

DIGITALISATION

Industries realising the potential of going digital **P20**

POWER

Smart grids raise electrification hopes **P26**

CONSTRUCTION

Innovations at the heart of hauler design **P33**

MINING

Embracing modern technology to enhance operations **P43**

SEPTEMBER 2022

African Review

of BUSINESS and TECHNOLOGY



P24

NIGERIA'S GRID OVERHAUL

The bold restructuring initiative transforming the country's energy network

P28



"We have to be good citizens of the world and achieve net zero, but this will happen over time."
Olalere Odusote, Commissioner of Energy and Mineral Resources, Lagos State

P44

SAFETY IN MINING

Changing mindsets to keep workers safe

P48

WATER PUMPS

Serving Africa's water needs



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Cover picture: Siemens Energy Power Transformer Factory, Trento, Italy, where equipment is being prepared for Nigerian soil as part of the Presidential Power Initiative.

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Cover Inset: Olalere Odusote, Commissioner of Energy and Mineral Resources, Lagos State, Nigeria.

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Editor's Note

Welcome to the September issue of African Review magazine. Inside, you'll find original content and analysis on key industries, from power and mining to construction and transport, to help your company keep abreast of the latest developments and make better, more informed decisions on the ground.

In the energy sector, we have an exclusive interview with Olalere Odusote, Commissioner of Energy and Mineral Resources for Lagos State, one of the most influential men in Nigeria's power sector today (page 28).

Our power coverage focuses on steps to boost the continent's transmission and distribution infrastructure through smart grids, private investment and other means (pages 23 and 26).

Major infrastructure projects featured in this issue include the imminent launch of the Lekki Deep Sea Port in Nigeria, a flagship scheme that will serve as a conduit for West African trade (page 36). Look out too for various roads, highways and other transport projects launched or completed recently, right across the continent (page 34).

As well as up-to-date project news, our mining coverage this month focuses on the impact of technology (page 43) and the importance of safety, perhaps the most essential aspect of all (page 44).

With African Review we bring you only trusted information, sourced by our international team of writers and experts. Stay in the loop with our 24/7 online portal: www.africanreview.com

Martin Clark, Acting Editor

Contents



16 Mobile technology
The mobile industry's relentless expansion across the globe is bringing benefits in the form of fast financial services but is also opening the door for cyber crime.

20 Digitalisation
Kerry Grimes, head of global partners at AVEVA, explains how the company is working with renowned partners to support African industries in their efforts to go digital.

23 Distribution
Private sector initiatives have the potential to mobilise the huge investment needed to upgrade the continent's power networks.

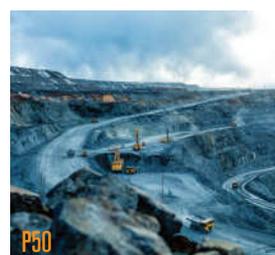
24 Nigeria's energy overhaul
Oladayo Orolu, head of business development and government affairs at Siemens Energy, describes the bold restructuring initiative which is currently reshaping Nigeria's grid.

33 Haulers
Operator safety and climate impact are among the chief concerns shaping the design of new haulers arriving on the construction market.

36 Lekki Deep Sea Port
As the first vessels arrive, expectations are mounting for Nigeria's new deep sea port, which holds the potential to become a major conduit for trade into West Africa.

44 Mining Safety
Representatives from OIM Consulting explain how changing mindsets could be the key to achieving zero harm mining.

48 Pumps
The water pumps working behind the scenes to meet Africa's extensive water needs.



AMEA Power launches construction of 34MW solar plant

AMEA Power, a leading renewable energy operator, has joined forces with its partner GPM Holding and commenced the construction of its first project in Morocco.

The 34MW power plant project recently held its groundbreaking ceremony in Hjar Nhal, south of Tangier in northwestern Morocco.

The future solar project has been developed by GreenPower Morocco 1, a project owned and operated by AMEA Power and GPM Holding. Located in Tangier, the power plant has an annual planned production of nearly

66,149MWh of power. Upon completion, the project will supply clean and affordable power to more than 19,200 households, saving an estimated 39,888 tonnes of CO₂ emissions every year.

A 25-year Power Purchase Agreement (PPA) has been signed in partnership with Amendis, a subsidiary of Veolia Morocco, in charge of the safe distribution of drinking water and electricity.

The US\$37mn solar project has been financed by Attijariwafa Bank, a major local commercial banking entity. The project has been developed under the 13-09 framework relating to renewable energy for corporate PPAs, with a PPA recently being signed with a well-established Moroccan commercial and industrial player. The 13-09 framework encourages the development of renewable sources in order to promote energy security and access.

In April 2022, AMEA Power announced that it had been awarded two solar projects, totalling capacity of 72MW, following a successful international bidding process across Morocco – a bidding effort that was also established under the 13-09 framework.

Hussain Al Nowais, chairman of AMEA Power, commented, “We are delighted to have successfully codelveloped this project with our partner GPM Holding. This is AMEA Power’s first project to reach financial close in Morocco. We have a strong portfolio of solar and wind projects at an advanced stage of development in this beautiful country, a close friend of the United Arab Emirates.

“Having succeeded in positioning itself as a world leader in renewable energy... we will continue to deploy all means, as an international renewable energy developer, to support the country.”



Image Credit: Adobe Stock

Annual production will top almost 66,149MWh of power.

SUPPORTING CLIMATE RESILIENCE IN MOROCCO

The Morocco Integrated Disaster Risk Management and Resilience Program has helped strengthen Morocco's approach to disaster and climate resilience, promoting the development of a comprehensive national Disaster Risk Management (DRM) strategy, supporting structural risk reduction investment for more than 174,000 beneficiaries. The investment insured close to nine million people against bodily injury in catastrophic events, helping to establish a solidarity fund protecting close to six million of the most vulnerable members of Morocco's population.

Morocco remains among the countries most exposed to geological and climate-related hazards across the Middle East and North Africa (MENA) region.

The World Bank provided estimates that natural disasters, such as flooding, earthquakes and drought, cost the nation more than US\$575mn every year.

Rapid urbanisation and climate change present a growing number of threats to increase the frequency and severity of weather-related events and disasters.

In order to address the challenges that come from intensifying disaster and climate risks in Morocco, the Morocco Integrated Disaster Risk Management and Resilience Program has sought to improve the institutional and structural frameworks to finance disaster risk reduction. This framework aims to strengthen financial resilience to natural disasters for targeted populations.

The World Bank has relied on a mix of finance and technical assistance to achieve its objectives within the projects. Two IBRD loans financed a comprehensive Program-for-Results (PforR), the first time this financing instrument has been used by the World Bank for DRM operations.

EBRD LEADS MOROCCO'S FIRST GREEN INFRASTRUCTURE BOND

The European Bank for Reconstruction and Development (EBRD) is set to invest in a certified green bond issue by the ONCF, the Moroccan national railway operator, to refinance debt used to build an electrified high-speed rail line across the country.

Financing is related to the Al Boraq train, which started operating in Morocco in 2018 as Africa's first high-speed railway system. The electrified rail line significantly reduces journey times between Tangier and Casablanca, and promotes a modal shift from more carbon intensive alternatives.

This first cooperation between the EBRD and ONCF is a key milestone, marking Morocco's first green bond in the infrastructure sector and continuing ONCF's impressive track record. The EBRD is the only international investor in the bond, which is aligned with the Climate Bonds Standard.

► BRIEFS

Nokia to modernise Orange Egypt network



Image Credit: Adobe Stock

Orange Egypt will continue its partnership to enhance service reliability.

Orange Egypt has extended its partnership with Nokia by five years to modernise its Subscriber Data Management (SDM) solution to provide a superior subscriber experience, allowing the operator to enhance service reliability while preparing the system for the launch of 5G. Ayman Amiri, chief technology officer at Orange Egypt, said, "The modernised, industry-leading Nokia SDM solution will help us better address the evolving needs of our customers."

ADNOC acquires stake in TotalEnergies Egypt



Image Credit: ADNOC

The agreement is worth approximately US\$186mn.

ADNOC Distribution has announced an agreement with TotalEnergies Marketing Afrique SAS to acquire a 50% stake in TotalEnergies Marketing Egypt LLC (TotalEnergies Egypt) for approximately US\$186mn, with an additional add-on of up to US\$17.3mn if certain conditions are met. TotalEnergies Egypt is among the top four fuel retail operators in Egypt, and the acquisition marks another important milestone in ADNOC's expansion plans.



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Paratus opens world class data centre in Windhoek

The new Paratus Namibia data centre (DC) has opened in Windhoek allowing, for the first time, colocation clients to have the freedom of choice as well as access to world class infrastructure hosting services.

Any client hosting within the facility will be able to choose which telecommunications provider they wish to purchase services from. The campus boasts a high availability environment, with resilience at each infrastructure level, from power to cooling, carrier interconnects and extremely low latency, all backed by a bank of international ISO certifications and PCI DSS certification.

