Phosphate mining to bolster agriculture sector
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The Namibian Mining Magazine is a quarterly professional mining journal for the Namibian mining and quarrying industry. With a decent print run of 3850 copies per issue and a magnificent online presence, this magazine remains the preferred source of Namibian mining news both locally and internationally.

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Thumbs up to more developments on the horizon

Andrew Maramwidze (Editor)

News of having a knotted mining and agriculture industry should be celebrated as so many positives are expected from this development.

In this edition, Namibia Marine Phosphates (NMP) has announced that its near completion of the Sandpiper marine phosphate mining project is expected to ignite production of fertilizer on the local market. Though it has taken years for the developers to start seeing light at the end of the tunnel following the 2012, environmental objections to the Sandpiper project which impeded progress, a new dawn is on the brink.

So many positives could soon emanate from this development including reducing the country import bill on farming implements and growing the agriculture export bar.

Farmers are expected to be the biggest beneficiary; the local production of fertilizer would mean a drop on farmers’ inputs expenditure and easy access to fertilizer.

Employment should also see a rise once the project is off the ground in both the sectors, government will also stand to benefit from increased royalties.

NMP has cited that the country has one of the world’s largest undeveloped phosphate resources, a building block for developing a fertilizer industry in Namibia. With such a development on the horizon, we hope for more.

Though the impacts of the COVID-19 pandemics are still unraveling, we hope and believe that focus remains intact in the mining industry and allows for more positive growth.

Authorities should liaise more closely with the mining sector to mitigate the possible challenges the industry may face from the on-going world-wide respiratory disease.

More innovative ideas should be explored by both government and the private sector to bring the much needed growth in the sector and have additional synergies with other sectors in the economy.

Please remember to share your comments, opinions and letters with us on drewmara@gmail.com

Enjoy the read!
B2Gold CSR investments exceed N$100 million

B2Gold has spent over N$100 million, on voluntary corporate social responsibility (CSR) contribution to various needy establishments in the country. “Our level of voluntary contribution to Namibia demonstrates our company’s sincere commitment to the improvement of livelihoods of all Namibians,” said Managing Director of B2Gold Namibia, Mark Dawe. Meanwhile Clive Johnson, President and Chief Executive of B2Gold Corporation said a company’s commitment to responsible mining is evident when a crisis emerges.

“The COVID-19 pandemic, which has impacted all facets of life in all corners of the world, has given our stakeholders a unique perspective into the heart of B2Gold and provides an opportunity to shine a light on our company values. B2Gold has responded with excellence in all aspects of our operations,” said Johnson.

Central bank cuts repo rate

As economic activities contracted during the first four months of the year, with inflation remaining muted, on the backdrop of a growth decline to the private sector credit extension (PSCE), the reserve bank has slashed the country’s repo rate. According to the central bank’s deputy governor, Ebson Uanguta, the MPC had to balance the need for further monetary stimulus in the face of the pandemic-induced weakness in the economy, against the importance to not undermine sound saving and investment decisions in the economy.

The Bank of Namibia’s Monetary Policy Committee (MPC) has reduced the repo rate from 4.25 percent to a historic low of 4.00 percent. “The MPC is of the view that at 4.00 percent, the repo rate is appropriate to support domestic economic activity while at the same time safeguarding the one-to-one link between the Namibia Dollar and the South African Rand,” Uanguta said.

De Beers’ COVID-19 response

De Beers recently announced $2.5 million grant shared between Botswana and Namibia, to support governments and local communities to ease the COVID-19 challenges. The assistance provided medical supplies, logistical support, food for vulnerable households, water supply, and improved awareness of the pandemic.

Local initiatives with partners also include preparing hospitals for testing and treatment, supplying masks and hand sanitiser in South Africa, and donating hand washing facilities in Namibia. The company also supplied food to vulnerable groups in Canada.

Otjozondu to scale up production

MN Holdings could soon increase mine production rate at Otjozondu once a planned increase in offtake finance is sealed. The London-listed Premier African Minerals subsidiary MN Holdings said prepayment will also help fund the lead time between production, shipment and final payment on outturn at the destination port. Otjozondu plans to relocate the container loading facility to Walvis Bay from where it is currently situated at Okahanja.

