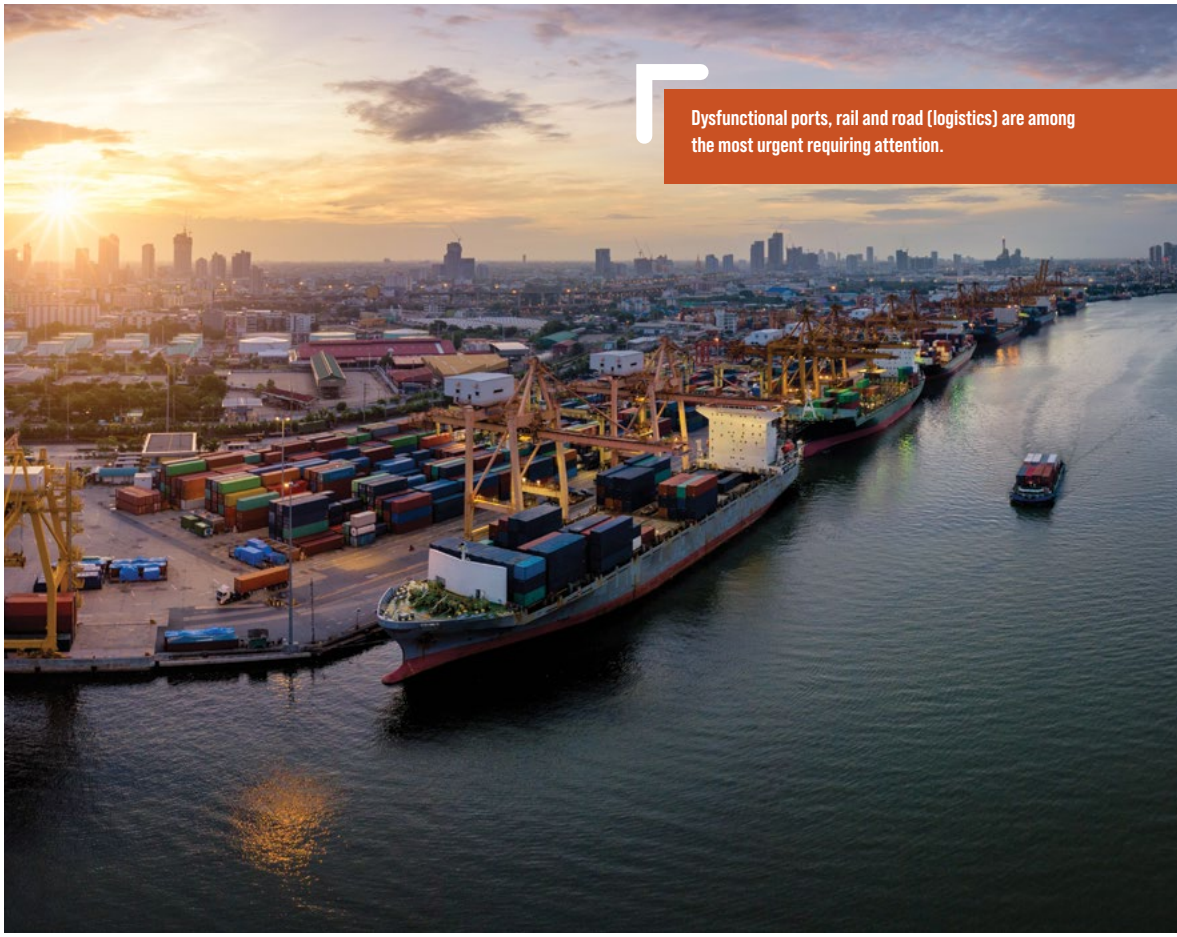


Dysfunctional ports, rail and road (logistics) are among the most urgent requiring attention.

A July TED talk by Johan Rockström has already reached 648,293 views (at the time of writing). It is not a good news talk. Essentially, the scientific assessment is that the average ocean temperature is rising dangerously and some of the earth's key natural systems of absorbing carbon are at tipping points. In other words, places like the Amazon are at risk of being transformed from forest to savannah because of deforestation. It is no secret that our global systems of producing and consuming food and appliances are costly for the planet, and those costs are not properly reflected in national accounting systems. To put it technically, the negative externalities associated with production are typically offloaded onto those who can least afford it. Elites, meanwhile, will pay for air conditioning as temperatures soar beyond 50 degrees Celsius in many cities, and continue to jet around the world in planes powered by fossil fuels.