Chief operations officer of the Paratus Group and chief executive officer designate, Schalk Erasmus, said, “Armada is one of a kind, and a one-stop shop for businesses of all sizes to compete at world-class levels. We have invested heavily and appointed the best designers and engineers to make Armada the most secure, environmentally friendly and efficient facility in the country. Effectively, Armada will provide Namibian businesses with the opportunity to participate in the fourth industrial revolution (4IR).”

The facility will enable businesses to host their ICT infrastructure, providing 24/7 access in a secure and world class Tier III-equivalent DC. Armada has been designed to exact and precise standards, leveraging the latest physical and virtual security and the highest possible uptime. The DC will also offer businesses a colocation solution with a resilient infrastructure environment for clients to host their equipment in.

Moving ICT equipment offsite to a fully secured facility offers resilience in connectivity, power, cooling, and features fire suppression and security capabilities that traditional onsite set-ups might struggle to achieve economically.

The carrier neutral facility will offer various colocation services, from half-cabinets to multi-tenant rows and private cages. Key features of the facility include 2MW Power Capacity (Phase 2), dedicated generators, a diverse power feed design, cold aisle containment and inter-resilient CRAC cooling units.



Image Credit: Paratus

Colocation clients will have the freedom of choice and access to exceptional infrastructure hosting services.

SOETWATER STARTS OPERATION IN NORTHERN CAPE

Soetwater wind farm, which is located in a remote part of the Karoo Hoogland Local Municipality in the Northern Cape, will be able to generate 585GWh every year, potentially averting the emission of approximately 600,000 tons of CO₂ into the atmosphere annually.

Awarded to Enel Green Power in April 2013 as part of round four of South Africa’s Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), the wind farm is supported by a 20-year Power Purchase Agreement with South African energy utility provider, Eskom. It features Vestas V136-4.2MW wind turbines, the largest on the African continent to date.

Soetwater wind farm brings the number of EGP RSA wind farms in operation up to seven, including Nojoli (88MW), Oyster Bay (140MW), Nxuba (140MW), Garob (140MW) and Karusa (147MW).

Collectively, the renewable energy supplier now has 12 operational wind and solar projects in South Africa.

Manuele Battisti, country manager of EGP RSA, said, “The construction process was hampered at times by stop/start delays in response to Covid-19 lockdowns and restrictions. There were difficulties relating to the transportation of people between provinces, as well as experts and commissioning teams from other parts of the world. This highlights, all the more, what a significant achievement this is for both the project team, and the country.”

EGP RSA is committed to playing a crucial role in helping the country solve its energy crises. It employs local staff and hires local contractors in the construction process, with the aim of promoting meaningful socio-economic and enterprise development. At the peak of the construction phase, the project employed 1,160 people.

SA AND BOTSWANA DEVELOP INTER-TRADE RELATIONS

South Africa and Botswana have agreed in principle on joint development initiatives to be implemented by Transnet Freight Rail (TFR) and Botswana Rail (BR) to improve inter-trade between the two countries. The initiatives will allow landlocked Botswana to access South African ports in a more efficient manner.

The entities will collaborate to fix parts of the 126 km rail line between Swartruggens and Mafikeng, which will enable heavy-haul trains travelling from Botswana to the ports of Richards Bay and Durban for export markets. This will be funded jointly by the two governments.

The two entities will also build a connecting line from Mamabula in Botswana to Lephalale in Limpopo, currently running export coal to Richards Bay. TFR and BR will further collaborate on security interventions to curb the scourge of cable theft and infrastructure vandalism.

BRIEFS

WIOCC brings Equiano to SA

WIOCC has facilitated the landing of Google’s Equiano cable to South Africa. Its



Image Credit: WIOCC

Equiano capacity will be extended into a new Open Access Data Centres facility currently undergoing fit-out in Rondebosch, Cape Town. Here, clients can interconnect with terrestrial infrastructure providers, cloud networks, partners, suppliers and other ecosystem members. OADC said it will have three new core data centres – two in Cape Town and one in Johannesburg – by the end of Q3 2022.

Eskom signs battery energy storage contracts



Image Credit: Adobe Stock

Eskom has awarded five-year contracts to two successful bidders – Hyosung Heavy Industries and Pinggao Group – for the provision of battery storage solutions in terms of its flagship battery energy storage system (BESS) project. This is the first part of the 500MW BESS initiative announced by President Cyril Ramaphosa as part of the Government’s measures to address South Africa’s long-running electricity crisis.

Cogmanskloof Pass opens in Montagu

The Western Cape Minister of Infrastructure, Tertuis Simmers, and Langeberg Mayor, Schalk Van Eeden, have officiated the ribbon cutting of the Cogmanskloof Pass in Montagu.

This marked the completion of the Western Cape Government’s rehabilitation of 13.4 km of Trunk Road 31/2 from Ashton to Montagu through Cogmanskloof Pass.

Another part of the project – the Ashton Arch bridge – was recently awarded the 2022 Fulton Award for the Best Infrastructure Project and received commendation for Innovation and Invention in Concrete. It is anticipated that more accolades are to follow for the project as it has been entered into the 2022 CESA AON Engineering Excellence Awards.

Construction of the pass project commenced in May 2019 and it entailed the reconstruction of the road from the West of Ashton through the Cogmanskloof, onto the East of Montagu. Three bridges – Ashton, Boy Retief and Voortrekker – were also replaced. After completion, 42% of the contract value was allocated to the creation of economic opportunities and entrepreneurial capacity in the surrounding areas.



Image Credit: Western Cape Government

The ribbon cutting marked the completion of the Government’s rehabilitation of 13.4 km of Trunk Road 31/2 from Ashton to Montagu.

ZIMBABWE PLANS HI-TECH PARK IN HARARE

The President of Zimbabwe, Emmerson Mnangagwa, broke ground to launch the US\$500mn Zim Cyber City, a hi-tech park near Harare, Zimbabwe. It is being developed by UAE-based diversified industrial conglomerate, Mulk International.

Sprawled across 2.5mn sq ft, Zim Cyber City is under construction in Mount Hampden, New Harare. The master plan includes a newly completed parliament building, ministry buildings as well as high-end residential and commercial buildings. Many compare it to the Downtown and Sheikh Zayed Road developments in Dubai. According to reports, the mega-project will include 250 townhouses, more than 80 luxury villas and a 15-storeyed commercial tower, among other facilities.

“Zim Cyber City stands to become Zimbabwe’s landmark project, offering a world-class high-end lifestyle to all the residents. Our Government fully supports this exciting development, and I congratulate chairman, Shaji Ul Mulk, and his company Mulk International, for bringing Zim Cyber City to Zimbabwe,” Mnangagwa said.

The project was proposed to Mnangagwa by Mulk International during his visit to Dubai World Expo 2020. Mulk International was granted an exclusive licence to establish a blockchain and digital assets special economic zone. It is the first such large-scale investment by a UAE-based business house in Zimbabwe, which is set to strengthen bilateral relationship between the countries.



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SCAN FOR MORE INFORMATION



Partners aim to make Nigeria’s telecom infrastructure net zero

Hotspot Network Ltd. (HNL), a leading telecommunications service provider, has announced a partnership with Husk Power Systems, operator of the largest fleet of rural solar-hybrid microgrids, to transition mobile towers from diesel generation to solar power in Nigeria and to bundle electricity and connectivity solutions for off-grid communities in the country.

Already, the two companies have converted nearly 20 of Hotspot’s mobile towers from diesel to solar and are looking to complete at least 100 projects by the middle of 2023.

Nigeria’s estimated 25,000 telecom towers and their base transceiver stations (BTS) use 1.25mn litres of diesel daily. Around 50 tonnes of CO₂ could be avoided annually per tower if converted to solar.

By working with Husk Power, Hotspot is able to go zero-carbon from design to installation, reducing both capital and operational costs, accelerating their energy transition and avoiding risks from global diesel price volatility.

In addition, the two companies have started to collaborate in introducing cost-effective energy and digital communications services to off-grid communities. Already two communities where Husk was operating solar microgrids have accessed mobile coverage for the first time through Hotspot. The previous lack of coverage meant an inability for local businesses and households to take advantage of mobile payment and other digital services.

Husk Nigeria’s country director, Olu Aruike, commented, “By partnering with commercial and industrial businesses, we can speed up Nigeria’s C&I energy transition, and also open up more low carbon, modern services to drive economic opportunities where they didn’t previously exist.”

Founder and chief executive of Hotspot Network, Morenikeji Aniye, added, “We believe firmly that the key to unlocking sustained global economic growth is through digital inclusion of the rural communities; providing them with access to the needed tools, funding and markets to distribute their various commodities and trade.”



The two companies have converted nearly 20 of Hotspot’s mobile towers from diesel to solar.

Image Credit: Husk Power Systems

RMB UNVEILS FIRST PROJECT IN CÔTE D’IVOIRE PORT

Rand Merchant Bank, in partnership with two commercial bank organisations, has acted as mandated lead arranger of a 10-year senior debt financing package for the Terminal Industriel Polyvalent de San Pedro (TIPSP) in Côte d’Ivoire’s secondary port, San Pedro.