The mine will then have ore railed in bulk to Walvis Bay, eliminating the need to rail empty containers to the load siding, takes out any potential demurrage charges associated with any rail delays or other breakdowns at the loading siding, and will allow for continuous filling of containers at Walvis Bay and a much more rapid turnaround of bulk rail cars from the siding. “This is a significant step in the eventual change to bulk shipment as opposed to containerized, with important cost and efficiency benefits.”

UK miner acquires stake in Hope copper-gold project

Virgo Resources the developers of Hope Copper-Gold Project have sold their stake to Bezant Resources. The company’s subsidiary Hepburn Resources owns majority stake in Hope Copper-Gold project.

“Namibia is an excellent jurisdiction with a long history of mining in the country and the project is in an area with good infrastructure. “There exists considerable potential for discovering more copper and gold within the sizeable licence area and we look forward to advancing this exciting project in the short term,” Bezant’s chairman Colin Bird said.

Hepburn owns 70 percent of Hope and Gorab Mining Pty Ltd which owns the EPL5796, 80 percent of Hope Namibia Mineral Exploration Pty Ltd holding EPL6605 and has the option to acquire an 80 percent interest in EPL7170.

Western Erongo gold project on course

Canadian company Antler Gold has announce the delineation of six priority targets for exploration on its Western Erongo Gold Project (Western Project) in the southern central zone of the Damara orogenic belt. “We’re pleased to have outlined six priority targets on our Western Project. There has been limited historical drilling undertaken and only to a depth of 30 and 35 meters,” said Dan Whittaker, President and Chief Executive Officer of Antler.

He said the company plans testing the historical areas at depth. “We are also awaiting results from our verification sampling and geophysical program to more precisely define these targets which we expect to drill in late summer or early fall 2020”.

The Western Project has historically drilled prospects which have been inadequately explored to date and will be the immediate focus of Antler’s future exploration.
Phosphate mining to bolster agriculture sector

Namibia Marine Phosphates (NMP) is upbeat the country is poised to be an exporter of phosphate and fertilisers products, once the Sandpiper marine phosphate mining project is complete.

The company also believes the development will bolster the country’s agricultural activity, as currently, much of the fertiliser consumed in Namibia is imported.

NMP has cited that the country has one of the world’s largest undeveloped phosphate resources, stands to benefit from the development of a phosphate project and fertiliser industry that will support many sectors, including agriculture, mining and employment.

The Sandpiper project could be the first “building block” for developing a fertiliser industry in Namibia, according to NMP. However, since 2012, environmental objections to the Sandpiper project have impeded its progress.

In the interim, NMP has been able to adjust its proposed mining method to cater for more modern technology, says NMP Chief Operations Officer (COO), Mike Woodburn.

“There have been several adjustments to the project from its original proposal,” said Woodburn.

He says that, in terms of dredging equipment, autonomous and remote controlled underwater vehicles can be used to assist in positioning ships and seabed trawling to obtain monitoring information over long periods of time without the need for expensive support vessels. On shore, he notes, there has been a major development in the past five years with the expansion of the Walvis Bay port and the construction of the Southern African Development Community bulk gateway terminal which also serves as the primary oil terminal. This will assist NMP in docking its ships, offloading concentrate and establishing its land-based processing plant.

In addition, NMP Chief Executive Officer (CEO), Chris Jordinson says the company has secured, in principle, an allocation of port land from Namport, thereby enabling it to, in future (once a contractual land allocation has been granted) develop its processing plant.
$341m Haib copper project on the pipeline

Deep-South, Canadian base metals development firm has announced plans to build an 86,000 ton a year copper cathode and sulphate mine for $341m. According to the company’s preliminary economic assessment (PEA), the proposed mine, Haib Copper Project would produce 35,332 tons a year of copper cathodes and 51,080 tons of copper sulphate at a total cost of $1.34/lb of copper equivalent.

The company said the project has a net present value of $611m and an internal rate of return of 22.7 percent assuming a copper price of $2.50/lb, with a pre-tax payback of 4.2 years has been calculated and a life of mine of 24 years.

Paul Smith, Chief Operations Officer (COO) at Deep-South said the Haib deposit had been subject to a number of studies and feasibility studies over time, and had been extensively drilled.

Previously, the assumption was for conventional processing by means of traditional crush-mill-float and smelt technology.