Rockström is not entirely pessimistic, though, and exhibits some faith in the ability of renewable energy to help us move towards 'net zero' by 2050, if we combine this with workable marine and terrestrial protection to protect the integrity of our carbon sinks and avoid massive biodiversity losses. Basically, we need to move back to a situation where the earth can safely absorb our carbon output. We are not on that trajectory. So, what could mining and green industrialisation possibly have to do with this gloomy truth?

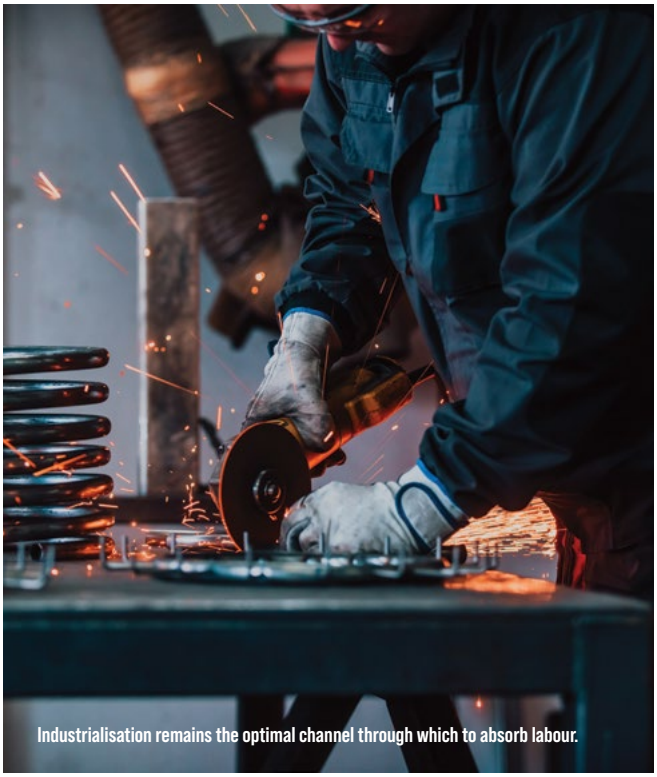
At Good Governance Africa, we recently proposed a 10-point priority plan for the incoming "GNU" or "grand coalition". In addition to ensuring the basic building blocks of democracy, such as improving political accountability and ensuring greater levels of citizen engagement, democracy must also deliver material dividends. This is not easy to achieve in the context of adapting to climate change alongside mitigating its causes.

Nonetheless, it remains the case that the world will require more mining in the future, not less; this to provide the minerals and metals that are crucial ingredients to products (like solar panels and electric vehicles) that will power the renewable energy and transport revolutions under way. For South Africa, this has serious implications. We therefore wrote the following into our ten-point summary:

Unlocking mining and industrial potential

- The problem: South Africa's mining industry has been deteriorating in terms of its direct and indirect contribution

Mining has to be more directly connected with industrialisation.



Industrialisation remains the optimal channel through which to absorb labour.

to GDP over the last two decades. While it has occasionally earned well and bolstered the Treasury's finances through foreign exchange revenue from exports, the overall trajectory of investment into mining has been a decline. While several sectors outside of gold have grown nominally, the potential appears vastly underutilised. This is attributable to numerous factors, but poor mining policy, deteriorating infrastructure, and dysfunctional ports, rail and road (logistics) are among the most urgent requiring attention.

- GGA's recommendation to the GNU: Pay close attention to the internal and external factors that currently determine the lack of exploration and expansion investment in mining. A key approach will be to thoroughly reform the minerals governance landscape in the direction of making it far simpler to apply for (and be granted) licences, at the same time as reforming the Department of Mineral Resources to enforce the law far more consistently across provinces. The Department should, similarly, work closely with other departments to remove macro-level obstacles to investment in the sector.