The concession reflects a 35-year agreement between TIPSP and the Autonomous Port of San Pedro, the state-owned port authority, which encompasses the design, construction, financing, operation and maintenance of the greenfield multi-purpose bulk terminal.

Amber Bolleurs, senior transactor in the infrastructure sector solutions team at RMB said, “Our involvement in this transaction conveys our commitment to the West African region.

“Further to this, the complexity of the market risk, which was analysed to establish bankability of this project, the timeline to reach financial close, and the involvement of multiple French and English-speaking funding partners and sponsors showcased RMB’s dedication to public-private partnerships and concessions as a means to delivering world-class infrastructure.”

The San Pedro facility, originally constructed in the 1970s, is currently congested with limited capacity to support the growing volumes of goods handled by the port. The concession and construction of the dry bulk port is expected to have a significant developmental impact on the region, enabling a more competitive import and export solution for commodities through the western corridor of the nation.

Bolleurs concluded, “We are proud to work alongside our funding partners, to service key sponsors, on this high-impact project. We look forward to pursuing further infrastructure projects in the West Africa region.”

WEBB FONTAINE ANNOUNCES NNSW TRADE BOLSTER

Webb Fontaine and the Niger Chamber of Commerce and Industry has joined forces with a host of partners to launch the Niger National Single Window (NNSW) platform. The single window platform will bolster foreign trade, increasing Niger’s revenue, while improving the overall speed and efficiency of trade.

Managing director of Webb Fontaine Niger, Ali Karim Alio, explained, “It is Webb Fontaine’s goal and mission to assist and train the trade community in using the new NNSW platform, and will soon open an Internet centre to further power the adoption of the new platform.

“With great pride, we will continue to work with the Niger Government to improve the country’s business climate using cutting-edge trade technology.”

The Niger trade community can now carry out clearance processes online, in a more efficient and effective manner. The platform offers a single point for import, export and transit operations.

► BRIEFS



The company recently celebrated its 10th anniversary.

Tizeti eyes expansion

In line with its commitment to bridge Africa’s digital gap, the solar-based Internet and voice service provider Tizeti is set to expand its operations in Nigeria and Ghana, and expand into Côte d’Ivoire and Togo. 10 years into its operations, with over 2.8mn subscribers, the company is debt-free and dedicated to expanding across the Francophone and Anglophone nations in West Africa.

Image Credit: Tizeti

ROGEAP launches in Côte d’Ivoire and The Gambia

Stakeholders in the renewable energy sector of The Gambia and Côte d’Ivoire took part in the official launch of the Regional Off-Grid Electricity Access Project (ROGEAP).

Image Credit: ECOWAS



Stakeholders celebrated the launch.

ROGEAP aims to increase access to sustainable solar energy services in the 15 ECOWAS member states and four other African countries (Mauritania, Central African Republic, Chad, and Cameroon).

Wärtsilä plant upgrade to enable expansion for Senegal's largest gold mine

The technology group Wärtsilä is set to supply an 18MW extension to the Sabodala-Massawa gold mine complex in Senegal.

The company will integrate a number of upgrades to the existing electrical and automation system at the mine. The project will allow for the complete integration of all the site's power generating capacity, while ensuring the availability of the needed electric power to maintain and expand the mine's growing production schedules.

"Wärtsilä has a depth of experience in delivering power solutions for mining operations around the world. Not being connected to the grid means that the captive plant has to be capable of providing a reliable supply of electricity at all times, since no power equals no production. The Wärtsilä 32 engines selected for this expansion project have established a strong reputation for high efficiency and reliability under even the most difficult ambient conditions, eliminating revenue losses from power shortages," said Marc Thiriet, energy business director, Africa West, Wärtsilä.

The order with Wärtsilä was placed by Sabodala Gold Operations and it has been booked in Wärtsilä's order intake in Q3 2022. The project is set to be delivered under a complete engineering, procurement and construction (EPC) contract.

The three Wärtsilä 32 engines that are planned to be installed are 20% more fuel efficient than the plant's existing engines. The increase in efficiency minimises the environmental impact by reducing CO₂ emissions across the plant's operations.

Along with the increased efficiency and performance, the engines offer the flexibility to support a smooth transition to the integration of solar power and energy storage within the system.

The upgrades made to the electrical and automation system utilised by the mine will optimise the interconnection and control of the existing plant with the extension. The project is expected to be completed and commissioned by the end of 2023.

Thus far, Wärtsilä has installed 543MW of installed capacity across Senegal, spanning 20 power plants. 458MW of this capacity is under Wärtsilä long-term service agreements.



The new engines will offer better efficiency and support the energy transition.

Image Credit: Wärtsilä

GOVERNMENT OF GUINEA TO CO-DEVELOP RAIL AND PORT INFRASTRUCTURE

The Government of the Republic of Guinea, along with Winning Consortium Simandou and Rio Tinto Simfer, have confirmed the incorporation of La Compagnie du TransGuinéen (The TransGuinean Company) to further progress plans to co-develop the multi-purpose and multi-user infrastructure for the Simandou iron ore project.

The joint venture incorporation marks a key milestone in the implementation of a framework agreement signed in March 2022. The agreement has now been fully registered and established. Moving forward, the venture will be the central structure for the co-development of the rail and port companies of the Simandou iron ore development project.

Following the incorporation, all three parties will now develop the shareholding agreement, finalise cost estimates and funding, and secure all necessary approvals and permits required to continue development.

Winning Consortium Simandou and Rio Tinto Simfer have voiced their commitment to develop the rail and port infrastructures in line with internationally-recognised environmental, social and governance (ESG) standards.

Sun Xiushun, chairman of the Winning Consortium, said, "We are extremely grateful to our joint venture partners for the spirit of cooperation they have shown.

"The creation of La Compagnie du TransGuinéen is a positive step and builds a solid foundation."

Between them, Winning Consortium Simandou and Rio Tinto Simfer hold blocks 1-2 and 3-4 respectively, and will fully engage with stakeholders to transform the iron ore potential of the Simandou mountain range into a sustainable source of wealth for future generations of Guineans.

ECG HONES IN ON ILLEGAL METER BYPASSING

The Electricity Company of Ghana (ECG) has begun nationwide inspections and auditing on meter bypasses, power theft and other illegal activities resulting in lost revenue.

The investigation followed a six-week amnesty for all customers to report issues with their meters. Aimed at checking the integrity of commercial and domestic meters, the visibility exercise hopes to ensure customers are paying the right amount of money for the power they consume.

The regional general manager of Accra East, Bismark Ottoo, hoped the launch of the investigation will increase revenue collection and limit illegal power consumption.

He explained, "We are going to make sure that it succeeds so that the exercise is deployed to all other operational areas of ECG and this, we are going to ensure, happens within the shortest possible time."

BRIEFS

TERRA earns Green Terminal label



TERRA has earned the award, reflective of its minimised impact.

Terminal Roulier d'Abidjan (TERRA), which provides handling activities at the Port of Abidjan, Côte d'Ivoire, has earned the Green Terminal label issued by Bureau Veritas.

The accreditation reflects the significant reduction of environmental impacts in its activities.

Joël Broux, managing director of TERRA, said on the award, "TERRA is proud to receive the Green Terminal label, having worked for several years to reduce the environmental impact of its activities."

Jumia celebrates 10 years of Nigerian e-commerce



The company has been operating in Nigeria for 10 years.

Nigeria's leading e-commerce platform, Jumia, has commemorated its 10th anniversary of operations in Nigeria. A celebratory event presented the opportunity to host and honour key stakeholders in the Nigerian e-commerce industry, and explored the future of the logistics sector in Nigeria, e-commerce as the future of retail and the evolution in payment systems.

TANESCO and Masdar to develop renewable capacity in Tanzania

Masdar, a leading renewable energy company, has signed an agreement with Tanzania Electric Supply Company Ltd. (TANESCO) related to the development of renewable energy projects with a total capacity of up to 2GW.

The joint development agreement (JDA) was signed by Abdulla Zayed, head of business development & investment at Masdar, and Maharage Chande, managing director of TANESCO, on the sidelines of the Tanzania Energy Congress.

As outlined in the JDA, the two companies will establish a co-owned joint venture (JV) company to progress the project development.

Chande commented, “The agreement we are signing today will bring about a big revolution in the development of renewable energy in the country. Through the first phase of the collaboration, we expect to generate approximately 600MW, and we will continue with other projects until we reach 2,000MW.”

Zayed added, “Masdar and TANESCO are working together to support Tanzania’s sustainable development and to provide a secure, clean source of energy for the people of Tanzania. The signing of this agreement demonstrates Masdar’s commitment to the Tanzanian market and to the nation’s energy transition, supporting the target to reach 5,000MW capacity by 2025.

“We look forward to working with TANESCO to develop this ambitious programme and to provide a clean pathway for growth for Tanzania.”