“The grade is too low for the conventional processing to be viable,” said Smith.

Deep South Resources is 24 percent owned by management and Namibian shareholders with a further 23 percent stake held by Teck Resources, a Canadian firm.

“The application of great technological advances in geological exploration, mineral processing and extractive metallurgy will most likely see Haib rapidly becoming a global ‘tier one’ copper project, with the right economics for development,” said Smith.

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2020 Namibia Mining Expo cancelled

Chamber of Mines has cancelled the annual Mining Expo & Conference for 2020, with full refund for exhibitors. “While the situation in Namibia appears to have stabilised since the first cases of COVID-19 confirmed on 14 March 2020, the Chamber is under no illusion that the country is spared from the possibility of further infections,” said Chamber’s Chief Executive Officer (CEO), Veston Malango.

Malango further said the initially postponed dates of 2nd to 3rd September fall within the state of emergency, which lapses around 22 September 2020, with no certainty whether it may or may not be extended. He further noted that it is thus not possible to predict the government’s actions or decisions pertaining to mass gatherings such as the Mining Expo & Conference in response to further Covid-19 related developments.

“With the rapid progress and escalated global efforts to develop a Covid-19 vaccine, the chamber remains hopeful that the much-anticipated Mining Expo and Conference will again take place in 2021. The official event details and dates will be communicated towards the end of this year,” said Malango.
AfriTin out of the woods

AfriTin has announced intentions to resume full activity, as the country ease lockdown and restrictions. “We have not been immune to the disruptions caused by the lockdowns and have experienced delays in the supply chain from Namibia and South Africa,” said Chief Executive Officer of AfriTin, Anthony Viljoen.

AfriTin announced in May that it had raised £2.05m in loan notes to ‘further secure’ the firm’s finances amid the COVID-19 pandemic.

The debt has been raised with Yellow Dragon, a subsidiary of The Orange Trust, which has a 9.9 percent stake in AfriTin.

AfriTin aims to increase production from the first phase of its Uis project in Namibia by 50 percent following an optimisation study which also includes mining lithium ore to generate by-product revenue.

The first phase optimisation plan, which was interrupted by COVID-19 related lockdown regulations in Namibia, will ultimately lead to a second phase expansion that will see AfriTin supply about one percent of the world’s tin supply.

“This disruption has impacted the optimisation process, but activity levels have now returned to pre-lockdown levels and the ramp-up is steadily increasing month-on-month towards design capacity.” The fourth shipment of tin had been dispatched to customers.

Our Business Units

1) Standards Development and Coordination
The development of standards involves a huge collective effort from participating industry experts and interested stakeholders.

2) Certification Services
The NSI Certification Department provides independent third-party conformity assessments services to its clients.

3) Testing and Inspection
The centres provide analytical services to commercial customers including the fishing industry, various food producers, local authorities, water bottling companies, mines, cleaning companies and other private industry.

4) Metrology
Metrology, the science of measurement, is at the core of the National Quality Infrastructure, being the centre of the national measurement system.

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Government issues Aukam Graphite Mine license

The minister of mines has issued mining licence for Aukam Graphite Mine located 120 miles from the Port of Luderitz to Gratomic Inc.

According to the company, the licence covers base and rare metals, industrial minerals, and precious metals and falls within the proximity of the Aukam processing plant and the graphite-bearing shear zone for a total of 5,002 hectares.

“We are thrilled to receive the official mining licence for the Aukam graphite mine in Namibia. This is a monumental milestone for Gratomic, which took an extensive amount of effort to accomplish.

“Once the funding is secured, Gratomic will be able to move into the commercialization phase of development,” said Arno Brand, Aukam President and Chief Executive Officer (CEO).

Indications are that the company has completed eight months of pilot testing on historically mined product and conducted an internal study on the efficiency of the pilot processing facility on this material.

Through rigorous testing and adjustments to the plant, Gratomic can now produce a concentrate of up to 98 percent graphitic carbon.

“Management has subsequently decided to build a 20,000-tonne-per-annum processing plant. To date, 90 percent of construction is complete. Upon completion of the remaining 10 percent, the company will initially start processing material from historical workings left at the surface when the mine last operated in 1974.” Brand said securing the mining licence is a critical step toward moving the Aukam mine into commercial production.