We must go beyond this, in time, and connect mining to green industrialisation. This is because industrialisation remains the optimal channel through which to absorb labour. In less technical terms, South Africa has to (re)grow its industrial base if we are to achieve job growth. Jobless growth is not an option, as growing joblessness entails untenable socio-political costs. At an overall formal unemployment rate of 33.5%, according to the latest data, the call for economic reform could not be more urgent.

Technical work we've done at GGA shows that southern Africa is almost certainly suffering "premature deindustrialisation" – a decline in the manufacturing industry (in terms of both output levels and share of overall economic employment) sooner than our industrialised counterparts, and at lower levels of per capita income. Our move into services is relatively low value, and not sufficiently labour absorptive. South Africa specifically appears to be suffering Dutch Disease – even though mining has declined as a sector, mineral rents (a high dependence on mineral sales and exports for foreign exchange and tax revenue respectively) still appear to be causally related to declining manufacturing.

Ironically, the solution is more mining, not less, but mining has to be more directly connected with industrialisation. This is not a simplistic matter of trying to 'beneficiate' the raw materials produced in the country, though that could be part of the rationale where sensible. For instance, it makes sense for South Africa to produce catalytic converters. It remains true, of course, that Finland did not become a global furniture manufacturer just because they had vast natural forests. Turns out they didn't excel in furniture at all. However, they did develop cutting edge tree-cutting technology, which ultimately resulted in firms like Nokia taking off. These are what economists call 'side-stream' linkages. There is also extensive upstream manufacturing opportunity, which South Africa once boasted in abundance. Every effort needs to be made to recraft an industrial sub-sector specialising in mining equipment. Because of the closeness of the 'product space' to other forms of manufacturing, such as passenger or freight vehicles, the economic spillover effects could be significant.

All of this, however, will remain ethereal unless appropriate and credible conditions for investment are created. That means we must continue to address our energy shortages in a systemic and sustainable way. No investment without reliable energy. Similarly, logistics – all infrastructure, roads, rail and ports – need to be optimally tuned to attract labour-absorbing investment. And perhaps it goes without saying that crime, from petty theft to extortion to grand corruption has to be radically removed. To bring it full circle, lasting solutions to these problems need to be birthed in the soil of much greater levels of political accountability. ■

Condra supplies overhead cranes to Platreef project

High-capacity overhead cranes often make headline news because of impressive size and technical complexity. Their smaller and simpler cousins – workhorses of the factory and general engineering workshop – should not be overlooked, says Marc Kleiner, managing director of crane and hoist manufacturer Condra. He was commenting on a slew of recent orders taken for Platreef Mine, ranging from a giant 40/5-ton double-girder headgear crane, through smaller single- and double-girder cranes, hoists and crawls, to no fewer than nineteen chain blocks, including a 2-ton explosion-proof chain hoist. All are for installation at Platreef Mine's Number Two Shaft, part of the Platreef PGM project near Mokopane, Limpopo Province, South Africa. These orders highlight Condra's capabilities in smaller and more standard lifting equipment. Nevertheless, the standout machine for Platreef remains the very large headgear crane: a 40/5-ton double-girder electric overhead travelling giant spanning 17 metres, which will itself weigh almost as much as its 40-ton maximum load. Murray & Roberts Cementation supplied the procurement recommendation for this machine, which will install and maintain the shaft's headgear-mounted winders and sheave wheels, raising and lowering component parts over a lifting height of 94 metres. ■

Road delivery of typical overhead cranes.

ABB supplies hoist solution to Karowe Diamond project in Botswana.