TANESCO, the sole provider of electricity in Tanzania, is looking to add more renewable energy sources to the national grid to meet the country’s growing demand for power and increase energy access. The Tanzanian Government is targeting an electrification rate for the entire country of 75% by 2035.

Through the JV, the two companies are initially targeting the development of renewable energy projects with a capacity of about 600MW starting with solar photovoltaic and onshore wind. The JV will further explore the development of projects with a total capacity of at least 2,000MW.



The JDA was signed on the sidelines of the Tanzania Energy Congress.

SIEMON LAUNCHES LIGHTWAYS FIBRE ROUTING SYSTEM

Siemon, a leading global network infrastructure specialist with a notable presence in East Africa and the wider continent, has announced its new LightWays fibre routing system in Africa.

LightWays is a fully enclosed, flexible ducting system for protecting, segregating and managing fibre optic cables in the data centre environment. Each component has been specifically designed to protect fibre cabling from dirt and dust and to maintain proper bend radius.

LightWays comprises of a wide variety of straight solid and slotted duct, elbows, tees, crosses, reducers and outlets available in four different sizes. It features toolless joiners that completely eliminate the need for any drilling, nuts, bolts or other tools to connect or disconnect components.

Easy-access covers and removable protective end caps allow fibre cables to be added or removed from any pathway section at any time, without the need to disconnect system components.

The system’s low-profile Waterfall Outlet can be placed anywhere along the sidewall of straight sections to create vertical drop-offs with full bend radius control for safely routing fibre cables to and from data centre racks and cabinets. The Waterfall Outlet’s two-piece cover with hinged rear section makes it easy to access, add or remove fibres that bypass the outlet without disturbing those inside the outlet.

Prem Rodrigues, director for the Middle East, Africa & India/SAARC at Siemon, commented, “LightWays makes it easier than ever to effectively manage and protect critical links as they traverse between networking equipment, storage area networks and server clusters, while ensuring the capacity to support continued growth.”

KENYA AND ETHIOPIA SIGN POWER PURCHASE AGREEMENT

Ethiopia has agreed to sell 200MW of electricity to Kenya with a view to supplying up to 400MW in the future. The agreement was signed by the chief executive officer of Ethiopian Electric Power, Ashbir Balcha, and the managing director of Kenya Electric Light and Power Company, Goferi Muli, in the presence of state representatives from both countries.

It is hoped that the power purchase agreements Ethiopia is conducting with neighbouring countries is strengthening the economic, political and social ties between the countries.

So far, it has signed agreements with Sudan and Djibouti and has a memorandum of understanding with Somaliland, Tanzania, South Sudan and other countries.

BRIEFS

Airtel Africa’s confidence in Kenya



This investment reflects Airtel Africa’s continued confidence in the opportunities inherent in the Kenya market.

Airtel Africa, a leading provider of telecommunications and mobile money services, has announced that its Kenya subsidiary, Airtel Kenya Networks Limited, has purchased 60 MHz of additional spectrum in the 2600 MHz band from the Communications Authority of Kenya. This will support the company’s 4G network capacity expansion in the market for both mobile data and fixed wireless home broadband capability, and will allow for future 5G rollout.



The A350-1000s will increase the East African carrier’s capacity.

Africa’s first A350-1000

Ethiopian Airlines, Africa’s largest airline group, has upsized four of its A350-900s on order to A350-1000s - the largest variant of the A350 family.

Ethiopian Airlines Group CEO, Mesfin Tassew, said, “The A350-1000 is the best fit for our dense routes, and we believe that the upsizing will be instrumental in satisfying the increasing demand of customers in our vast global network across five continents.”

AD Ports partners Hutchison Ports to enhance Tanzania's market competitiveness

AD Ports Group, a leading facilitator of trade, logistics, and industry, has signed a memorandum of understanding (MoU) with Hutchison Ports, a leading port investor, developer and operator.

AD Ports and Hutchison Ports will identify joint investment and business opportunities related to feeder, logistics, and port activities across the GCC, Africa, and Asia. In addition, the two

organisations will form a partnership to operate within Tanzania, where they will work closely together to explore opportunities to further enhance the capabilities and market competitiveness of port operations across the East African country, including Dar Es Salaam Port.

Potential areas of focus include improving servicing to several of Tanzania's landlocked remote areas and neighbouring countries, cultivating more cargo sources, and the enhancement of existing supporting logistics and cargo processing facilities.

Captain Mohamed Juma Al Shamisi, managing director & group CEO of AD Ports Group, commented, "AD Ports Group continues to expand its reach around the world, in line with the vision of our leadership, and we offer our thanks for their wise guidance. We are pleased to announce the start of a new collaboration with Hutchison Ports. As a starting point, we will work together to enhance and elevate Tanzania port's standing as a world-leading trade hub. AD Ports Group will advance plans to develop and implement an innovative logistics, transportation, and digital port management system, as well as investing in the development of new infrastructure, such as logistics centres and new inland container depots around Dar Es Salaam Port."

Eric Ip, group managing director of Hutchison Ports, added, "Having operated in Tanzania since 2001, we are very committed to this market and its great potential. With strong support from local partners and the addition of AD Ports Group, this new partnership will certainly be greater than the sum of its parts. Together, we look forward to working closely with the Tanzania Port Authority to further develop Tanzania International Container Terminal Services as we strive to ensure Dar Es Salaam Port remains the premier gateway to the East African region."



The collaboration will focus on enhancing operations of both organisations across the maritime and logistics sectors.

Image Credit: AD Ports

UGANDA'S NEW ARMOURED VEHICLE FACTORY

Streit Group's new armoured vehicle factory has been formally opened by President Yoweri Museveni in Nakosongola, Uganda.

The factory was built in partnership with the National Enterprise Corporation (NEC) after being formally announced in October 2021. The new company, NEC-Streit Uganda, will provide a variety of security solutions.

Museveni commented, "I am happy to witness clear dividends in the form of production and assembly plants under NEC-private companies' joint ventures... I salute the progress that our scientists are making in those fields, acquiring the capacity to produce quality products to enable us to stand on our own, not only in the military space but in other areas of strategic importance to enhance our broad security."

Streit chairman, Guerman Goutorov, said, "It is a full-fledged manufacturing facility, not just assembly. All the products it will produce you can proudly say; made in Uganda."

Streit indicated it is willing to offer Uganda other equipment, including unmanned aerial vehicles, armoured boats, and communications equipment. Goutorov added that Streit's research and development will be shared with Uganda.

James Mugira, NEC managing director, remarked, "We will be manufacturing luxury armoured vehicles for VIPs but also manufacture police vehicles, armoured ambulances and bullion vans. Therefore, police, Bank of Uganda, private security organisations, VIPs and commercially important persons will benefit from this factory."

With 12 production facilities and 25 offices globally, Streit's entry into Uganda is a noteworthy addition for the country. The company's product range includes armoured personnel carriers, cash-in-transit and luxury and security vehicles.

ADDITIONAL GEOTHERMAL CAPACITY FOR KENGEN

KenGen's Olkaria I Additional Unit (AU) 6 Geothermal Power Plant has officially been switched on; injecting an additional 86MW into the national grid.

The power plant will increase KenGen's total installed energy capacity to 1,904MW with its geothermal capacity now standing at 799MW. The commissioning of the plant has been taken as a further demonstration of the Government's efforts to build a greener national energy pool.

KenGen board chairman, Samson Mwacheth, said, "This project is vital for our nation because considering that adequate supply of electricity is undeniably a primary enabler for our economic development. Through the experiences of this project, we are glad we managed to gain new experiences in geothermal development. Notably, the commissioning of Olkaria I Unit 6 propels us an inch closer to the geothermal gigawatt club."

BRIEFS

Hydropower project progresses in Burundi



The project's preparation included extensive consultations with local communities.

The Burundian Minister of Hydraulics, Energy and Mines, Ibrahim Uwizeye, has launched the construction works of the HV/MV substations and the lines associated with the Jiji and Mulembwe Hydropower Project.

The project, financed by partners including the World Bank, EU, AfDB and the European Investment Bank, will provide Burundians with affordable, clean, reliable and sustainable energy upon completion.

Image Credit: Ministry of Hydraulics, Energy and Mines

KEDA Ceramics opens factory in Kenya



More jobs are expected to be created in the future.

Peter Anyang' Nyong'o, Governor of Kisumu, has presided over the opening of KEDA Ceramics' International Miwani Factory.

With an initial investment of US\$50mn, which is expected to reach up to US\$160mn, the factory will have three ceramics tiles, two sanitary ware production lines and a fast moving consumer goods industrial park upon completion. So far the plant has created more 800 direct employment opportunities and at least 3,000 indirect jobs.