Meanwhile the company has recently appointed Dr. Ian Flint to complete a preliminary economic assessment on the Aukam processing plant.

The study, its recommendations and their subsequent implementation will ensure the scale up of the existing pilot plant to a commercial-scale processing facility that will provide the desired concentrate grades and production rates.
Namibia Critical Metals recently announced that drilling at Lofdal is ahead of schedule with over 50 percent completed at Area 4 with results from first nine holes now reported.

According to the company drill results are consistent with expected grades and thickness as predicted from the resource model, targeting to double current resource size in this first drilling phase.

“All holes drilled to date have intersected the Main Zone as expected. As we await lab results from the remaining thirteen holes from this phase of the Area 4 drilling, it is an opportune time to move the drill to our exploration targets where we believe the potential exists to develop satellite deposits. The drill will then return to Area 4 to complete the resource drilling program.

“The metallurgical program is advancing well with both XRF and XRT sorting tests providing very encouraging results. The objective with sorting is to achieve a 2-3X upgrade to the deposit grade and we look forward to a comprehensive evaluation of both technologies upon completion of the bulk test runs which will use about 7 tonnes of representative sample collected from trenches at Area 4,” said Don Burton, President of Namibia Critical Metals.

Despite the challenging times for field operations, Burton is optimistic.

“We are extremely fortunate to have a dedicated team in Namibia that has actually exceeded the planned monthly production since start up in March. Field operations continue with strict Covid-19 protocols in place.”

The primary objective of the Lofdal Joint Venture is to double the current resource size with an additional 7,700 m of drilling. Statistics from the company has completed 4,447 m of drilling to date in twenty-one holes at Area 4.

Burton said drilling operations have continued un-interrupted since beginning in early March and remain on schedule, however slight delays in receiving laboratory results have been realized due to Covid-19 restrictions in Namibia and Canada.

“These restrictions have since eased and a steady flow of analytical results is now expected to resume.” Meanwhile results from the first nine holes have been received and all holes have intersected mineralization in the Main Zone (highlighted in grey) consistent with expected grades and thickness as predicted from the resource model.
Osino Resources Corp. has received positive assays for the initial four holes of the 2020 drill campaign at Twin Hills.

“These four holes, drilled before the lockdown, demonstrate the strike and down-dip continuity of the Twin Hills Central mineralization, which is up to 150 metres wide and 160 metres down-dip in this area from just below surface.

“This large volume of shallow mineralization indicates the significant bulk potential of this deposit,” said David Underwood, Osino’s Vice-President, Exploration.

According to the company, the results from these holes increase the strike length of mineralization at Twin Hills Central to approximately 1,300 metres, open to the east and west.

Underwood further indicated that a total of at least 20,000 metres of mainly diamond drilling is planned for 2020.

“The objective of the program is to expand the mineralization and define a maiden resource at Twin Hills Central, as well as drilling of additional targets along strike. Osino is targeting a NI 43-101-compliant maiden resource report on Twin Hills Central in the first half of 2021.”

The 2020 drill program was started on March 17 but then halted a week later due to the COVID-19 lockdown in Namibia. Drilling restarted on May 8 and three diamond rigs are currently operating at Twin Hills.

Meanwhile two diamond rigs are currently on site at Twin Hills Central and will continue to extend and define the mineralization as well as the high-grade shoots.

In addition, a third diamond rig arrived on May 18 and is being used to drill other targets within the Twin Hills.
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Regional News

Mining operations on hold due to COVID-19 lockdowns

Since mid-March, the response of governments worldwide to the COVID-19 pandemic has led to severe disruption of mining activities across a large number of countries.

Countries have passed partial or complete lockdown orders, leading to the temporary suspension of activities at over 1,600 mines, as of 3 April. However, as lockdowns end, mines are increasingly being considered as an essential service.

The exempted mines are, however, operating with reduced numbers of workers to minimise the potential spread of the virus, which is causing a slow return for the industry, says GlobalData, a leading data and analytics company.

“Silver production is currently being severely damaged by lockdown measures. As of 27 April, the equivalent of 65.8 percent of annual global silver production was on hold. Silver mining companies such as First Majestic, Hochschild, Hecila Mining and Endeavour Silver have all withdrawn their production guidance for 2020 in the wake of the outbreak,” Vinesh Bajaj, Mining Analyst at GlobalData said.