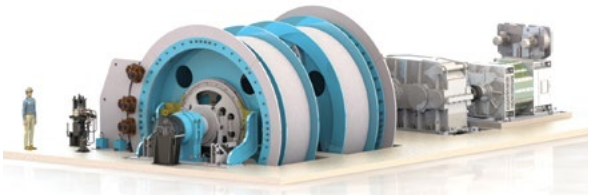


ABB supplies hoist solution to Karowe Diamond Mine expansion

Technology provider, ABB, has provided a unique hoisting solution to the Karowe Diamond Mine expansion project in Botswana. Owned by Lucara Diamond Corporation through its subsidiary Lucara Botswana, the state-of-the-art mine was fully commissioned in Q2 2012 and produces large, high-quality, Type IIA diamonds in excess of 10.8 carats. The expansion project is designed to extend the mine life to at least 2040 and deliver over $4 billion in revenue. To expand existing operations to increase the life of mine, it was decided to sink two shafts, a ventilation and production shaft. The production shaft will accommodate hoisting production with a production winder supported by a service winder. "Throughout the project lifecycle, we have supported the project team to find the best solution," explains Danielle Koekemoer, Hoisting Sales Manager at ABB. ABB's expert hoisting team collaborated with both a Canadian and a South African engineering, procurement, and construction (EPC) contractor for the project. The refurbished equipment included two kibble winders, two sets of stage winders, and auxiliary equipment. All four refurbished winders were provided from the winder complement owned by the UMS Group and refurbished under the guidance of ABB by local sub-contractors. The shafts are being sunk with the refurbished winders. ■

ALCO-Safe includes wellness and addiction counselling to services

Rhys Evans, Managing Director of ALCO-Safe.

ALCO-Safe, a provider of workplace drug and alcohol testing equipment, recently announced the expansion of its services to include comprehensive employee wellness and addiction counselling programmes. This new initiative addresses the growing issue of drug and alcohol addiction in the workplace and society, particularly in South Africa. The new programme goes beyond simply detecting substance abuse; it offers proactive support to help employees identify and overcome addiction and create a healthier, more productive work environment. Rhys Evans, Managing Director of ALCO-Safe, states "We started this programme in June of this year because we recognised a gap in support for employees struggling with addiction. While our products help identify substance abuse, we believe a more holistic approach is necessary. By offering counselling and wellness training, we want to help empower employees to address the root causes of addiction and build a healthier work environment." By offering employee wellness and addiction counselling services, ALCO-Safe creates a win-win situation for both employers and employees. Companies benefit from a healthier and more productive workforce with reduced absenteeism and a lower risk of accidents. ■

Barloworld Equipment unveils new Botswana facility

Barloworld Equipment's new Botswana facility.

Celebrating six decades of partnership with Botswana, Barloworld Equipment southern Africa recently inaugurated a cutting-edge dealership facility in Phakalane. This significant investment underscores Barloworld's commitment to delivering exceptional customer service, fostering local economic growth, championing sustainability, and further strengthening its enduring legacy in the nation. Since 1964, Barloworld Equipment has been a steadfast partner in Botswana's growth, supporting key industries and contributing to the development of its infrastructure. This new facility marks a new chapter in this journey, further enhancing its capacity to serve customers across mining, construction, energy, and transportation. "This milestone underscores our commitment to Botswana," said Andronicca Masemola, CEO of Barloworld Equipment southern Africa. "The Phakalane dealership empowers us to provide even greater value to our customers with optimised equipment, service, and advisory capabilities."

This state-of-the-art facility will provide customers with a seamless experience, including faster turnaround times on equipment repairs and maintenance, access to a wider range of Cat equipment and machinery, and enhanced technical support from our team of experts. ■

Komatsu introduces GD955-7R motor grader

Komatsu introduces GD955-7R motor grader to South Africa.

Equipment supplier, Komatsu, recently introduced its new GD955-7R motor grader to the Southern African market. The GD955-7R offers operators the control and precision needed to build and maintain haul roads for truck fleets of 100 tons and up and is an important addition to Komatsu's motor grader lineup.

The powerful new machine stands out with its ample horsepower and powerful blade downforce pressure for efficient grading performance. With faster working travel speeds compared to the previous model, Komatsu engineered the GD955-7R to increase grading efficiency while helping reduce maintenance requirements and total cost of ownership. Despite its large size, the GD955-7R offers excellent maneuverability. It can execute tight U-turns on a standard 100-ton class haul road without the need to fully cut the wheel or course correct. The long wheelbase and large, 27-degree articulation angle allow a tight turning radius and provide maneuverability for narrow haul road applications in confined spaces and around obstacles. The GD955-7R comes standard with Komatsu's 360^0 camera system, KomVision, which houses a 5-camera system to provide a view around the vehicle using the KomVision monitor, with an additional rearview monitor for reversing and ripping operation. This system increases visibility for operators so they can get a full view of activity around the grader. The machine was introduced to customers at a launch event on 22 July 2024, and the first GD955-7R is on its way to a customer. ■