Image Credit: County Government of Kisumu

Upcoming Events Calendar 2022

SEPTEMBER

5-9

ELECTRA MINING AFRICA

Johannesburg, South Africa
<https://www.electramining.co.za/>

20-22

NIGERIA ENERGY

Lagos, Nigeria
<https://www.nigeria-energy.com/en/home.html>

20-25

IAA TRANSPORTATION

Hanover, Germany
<https://www.iaa-transportation.com/en>

OCTOBER

3-7

AFRICA OIL WEEK

Cape Town, South Africa
<https://africa-oilweek.com/Home>

4-5

GREEN ENERGY AFRICA SUMMIT

Cape Town, South Africa
<https://greenenergyafricasummit.com/>

18-21

AFRICA ENERGY WEEK

Cape Town, South Africa
<https://aecweek.com/>

24-30

BAUMA

Munich, Germany
<https://bauma.de/>

NOVEMBER

6-18

COP27

Sharm El Sheikh, Egypt
<https://www.cop27.eg/>

8-11

ECOMONDO

Rimini, Italy
<https://en.ecomondo.com/>

15-16

THE MINING SHOW

Dubai, UAE
<https://www.terrapinn.com/exhibition/mining-show/index.stm>

22-24

PROPAC WEST AFRICA

Lagos, Nigeria
<https://www.propacwestafrica.com/>

DECEMBER

5-8

THE BIG 5

Dubai, UAE
<https://www.thebig5.ae/>

AOW 2022 TO EXPLORE AFRICA'S EMERGING ROLE IN THE GLOBAL ARENA

With the Russia-Ukraine conflict pointing towards a change in the world order, Africa is increasingly finding itself in the limelight as a potential major oil-producing region. In the wake of current events, Africa Oil Week 2022 (AOW) is preparing to welcome governments, national and international oil companies, independents, investors, the G&G community and service providers who will have the opportunity to engage in heated discussions on the continent's emerging role on the international platform. As the former Nigerian President Olusegun Obasanjo recently commented, "The discussions at AOW will be pivotal in charting a new energy course for Africa. We will decide what is best for us."

Running from 3-7 October the event will be held in Cape Town, South Africa. This year, AOW will be exploring the theme 'Sustainable Growth in a Low Carbon World' as the organisers will also simultaneously deliver AOW's sister event, Green Energy Africa Summit. Since the COP26 that was held in 2021, South Africa has become a notable player in the energy sector as it closed long-term climate deals at the conference with France, Germany, the UK, the US and the European Union (EU) through the Just Energy Transition Partnership (JETP) to advance its goal of a net-zero carbon economy in 2050, especially in renewables, hydrogen and nuclear sectors.

Visitors to AOW can expect exposure to world-class industry speakers across all content sessions including the plenary, national showcases and breakout sessions, and get an opportunity to meet key oil and gas companies and services.

Some of the exhibitors this year include EnerMech, Airbus, Dug Technology, Aveon Offshore, Enverus, ENH, Oando, Schlumberger, Sulzer and CCG, among others.

In July, the Nigerian National Petroleum Corporation, a wholly state-run entity, was officially declared as a largely commercial enterprise – NNPC Limited. "NNPC Limited now will operate as a commercial oil



Speakers discussing the African upstream from the plenary stage at AOW 2019.

Image Credit: Hyve Group PLC

company with over 200mn shareholders with integrity and excellence," said Nigeria's President Muhammadu Buhari during its unveiling.

It is a huge development considering that Nigeria is the leading oil producer of Africa. But to what extent will the NNPC Limited be able to operate independently? How clearly defined are the roles of the government and the private stakeholders in the new company? Participants at AOW will try to seek answers to such burning questions, and like Paul Sinclair, AOW vice-president of energy and director of government relations, said, "The global oil industry is clamouring for the chance to gain further clarity on the new laws. We look forward to doing just that, at Africa Oil Week."

Last year, AOW was held in the UAE, where Suhail Al Mazrouei, Minister of Energy and Infrastructure for the country, expressed his support for Africa in his keynote speech, stating, "As a close partner of Africa, we hope to facilitate capital flow that will result in socio-economic development for Africa and the Middle East."

Find out more information including details on participation here:
<https://africa-oilweek.com/Home>

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▶ QUOTES

“The economic potential of women is quite apparent and what is clear is that they need support to unleash this potential. South Africa boasts exceptional women entrepreneurs who are already playing a critical role in jump-starting the economy and getting the country’s food security, job creation and financial stability back on track after a tumultuous year.”



RUFARO MUCHEKA
Business development consultant –
Africa, at Jersey Finance

“Digitisation cannot be ignored anymore. Today an SME in Nairobi or Abidjan faces the same challenges as one in Sydney, Madrid, or Mexico in terms of efficiency gains. We want to equip these SMEs with a modern, fully integrated suite of business applications that can address their needs at a reasonable cost and boost their competitiveness.”

PATRICK LUKUSA
Director of Odoo KE LTD

“The uptick in vaccination coverage shows that African countries remain committed to Covid-19 vaccination. This is encouraging because vaccination

remains the most effective tool in our response to Covid-19 on the continent.”

MATSHIDISO MOETI
Regional director for Africa at WHO

“Since 2020, digital technologies have proven to be the lifeline that made our communications easy, our work going and businesses functioning. We can’t go back as we need to ensure digitalisation is deep-rooted in our economies since our ultimate goal is to create a single digital market for a united Africa.”

AMANI ABOU-ZEID
African Union commissioner for
infrastructure and energy

“Africa has the youngest population in the world but, at the same time, half of that population, the population of women, is still far from achieving its potential in participating in value creation. As we embark on this journey of economic empowerment for women SMEs in Tanzania, through the AFAWA Guarantee for Growth programme, we are very optimistic that the impact will be significant, long-term, and will drive the growth of the economy.”

JULES NGANKAM
African Guarantee Fund Group chief
executive officer

“Facilitating the trade of agricultural goods and inputs within and across national borders in West Africa is a key element to address food insecurity in the region.”

OUSMANE DIAGANA
World Bank’s vice-president for western
and central Africa

“Angola’s membership and shareholder status enables AFC to continue to support the Government in fostering the industrial transformation necessary to build a resilient and inclusive economy. We look forward to growing our partnership with the Government of Angola to serve not only in-country projects but across the central and southern Africa region.”

SAMAILA ZUBAIRU
AFC president & CEO

“The Africa Cloud Ecosystem [ACE] project will be a first of its kind, laying the foundation to facilitate the African continent to undertake this shift in the key sectors of economy, education, government, agriculture, and health, through the provision of a reliable ecosystem of data centres.”



RAUBIL DUROWOJU
African Development Bank (AfDB)
Zambia country manager on the launch
of the ACE project by the AfDB and the
Common Market for Eastern and
Southern Africa (COMESA)

AFRICAN REVIEW / ON THE WEB

A selection of product innovations and recent service developments for African business
Full information can be found on www.africanreview.com

PIC LEADS INFRASTRUCTURE INVESTMENT VIA AFC

Image Credit: Adobe Stock



AFC has a proven track record of developing key transformational projects on the continent.

The Public Investment Corporation (PIC), which has more than US\$150bn in assets under management, has planned an inaugural investment in the Africa Finance Corporation (AFC), the continent's leading infrastructure solutions provider.

PIC is set to make a US\$100mn equity investment in the AFC which follows recent equity inflows from the Seychelles Pension Fund, the Government of Sierra Leone, the Republic of Togo, the Central Bank of Guinea and further investment from the Ghana Infrastructure Investment Fund.

AFC has a proven track record of developing key transformational projects on the continent, providing pragmatic solutions for Africa's infrastructure deficit and challenging operating environment.

The corporation recently announced its joint acquisition of Lekela Power, Africa's biggest renewables independent power producer (IPP), with plans to more than double operating capacity of the operating assets within four years. Other AFC projects include the ARISE Special Economic Zone (SEZ) in Gabon, an industrial ecosystem building value from the forestry and minerals industry, which was last year certified as the world's first carbon neutral industrial zone by the Swiss verification group SGS.

PIC, as a shareholder, will benefit from co-investment opportunities and access to AFC's formidable project development and risk-mitigated projects on the continent.

RADISSON HOTEL GROUP EXCEEDS AFRICAN GROWTH EXPECTATIONS

Image Credit: Radisson Hotel Group



Radisson Hotel Group aims to have more than 150 properties across Africa by 2025.

Radisson Hotel Group has continued its ambitious African growth strategy in the first half of 2022 and confirmed more than eight hotel openings and market entries with more than 1,000 rooms across the continent.

At the start of 2022, the group set out plans to add more than a dozen hotels across the continent and is on track to meet this goal, having delivered two thirds of the planned growth to date.

In the first half of 2022, the group expanded its presence in Madagascar with a portfolio of three hotels, becoming the largest international operator on the island, and the first Radisson branded hotel in East Africa, Radisson Hotel Addis Ababa Bole Airport, was signed in 2022. The Radisson Individuals brand was introduced to the continent with the opening of two new properties.

Radisson Hotel Group also announced the opening of Radisson Blu Hotel, Juba, South Sudan's first internationally branded five star hotel, and continued its resort growth strategy with the signing of Radisson Resort Dakar Saly in Senegal. In addition, the group reinforced its presence in Tunisia with the opening of Radisson Sfax and the rebranding of La Maison Blanche Tunis as a Radisson Individuals property. In South Africa, the group expanded its portfolio to more than 14 properties.