“In addition, 32 percent of uranium production, 23.8 percent of zinc, 19.5 percent platinum, 14.6 percent of nickel, 14.4 percent of diamond, and 12.7 percent of copper were placed on hold as of 27 April.

“Progress has also been halted on 23 mines under construction, including the US$5.3bn Quellaveco copper mine in Peru, which is one of the world’s biggest copper mines currently under development. The project has an annual copper production capacity of up to 180kt and is expected to commence operations by 2022. In Chile, while a lockdown is not in force, Antofagasta has halted work on its Los Pelambres project and Teck Resources has suspended work on the Quebrada Blanca Phase II mine.”

At present, lockdowns remain in force in countries such as Peru (until 10 May), Mexico (30 May), Bolivia (30 April) and Namibia (4 May). In Quebec, the government extended restrictions to 4 May, however, it is allowing mines to reopen from 15 April as essential services if they comply with strict measures to limit the spread of the virus.

Restrictions on mining in India, Argentina, Zimbabwe and South Africa have also been withdrawn, with mining seen as an essential service.
Walkabout Resources diversify portfolio into Tanzania

Walkabout Resources has secured exploration tenure over a highly prospective, underexplored gold region in south western Tanzania - the Amani Gold project.

"Walkabout’s strategy has always been to maintain a diversified portfolio and continually look for high value exploration opportunities.

“We believe the Amani gold project with its significant alluvial gold endowment will potentially provide significant value to the Company while not distracting us from the funding and building of the Lindi Jumbo Graphite Project," said Chairman of Walkabout Resources, Trevor Benson.

According to the company the project displays underexplored prospective high-grade vein and shear hosted orogenic gold terrain and new mapping confirms similar geological setting to gold mineralisation within the Lupa Goldfield 300km to the northwest.

The Amani gold project has been a focus of Walkabout’s exploration team since 2015 when new geological mapping and fieldwork confirmed the hard rock gold potential of this forgotten alluvial gold area.

In addition, the area has the potential to host high grade orogenic gold mineralisation similar to the Lupa Goldfields where Shanta Gold has numerous deposits.

Walkabout considers this project to be a valuable addition to its diverse mineral exploration portfolio in Africa and the UK.
Atlas Copco offer economic lighting solution

Atlas Copco has engineered cutting-edge design and technology into its compact and highly cost-effective HiLight LED light tower range to bring a perfect combination of high performance, optimum efficiency and low operational costs for lowest total costs of ownership.

Atlas Copco’s HiLight range of LED light towers comprises the B5+, V3+, H4, and the H5+ (flagship) units as well as the more recent Z3+ battery operated unit. These flexible and economic lighting solutions meet a diverse range of applications in the construction, roadworks, mining, quarrying and public events sectors.

When industries have to extend their working hours to meet deadlines, they require reliable lighting systems to ensure operational uptime. When working after dark on for example construction, quarry or industrial sites or at outdoor events in both rural and urban areas, it is essential to have the best possible lighting to ensure task accuracy, improved working conditions and enhanced worker safety.

Specially developed by Atlas Copco to meet these requirements, the innovative HighLight range bears the stamps of superior performance, reliability and efficiency - from advanced LED technology and a compact footprint to low fuel consumption and easy maintenance.

Presenting the right combination of LED chips and LED optics, the HighLight range features three core points: Firstly, the HighLight LED’s specially designed directional optics are manufactured from glass to offer the correct and optimum light distribution.

Secondly, the robust light towers feature aluminium castings that provide heavy duty protection and ruggedness during transportation making the units well suited to grueling use in tough environments.

Adding further robustness is the light towers’ rugged steel frame fitted with PE bumpers which are manufactured to the same standards as the HardHat® Canopy for increased protection of all internal parts. And thirdly, the LED’s high Colour Rendering Index (CRI) score represent colours better than standard metal halide lamps. “These enhanced lighting solutions provide customers with the power of a full day and zero shadows for optimised safety,” notes David Stanford, Atlas Copco Power Technique Business Line Manager, Portable Products.

The heavy duty IP67 rated LED lamps have a life expectancy of over 30 000 hours. The fully directional capability of the LED lenses which boast a unique optic design ensures maximum light distribution thereby reducing lighting waste.