ME Elecmetal makes important investment in SA

Global mining supply company, ME Elecmetal, headquartered in Chile, has formalised its purchase of one of Africa's leading foundries - the Prima Foundry in Benoni, Gauteng, South Africa. This is a significant milestone for ME Elecmetal, which has a 107-year history in the mining industry, with sales in over 40 countries. The decision to acquire the Prima Foundry (a family-run business, specialising in the production of engineering castings for the mining industry) is part of the company's overarching vision of expanding ME Elecmetal's ability to provide integral solutions to mining operations throughout the world. "We are confident that ME Elecmetal's integration of the world-class Prima Foundry into our global footprint will enable us to support the sustainable growth and development of the mining sector in South Africa, Africa and beyond," said ME Elecmetal's Chairman Baltazar Sánchez. ME Elecmetal is committed to the long-term success of ME Elecmetal Prima and to helping grow South Africa's and Africa's industrial and mining sectors. To this end, the newly formed and integrated ME Elecmetal Prima will draw on the experience, expertise and skills of both companies to grow and expand the production levels at the foundry. The foundry will supply steel and manganese liners for use in mining processes principally in South Africa and the continent, but also to other global markets. ■

Prima Foundry will support the growth and development of the mining sector in South Africa.

SafeQuip unveils new fire blanket **for suppressing lithium-ion battery fires**

Firefighting Equipment supplier, SafeQuip, has launched its newly developed range of high-performance, multi-use lithium-ion battery fire blankets. These blankets are specifically designed to address fires involving devices with lithium-ion batteries, providing a crucial tool for safety in environments where these batteries are in use. Developed by AVD Fire, the new fire blankets are engineered to withstand extremely high temperatures in an oxidising atmosphere for prolonged periods. They are robust enough to provide protection against potential debris and shrapnel expelled during a battery fire, ensuring comprehensive safety. Lithium-ion battery fires are particularly challenging to control due to their ability to burn at very high temperatures, often exceeding 1000°C, and the potential for re-ignition even after the initial flames have been extinguished. Fire blankets offer an effective and easy-to-use solution for various fires, making them a versatile tool for kitchens, garages, and workplaces. ■

SafeQuip launches new fire blanket for suppressing lithium-ion battery fires.

SkyJacks showcased latest innovative equipment at Electra Mining 2024

SkyJacks, a leading provider of hiring and selling powered access, material handling and lifting equipment for the construction, mining and industrial sectors, showcased its latest innovations in powered access, material handling and lifting equipment across the OEM brands it represents, including Dingli, Faresin, Jekko, GEDA, and ALR with a special focus on the South African and broader SADC markets at Electra Mining Africa 2024. Says Alistair Bennett, MD at SkyJacks, "By showcasing our latest equipment, we provided companies with the opportunity to identify solutions that match their unique requirements with our versatile product range, which is designed to meet the diverse needs of the mining, construction, and industrial maintenance sectors. We are at the forefront of integrating advanced technologies into our offerings which meet the evolving needs of our markets and customers." ■

SkyJacks showcased its latest innovations at Electra Mining Africa.

Omnia showcases groundbreaking technology to advance sustainability in mining

Agrichemicals and explosives group, Omnia, in collaboration with Hypex Bio Explosives Technology (Hypex Bio), recently showcased Hypex Bio's innovative nitrate-free explosive emulsion technology. The groundbreaking hydrogen peroxide emulsion (HPE) system offers significant environmental benefits and is the first nitrate-free emulsion explosive in the market. Globally, it is estimated that 20 mt of bulk nitrate-based explosives are used annually. Therefore, it costs mining companies billions of dollars annually to manage emissions from blasting to air, water and land. The HPE reduces nitrogen oxides air emissions by 90%, addressing a critical environmental concern in the mining industry. Additionally, HPE's composition, free from nitrates and ammonia, means it does not contribute to nitrate pollution in water sources. This offers substantial environmental and health benefits, as residual HPE decomposes into water and oxygen. ■

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