STANDARD BANK WEALTH AND INVESTMENT RECOGNISED AT EUROMONEY AWARDS FOR EXCELLENCE



Standard Bank Wealth and Investment has a presence across Africa and internationally.

Euromoney has named Standard Bank Wealth and Investment as Africa's Best Bank for Wealth Management at its 2022 Awards for Excellence.

Sanah Gumede, head of Wealth and Investment South Africa, said, "Being recognised by one of the world's most trusted financial publications demonstrates that we have achieved the level of excellence we strive for in delivering value to our clients."

"Our clients are at the centre of everything we do, and it is our priority to provide them with services, solutions and opportunities that truly enable them to achieve their goals and aspirations and leave a lasting legacy."

Alan Wellburn, Wealth and Investment's head of Wealth Management, added, "The context in which we operate, both globally and locally, is increasingly uncertain, complex and interconnected. In this competitive environment, clients also have more alternatives than ever before. Our key differentiator in this regard is an advice process that provides clients with insights and an intellectual framework for making complex decisions, delivered by a team of experts."

"We maintain a laser focus on risks and opportunities as we develop these insights, upon which we base tailored wealth solutions. Our role is to make their decision-making journey an easy one, while at the same time adding value to their families' lives."

ZAMBIA TAKES PROGRESSIVE STEPS TO MEET LONG-TERM FINANCIAL NEEDS

Image Credit: Adobe Stock



In 2021, Zambia's per capita income declined to US\$1,040 and the country was re-classified as low-income for the first time since 2011.

A statement by the Creditor Committee for Zambia has been welcomed by the IMF and the World Bank as an important step towards reducing Zambia's debt.

The Creditor Committee examined the macroeconomic and financial situation of Zambia, including its long-term debt sustainability and its formal request for a debt treatment. It stated it supports Zambia's envisaged IMF upper credit tranche (UCT) programme and its adoption by the IMF executive board and encouraged multilateral development banks to maximise support for the country.

World Bank Group president, David Malpass, said, "I very much welcome the announcement as an important step toward reducing Zambia's debt. Significant debt relief is needed to secure long-term debt sustainability and attract the investment necessary for growth and poverty reduction."

Through 2032, the World Bank plans to support Zambia with new financing of more than US\$2bn in the form of concessional loans.

Kristalina Georgieva, managing director of the IMF, also welcomed the statement and noted it will help unlock the US\$1.3bn of the staff-level agreement between the Zambian authorities and the IMF team in December 2021. This agreement is an extended credit facility for 2022-2025 to help restore macroeconomic stability and provide the foundation for an inclusive economic recovery.

Mobile industry shows no signs of slowing

The mobile industry is continuing its relentless expansion both globally and across the African continent.

Few industries weathered the storm of Covid-19 as well as the mobile industry, as enforced lockdowns and limited contact heightened the need for long-distance mobile communication – providing further stimulation to an already booming market.

According to GSMA in their recently published 'The Mobile Economy 2022' report, investments in network infrastructure has meant that just 6% of the global population is now living outside of areas covered by mobile broadband networks. While the adoption of mobile Internet services has not quite kept pace, the number of mobile Internet subscribers reached 4.2bn as of 2021.

The report forecasted that by 2025, there will be an additional 400mn new mobile subscribers with the majority of these users coming from Asia Pacific and sub-Saharan Africa. Indeed, mobile subscriber penetration is expected to reach 50% of the African population by 2025 (up from 46% in 2021) and smartphone adoption could rise to 75% by 2025 (up from 64% in 2021).

This research is echoed by that of Nokia, which is forecasting a significant growth in 5G subscriptions in the Middle East and Africa region by 2026 with subscribers in South Africa, Nigeria and North African countries driving growth following the release of new spectrum. It suggested that this trend is being triggered by the increasing use of high-bandwidth consumer applications and industrial use cases.

Mikko Lavanti, head of mobile networks, Nokia MEA, said, "In MEA, our MEA Broadband Index Report finds 40% year-on-year growth in 4G data traffic but a huge 350% year-on-year growth in 5G data traffic in 2021 alone. This trend in the region clearly



Image Credit: Adobe Stock

indicates that there is a pressing need for the adoption and expansion of 5G networks across the region."

Such a promising forecast is of course music to the ears of the leading telecommunications companies such as Nokia which appear to be going from strength to strength with their operations on the continent (Vodafone, by example, has recorded another quarter of sustained growth on the continent as it seeks to become a new generation connectivity and digital services provider for Africa).

A robust platform for mobile finance

This sustained growth in the mobile industry is providing a strong base for mobile financial services as a broad-range of household names and start-ups manoeuvre to take advantage of the mobile Internet glut.

Zambian-based fintech company Digital PayGo, for example, has made headlines after launching the PayGo SME-in-a-Box mobile payments solution which is powered by MasterCard. This digital offering is designed to provide Small and Medium Enterprises (SMEs) with access to a wide range of financial

services and allow them to safely make and receive digital payments through various digital channels.

In a recent update on its operations, MTN Group reported a resilient performance in the first half of 2022 which included accelerating its network investments and spending additional capital on securing 4G and 5G spectrum in key markets of South Africa and Nigeria. It noted that its fintech platform, the most mature of its five scale platform businesses on top of the strong connectivity network, had recorded 60.7mn Mobile Money users in the first half of the year. This represented a 24% growth year-on-year and generated six billion transactions worth US\$116.3bn.

In an opinion piece, Mark Dankworth, president of business development Africa at Ukheshe Technologies, a pan-African fintech enablement partner, noted that this trend is also transforming cross-boarder payments on the continent and that the success of mobile phone-based money transfer services indicates an appetite in the market for safe and cost-effective ways of transferring money across Africa.

"There has been a significant

increase in the movement of funds through digital platforms over the last five years. As mobile penetration continues apace in Africa, the continent is ready to take the next steps toward cross-border solutions that are cheaper, faster, more secure than ever before. As the next frontier for major expansion and innovation, new technologies are necessary in unlocking massive untapped potential," Dankworth commented.

Staying vigilant

Of course, alongside the benefits of mobile advances are the cyber risks which, despite the security efforts to hamper their growth, are an ever-present danger.

Kaspersky' digital payments survey has revealed the extent of this problem by showing that 35% of respondents from South Africa faced phishing scams when using online banking or mobile wallet services. While respondents were quite aware of the some of the threats, an overwhelming 98% thought that banks and payment companies need to educate users more about threats online.

When it came to a list of security features that consumers would like to see more on existing banking apps and mobile wallets, the highest were implementation of one-time passwords via SMS for every transaction (75%); biometric security features (75%); automated detection and intervention for fraudulent transactions (58%); two-factor authentication (51%); and point-to-point encryption (22%).

Such concerns serve as a reminder that as the continent continues to engage in mobile connectivity and welcomes the benefits such as rapid financial transactions, it must remain vigilant to those who seek to take advantage of this trend via nefarious means. ■

Time to get business done better

As a telco provider and also a technology partner, MTN Business can meet all client requirements.



There is increasing demand from clients to connect their remote sites in all areas.

Image Credit: Getty Images

According to MTN, a lot of clients have come out of the Covid-19 pandemic with a focus on repositioning themselves in the marketplace.

For the first time, there is a recognition that digitising operations can offer unprecedented commercial value in scale and agility.

Having made substantial investments in fibre technology, high-speed terrestrial and undersea networks and new frequency spectrum across the markets wherein it operates, MTN is perfectly positioned to respond.

A few years ago, MTN also made the decision to build an IP capable radio network for their mobile services, giving their core network the ability to seamlessly integrate with enterprise IP networks. Their

mobile towers deliver services to enterprise clients absolutely anywhere they have a network, shortening the last mile and removing complexity and cost.

Now there is increasing demand from clients to connect their remote sites in all areas, including rural and semi-rural. MTN has not only assisted clients with overcoming the connectivity hurdle, but is also committed to helping them automate and digitise their businesses.

Digital demand

Ten years ago, it was unheard of for an automobile manufacturer to approach a mobile operator about the need to automate their plant. Today, airports, ports, mines and manufacturing plants are relying on

what was classically considered mobile networks to automate and digitise their operations.

The same telecom provider (now techco) provides the high speed network to store the company's data in a cloud environment. MTN believes that clients expect their techco partners to add a lot more value.

MTN's evolution

For MTN, the focus has shifted from being a core telecommunications services provider, towards becoming a technology solutions provider or techco.