Great ideas accelerate innovation. At Atlas Copco Power Technique, we turn industrial ideas into leading edge technology in air, power and flow solutions. Our passionate people, expertise and service bring sustainable value to industries everywhere.

Portable Air is a division within Atlas Copco’s Power Technique business area. The division designs, manufactures and markets a comprehensive range of mobile and energy-efficient compressors, hand held light-demolition tools and industry focused solutions, such as high-pressure boosters and quality air equipment. The products are used in a wide range of industries including construction, mining, oil and gas, and rental. The divisional headquarters are located in Antwerp, Belgium. Principal product development and manufacturing units are located in Europe, Asia, South America and North America.

Power and Flow is a division within Atlas Copco’s Power Technique business area. The division designs, manufactures and markets a comprehensive range of mobile and energy-efficient generators, light towers, and pumps. Along with associated accessories and connectivity solutions.

The products are used in a wide range of industries including construction, industrial, mining, dewatering, and rental.

The divisional headquarters are located in Zaragoza, Spain. Principal product development and manufacturing units are located in Europe, Asia, South America and North America.
RTI Real Time Instruments

Delivering an updated measurement every minute, onbelt analysers provide insights into process performance that are unobtainable to traditional sampling system results. Real-time monitoring enables adjustment of process systems and empowers plant operators to minimize losses in efficiency from process excursions.

In Namibia, the GammaScan analyser developed by Real Time Instruments, can measure U3O8 to better than 50 ppm and is able to be employed to identify high, medium and low quality ore grades, so that each can be processed separately.

The minerals industry also understands the benefits of onbelt microwave monitors being used to provide operators with moisture analysis of their ore every second. For example, if plants have regular, second-by-second analysis of the moisture content of the incoming ROM, then down-stream processes may be adjusted to achieve greater efficiencies and in fact, increase throughput.

RTI’s AllScan analyser, based on Prompt Neutron Activation Analysis (PGNAA), measures the elemental composition of a range of ores every minute as the ore flows along a conveyor belt. The analyser was designed to both maximise the number of gamma rays reaching the detectors from the material being analysed, as well and being easy to install and maintain.

Maximising the counts measured for the ore means that a smaller source is used. A smaller source means less shielding is required to reduce the count rate around the analyser to very low levels accepted by regulatory authorities. This results in the AllScan® only weighing about 1.2 tonnes and, is able to be bolted to the conveyor structure - expensive infrastructure is not required to install the analyser. The zinc industry use the onbelt AllScan elemental analyser to identify gangue in the ROM feed. Simple calculations demonstrate that by removing even a few percent of gangue from the stream coming into the plant, the increase in yield and plant efficiency, will pay back the AllScan investment in a few months. The onbelt AllScan can be installed in blending, sorting and product control applications across the plant to remove bottlenecks and minimise the risk of out of spec processes.

A new development has seen the AllScan being used as a slurry analyser as well. In this application, the technology can measure the elemental concentration of the slurry as it passes through the AllScan’s measurement zone.

Note that RTI also supplies a range of complementary analysers, such as metal detectors and belt weighers. RTI understands the importance of local support and services analysers around the world, through their agent network bolstered by factory assistance via 3/4G remote connection to the analysers.

RTI’s installation base now extends to more than 50 countries around the world.

They are always looking for new applications, while maintaining focus on their traditional markets where they already know that the analysers provide opportunities for operators to improve their plant efficiencies.

Please contact the African Marketing Manager, Michael Edwards, michaele@rtiaustralia.com for more information.
Changing the landscape of centralised power supply

As a global frontrunner in the energy transition, Worley is helping customers navigate the complexities of transitioning to decentralised energy supply with its distributed energy systems (DES) global subject matter experts and regional project delivery teams.

Assuring customers resilient, reliable and cost-efficient energy, Worley’s DES solutions take the guess work out of harnessing and optimising renewable energy, energy storage, and hybrid systems.

The centralised power systems are shown to be less reliable and more carbon intensive, industries in South Africa and across the continent are turning to distributed renewable energy sources to supplement or back up traditional supply. However, as these renewable energy propositions advance and serve more business critical loads, they become more complex to design, build, operate and integrate.

This is where Worley’s DES solutions can add immense value, by providing easy, cost-effective optimisation for complicated, multi-streamed energy systems.

Denver Dreyer, Senior Vice President for Mining, Minerals and Metals (MM&M) – Europe, Middle East and Africa, says that distributed energy systems offer many advantages for Africa’s mining and heavy industry sectors in particular, where reliable power is essential for production uptime and the safety and health of miners deep underground.

“South Africa’s mining industry is under increasing pressure to switch to alternate energy sources in order to reduce its dependence on fossil fuels, keep miners safe, and meet production targets. We have seen encouraging proposed legislation that will help the industry meet these requirements,” says Dreyer.

Recently South Africa’s Mineral Resources and Energy Minister indicated the government’s intention to allow mining companies to generate their own energy for self-use, while President Ramaphosa stated earlier this year that government would open the electricity market for energy users to generate electricity for their own use.

As well as providing reliable and cost-effective power solutions for businesses, distributed energy systems can also have positive socio-economic side benefits for emerging economies as businesses offset their carbon footprint by improving the living standards and availability of services to these communities.

“Distributed energy systems go beyond business needs and can improve the supply and reliability of services in emerging economies. It’s also of great benefit to customers exploring remotely located resources such as oil and gas, as getting transmission lines to these points can be prohibitively expensive,” says Dreyer.

Furthermore, energy users have grappled with how to quickly and cost-effectively devise and install off-grid energy for their specific usage requirements. Often assessments are lengthy and expensive with an unwieldy one-size-fits-all approach.

Dreyer says that Worley is able to make swift recommendations through its world-class software platform, and develop tailored solutions centred around customers’ key drivers, be it accessibility, reliability, cost-efficiency, or emissions reduction.

Andrea Ruotolo, Worley’s Global Lead for Distributed Energy Systems, unpacks the technology behind the business’ unique capability, which is able to optimise and integrate multiple energy sources in the project design phase to ensure least-cost, best-fit solutions for specific end uses.

“Worley’s distributed energy systems are designed by the world’s most flexible and powerful optimisation software, providing
faster and better DES sizing and configuration optimisation, while removing the barrier of the cost and slow time to obtain results of feasibility studies done by other methods. Our new digital business, VECKTA, is also technology agnostic, unlike many vendor-led approaches, so we offer an unbiased, technically and financially optimised solution from cradle to cradle,” she explains.

VECKTA, the Energy Transition Platform™, harnesses cutting-edge technology to perform microgrid and DES technical and financial optimisation. Incorporated as a joint venture between Worley, which has over 130 years’ experience in power, and XENDEE, the world’s leading software developer for DES design and optimisation tools, VECKTA gives Worley the ability to design and optimise distributed energy systems more quickly, accurately and affordably than any other company, while supporting pushing the edge of innovation with the ability to model all possible technical solutions.

Beyond design and optimisation, VECKTA also supports procurement and financing of complete, turnkey microgrids and other DES.

“VECKTA is virtual marketplaces, where people and companies who want a distributed energy system can design it, choose the technology, locate a vetted provider who can build it, and access competitive financing for it,” explains Ruotolo. “It’s a revolutionary way to overcome the fragmentation in the industry.”

Powering this virtual marketplace is XENDEE’s optimising software, which takes into account the specific operating and financial requirements of each individual client, including location, status quo utility costs, regulatory compliance and carbon emissions.

Ruotolo says that Worley’s distributed energy systems cover a diverse array of distributed energy generation, distributed energy storage systems, and monitoring and controls systems. It offers higher levels of reliability and resilience than other energy systems to provide a tailored, cost-competitive source of always-on power for any energy-intensive user.

On-site advantages include a reduction in energy costs, improved safety and business uptime, and reduced emissions, while ancillary benefits for the surrounding grid include voltage and frequency support, black start support, and overall improved power quality and reliability. These benefits can be monetised by the system owner through sales to the grid operator, and improve project economics.

“VECKTA represents the best technology available in the energy space combined with unique access to technical and financial information. Its marketplace platform can connect energy users with providers, ultimately delivering complete microgrids and distributed energy systems, including financing if required. This offers Worley’s customers cheaper power, reduced emissions, improved energy reliability and resilience, and new revenue streams,” says Ruotolo.