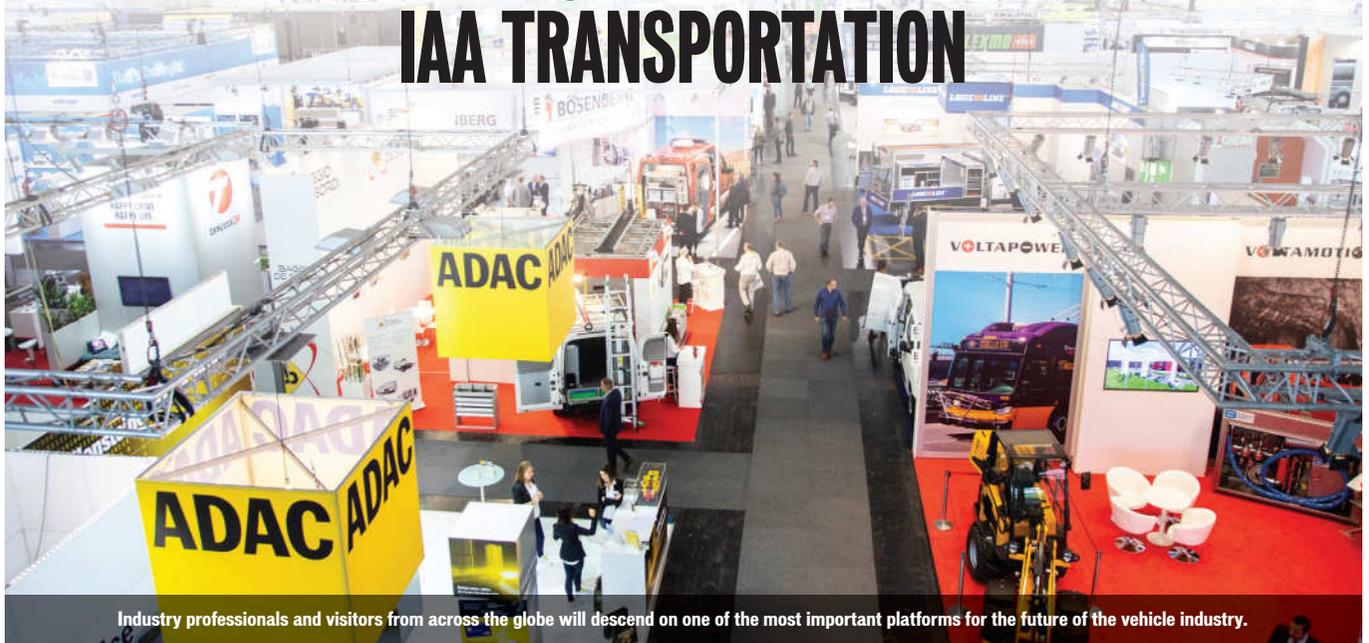
The value that the client derives from a technology partnership is now defined by the commercial value-added, not simply a solution that meets a specification and price point. The service offering of a techco

includes the Internet of Things (IoT), unified connectivity, cloud services, data security, networking infrastructure and asset tracking.

The scope has changed to being client and industry specific, so the requirements and service portfolio vary from one client to the next. Now, the expectation is that a techco like MTN must respond to challenges and make it work, supported by the appropriate technology for each market, and following the client wherever their business leads.

Clients need partners like MTN that will invest in underlying infrastructure, deliver the services they require, have market credibility, are financially sound and have a long-term commitment to their market presence. ■

People and goods on the move at IAA TRANSPORTATION



Industry professionals and visitors from across the globe will descend on one of the most important platforms for the future of the vehicle industry.

Image Credit: IAA TRANSPORTATION

One of the leading international platforms for all issues relating to transport and logistics, IAA TRANSPORTATION, is arriving in Hanover from 20-25 September as companies from across the broad industry prepare for a period of exhibitions, keynote speeches, panel discussions, networking and more.

The revamped IAA Conference will, this year, present the current and future trends in logistics and

transport. Here, four key theme days will make up an important part of the new concept. These include 'Future Logistics' held in cooperation with the Bundesverband Spedition und Logistik e.V.; 'Trade and Logistics' to be led by the Handelsverband Deutschland e.V.; 'Infrastructure' which is being partnered by the Bundesverband der Energie- und Wasserwirtschaft e.V.; and 'Communal Transport' to be led by

the Verband Deutscher Verkehrsunternehmen e.V.

At the Conference, international opinion leaders from all relevant industries will join together to discuss the challenges of the modern world and present their solutions and visions for the global and regional transport of the future.

At the core of the international event in Hanover will be the exhibition halls. Here, exhibitors will showcase their range of products

under this year's overarching slogan 'People and goods on the move' placing greater emphasis on innovative and climate-friendly conceptions and solutions for the logistics and transportation sector. As early as July, 97% of the exhibition space was already booked up by established names and start-ups alike.

Find below a brief selection of the companies showcasing their products at the conference: ■

Volkswagen Commercial Vehicles presents premium pick-up

Volkswagen Commercial Vehicles, among the host of products it has on display at this year's event, will be showcasing the new Amarok on- and off-road all rounder.

The truck, conceived in Germany and Australia and produced in South Africa will be available for numerous international markets including several countries throughout the African continent.

After the first generation sold more than 830,000 units, the second generation returns bigger, more powerful, and more athletic. It is being launched with a four-door double cab and two-door single cab. The new Amarok is 96 mm longer



Image Credit: Volkswagen Commercial Vehicles

Volkswagen Commercial Vehicles' new Amarok.

than its predecessor and its wheelbase of 3,270 mm represents an increase of 173 mm to provide more room. Four turbo diesel (TDI) engines and one turbocharged petrol engine have been developed

for the new Amarok to provide efficiency and high levels of torque. On the African market it is the base specification engine that is being used: a four-cylinder, 2.0 litre TDI delivering 110 kW.

The vehicle also boasts a range of new features such as 20 new driver assist systems, mobile online services, engines that are both efficient and high-torque, two all-wheel drive technologies, tailor made accessories, and more.

Albert Kirzinger, head designer at Volkswagen Commercial Vehicles, commented, "The Amarok is a beast, but with a really elegant look. In this new premium pick-up you look just as good on the construction site during the day as you do in the evening in front of the opera house. We show this via the details, in which just as much love is invested."

BRIDGESTONE BRINGS PREMIUM TYRES TO THE SHOWCASE FLOOR

As part of its quest to cut total cost of ownership for long haul fleet operations while reducing CO₂ emissions, Bridgestone will be exhibiting its range of products including the DURAVIS R002 and the ECOPIA H002.

The ECOPIA H002 is a new generation of tyres for long haul fleets designed to save fuel, reduce emissions and keep customers going even in challenging weather conditions. The tyre range boasts a smart pattern concept to improve rolling resistance and wet grip and optimised compression stiffness minimises deformation and energy losses. Its NanoPro-Tech cap compound with nano-selective reactions and new base and bead filler materials reduce rolling resistance.

Alongside the ECOPIA is the new DURAVIS R002 which has 45% more mileage compared to its predecessor. The tyre's low deformation pattern designs provide high cornering power, enhanced tyre life and even wear and it boasts multiple drainage features such as channels, sipes and lugs.

Already proven across multiple fleets, customers have come to appreciate the premium tyre for its increased safety, high mileage performance and durability.



Image Credit: Bridgestone

The DURAVIS R002 has a 15% reduction in cost per km compared to its predecessor.

DAIMLER TO DEMONSTRATE BATTERY ELECTRIC CAPABILITIES

Alongside products such as the MB eEonic, FUSO eCanter, MB Actros, and more, Daimler Truck will be showcasing the battery-electric eActros for heavy-duty short-radius distribution.



Image Credit: Daimler Truck

The driver has access to the Multimedia Cockpit Interactive to remain up-to-date with the charge level of the batteries.

The battery of the eActros series-production model is equipped with either three or four battery packs, each with an energy capacity of around 105 kWh. The maximum battery capacity of 420 kWh enables ranges of up to 400 km to be achieved and recuperation enables the vehicle to recover electrical energy through braking.

Two integrated electric motors offer enhanced efficiency and a constant delivery of power with high starting torque and a two-speed transmission ensures powerful acceleration.

In full-load operations, drivers will benefit from a pleasant noise reduction of 10 dB inside the cab and there are noticeable fewer vibrations compared to a diesel truck.

Mercedes-Benz Trucks is highlighting its desire to achieve CO₂ neutral road-based good transport. In order to assist companies with their eMobility here, the eActros is embedded in an eco-system which provides services and a range of digital solutions to increase capacity utilisation.

QUANTRON CELEBRATES PREMIER OF HYDROGEN AND ELECTRIC TRUCKS

At IAA TRANSPORTATION 2022, QUANTRON will present two new vehicles from the heavy-duty sector: the hydrogen-powered FCEV truck for long distance travel and the fully electric QUANTRON QHM BEV 50-392.

The FCEV was developed as part of a strategic partnership with Ballard Power Systems, a leading hydrogen expert, and features an integrated E-axle from a global Tier 1 propulsion leader. Originally released for use in Europe, the FCEV truck boasts a range of up to 700 km; is suitable for everyday use with features such as a cabin for overnight accommodation on long journeys; and has a hydrogen tank capacity well exceeding 50 kg of stored H₂.