Dreyer adds that Worley has successfully delivered over 2 000 new energy projects globally and can service the full or individual parts of the value chain.

“We are in a strong position as a leading player in the transition to distributed energy systems that offer so much more than the centralised systems of the past.”
The Health and Safety Project in the Southern African Mining Industry

The Health and Safety Project in the Southern African – German Chamber of Commerce and Industry (SA-German Chamber) is the official representative of the German Industry in the SADC region. With more than 600 members (both African and German businesses), its principle objective is to promote and facilitate bi-lateral trade relationships between the region and Germany. The SA-German Chamber is the official representative of 3 trade fairs in Germany (Koelnmesse, Messe Düsseldorf and Innotrans) and facilitates the participation of German companies in African trade fairs such as the Investing in African Mining Indaba and the DRC Mining Week. It also offers market bi-lateral market entry services that range from providing market information, PR and marketing services and vocational training to its clients. The activities of the SA-German Chamber are carried through its Competence Centres for Training and CSR; Agriculture; Water; Sustainable Energy; Industry and Mining and Mineral Resources (CCMR). The CCMR is located in Johannesburg, South Africa, and is responsible for Trade Relations between Germany and 11 African countries, namely:

1. South Africa
2. Lesotho
3. Namibia
4. Botswana
5. Zimbabwe
6. Mozambique
7. Tanzania
8. Democratic Republic of Congo
9. Zambia
10. Angola
11. Central African Republic

The CCMR is aligned to the Raw Materials Strategy of the Federal Republic of Germany. Core objectives of the strategy include “helping industry to develop synergies from Sustainable economic activities” and “creating transparency and good governance in resource extraction”. In implementing the strategy the, the German Government, through the Federal Ministry of Economic Affairs and Energy (BMWi) promotes socially responsible mining by supporting various projects globally. Business Integrity, Planning for positive post mining legacies, social responsibility and environment responsibility are critical aspects of responsible mining. Corporate Social Responsibility (CSR) and Mine Health and Safety (MH&S) are integral to social responsibility. As such the CCMR (supported by the BMWi) embarked on a Mine Health and Safety project in 2018 and the project is planned to run until end of 2020.

The first phase of the project (2018) was a best practice report (publication) on mine health and safety. The purpose of the publication was to report on the best practices in the realm of MH&S and create awareness of through a series of workshops with MH&S professionals in the SADC region. The CCMR identified that these practices in CSR and MH&S were being implemented in South Africa’s (SA) mining industry and as such the publication focused on SA. The publication was endorsed by the prestigious Wits Mining Institute and received media coverage from the mining Weekly, Engineering News, Mines Online and other mining publications.

Phase two of the project (2019) involved the hosting of Mine Health and Safety Workshops in the SADC region. These were held in Sowa Town and Gaborone (Botswana), Kathu and Johannesburg (South Africa), Luanda (Angola) and Maseru (Lesotho). Various experts from the Minerals Council and Independent Consulting Firms and Service Providers gave talks on various issues ranging from Fatigue Management, Traffic Management in Open Pit Mines, Occupational Health and Risk Management. The workshops proved to be very successful with Mr Charles Siwawa (CEO, Botswana Chamber of Mines) saying after the event that “the vibes all week point towards a well-run workshop with good concepts that the guys are able to practically implement” and Mr Ntsane Makhetha (SHC Manager, Lihlebong Mining Development Company-Lesotho) saying that “the seminar made an invaluable impact and was recognised widely”.

Phase 3 of the project was planned involve the hosting of workshops in Angola, Namibia, Democratic Republic of Congo, Mozambique, Zambia and Malawi in 2020. However, due to the Covid-19 global pandemic the workshops will be replaced by A Mine Health and Safety Webinar where participants from the region can attend. Furthermore, in partnership with Minerals Council of South Africa and Afriforte (North West University), the CCMR will run a Mental Health Promotion and Connect with Staff project on Afriforte’ COVID-19 Debriefing Platform. The project aims to assess the state of the mental well-being of mineworkers in light of the Covid-19 pandemic. The objectives of the assessment is to assist mines deal with mental health issues in line with ISSA Mining’s Vision Zero for mine health and safety initiative. The project will involve the physical screening of mine employees at 10 South African mines as well as the remote screening of mine employees at some mines in the SADC region.

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