The all-electric QUANTRON QHM BEV 50-392 is based on the MAN TG3 and is ideally suited for factory and distribution operations thanks to its low-noise and emission-free drive. It has a range of up to 350 km with a high-voltage 392 kWh battery and can be charged with power outputs of up to 350 kW.



Image Credit: QUANTRON

The FCEV truck will be available from the second quarter of 2023 onwards.

MEILLER REAR TIPPERS READY FOR THE MARKET

F.X. MEILLER will displaying its key product for the African market – its rear tipper programme.

Designed for daily and rugged operations, the rear tippers allow for the transportation of high payloads fast and safely thanks to the low tare weight of the vehicle superstructure. Sturdy with



Image Credit: MEILLER

The MEILLER rear tipper programme is designed for daily and rugged operations.

a long service life due to the use of high-strength materials and the latest production processes, the tippers also boast a frame construction that is extremely stable and well protected against corrosion.

The heart of each product is the innovative hydraulics which is developed and manufactured for each specific unit – these allow for high tipping and lowering speeds to accelerate working cycles.

At its IAA stand, MEILLER will exhibit the most common product for the African market: the H436. This has an angular body shape for tough use and jet side walls to ensure stability and durability even in rough operating conditions. Mounted on a 4 axle chassis, it has a capacity of up to 20 cu/m and a maximum load capacity of 36t. A half pipe rear tipper will also be shown to demonstrate the wide range of MEILLER's portfolio.



Digital transformation can drive value through shared industrial information and insights.

Partners paving the path to digitalisation

Kerry Grimes, head of global partners at AVEVA, explained to *African Review* how his company is working with renowned partners to support customers in their digitalisation efforts.

While a little way behind on the digital journey than continents such as Europe, momentum continues to grow in Africa as more and more companies across the spectrum of industries realise the potential of going digital.

As Grimes explained, “There is a lot of excitement and there is transformation occurring everywhere now. A lot of industries want to become more efficient and become more sustainable and there is a lot of investment going into the continent which is enabling industries to evolve and achieve this. From our perspective, in terms of market attractiveness, it is kind of a glove fit because they are encountering the problems which we solve.”

AVEVA already has an extensive presence on the continent, most notably in industries such as chemicals, energy, mining and water but, Grimes noted, there are also emerging opportunities in fields such as smart cities and consumer packaged goods as well. While priority countries include Egypt, Nigeria, South Africa and Kenya, the company is investing extensively in countries across sub-Saharan Africa which Grimes added has become a “definite focus”.

The path to digital

Customers beginning their digital transformation journey, Grimes explained, will need to digitise and integrate industrial sensor data (especially for those that are positioned on the edge of their industrial networks) and AVEVA and its channel partners are well positioned to support them through the three core packages of AVEVA Operations Control – Edge, Supervisory and Enterprise. Together, they provide the software necessary for modern industrial operations and provide teams a method of collaborating and operating from a

sustainable framework.

What helps makes this a “true game changer” is that AVEVA is providing this service on a subscription basis through the AVEVA Flex subscription programme which provides a comprehensive suite of tools for plant, field, control room, and enterprise teams to accelerate operational excellence. Such a model is largely unique for customers, especially for plant floor and control

room software at the start of their transitions (64% of channel partners reported that the vast majority of their customers are still using legacy software contract models in a recent channel partners survey).

“What Operations Control is

doing is changing the way we price to really be around a user basis. Customers can purchase subscription – either Cloud or on-premises software – which is under a user methodology for licences to be easily added or reduced. This really provides the flexibility and agility to ramp up or down without barriers and has a much lower upfront cost.”

Powerful partnerships

Operations Control is being made available to customers through AVEVA’s reseller partner network and, according to Grimes, is presenting a huge opportunity for the companies it works with.

“The [aforementioned] survey has really mirrored market trends. We see untapped opportunities for partners on the continent to promote and cross-sell subscription solutions. When you look at the attractiveness of the subscription to customers, it is safe to say it is really picking up speed in the market and our customers are absolutely seeing the benefits.”

Grimes was keen to point out that it is his company’s relationship with key partners (often mistaken as competitors) which really

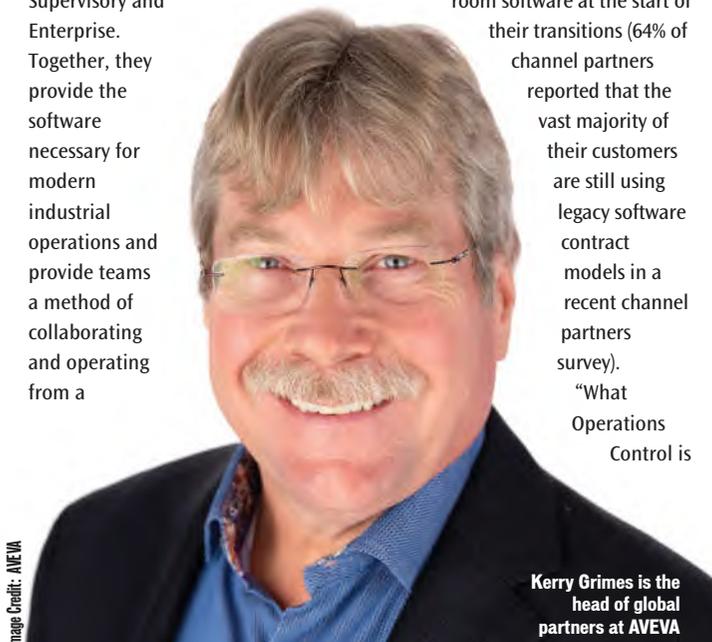


Image Credit: AVEVA

Kerry Grimes is the head of global partners at AVEVA

make AVEVA's offerings more powerful. Singling out Microsoft, Grimes said, "We are now creating a Cloud-based platform for industrial software called AVEVA Data Hub and this runs on top of Microsoft Azure. I see it is as the operating system for the Cloud which allows us to run our industrial software. We are not competing – demonstrated by AVEVA being named Microsoft's Energy Partner of the Year in 2021 and as runner-up for the Sustainability Changemaker Partner of the Year in the same year."

"This year, Schneider Electric won Microsoft's Sustainability Partner of the Year Award. They are another key partner of ours which brings a lot of the complementary hardware and automation components, whereas we bring the software. These partnerships are powerful – they drive sustainability and they drive us to

innovate. We all have complementary strengths and we each bring a unique offering. Together, we help our customers to tackle their looming business challenges and help them achieve success."

Onto the next

With AVEVA Operations Control now rolled out to customers and available through the AVEVA Flex subscription programme, Grimes considered some of the upcoming developments which his company is working on.

"We will be focusing on Cloud, ease of use and scalability. Something we are working with our customers on is moving the data that they collect on the edge of their networks with their HMI SCADA solutions that we provide and moving that to the Cloud. This will make it easier to analyse and compare across sites. In this sense

AVEVA KEY TAKEAWAYS:

- AVEVA Operations Control through AVEVA Flex offers a unique and comprehensive package for industrial digitalisation, enabling especially emerging markets to improve efficiency with reduced upfront investment.
- AVEVA leverages strategic partnerships to provide the infrastructure, services and products that customers need to execute their industrial digitalisation in a timely manner, maximising ROI.
- AVEVA Industrial Data Platform on the cloud (AVEVA Data Hub) is one of the most innovative, secure, and reliable solution for customers, partners, and suppliers to share and/or analyse industrial data from their assets processes.

you will see us work more and more with AVEVA Data Hub which is that repository of data and work more with partners which will help companies analyse that data into manageable information to better run their businesses.

"In the world of digital transformation that we are in, partnerships are extremely

important because no one party can do everything themselves. We are therefore working closer and closer with our system integrators to be able to tackle the world's problems in this digital space as they come to help customers more efficiently manage their operations and become more sustainable," Grimes concluded. ■

Liquid Cloud to offer access to Oracle Cloud via FastConnect

Liquid Cloud, a business of Cassava Technologies, a pan-African technology group, and a member of Oracle PartnerNetwork (OPN), has announced it will offer connectivity to Oracle Cloud through Oracle Cloud Infrastructure (OCI) FastConnect in South Africa within the Oracle Cloud Johannesburg Region. The collaboration with Oracle will allow Liquid Cloud customers to access Oracle Cloud through FastConnect, using Liquid's extensive fibre network.

In addition to organisations using FastConnect via Liquid CloudConnect as a service, it will also be available at existing Africa Data Centre (ADC) facilities across the continent for Liquid Cloud's co-located customers. This service will connect an organisation's on-prem applications and their Oracle Cloud Fusion Applications, providing an enhanced user experience.

"Businesses in Africa have been digitally transforming their operations, and their expectations include a seamless experience irrespective of where applications and infrastructure operates. With Oracle FastConnect, Liquid will help its customers achieve simplicity, enterprise-class security and seamless operations, be it on-prem or co-located through the ADC facilities across the continent," said David Behr, CEO of Liquid Cloud and Cyber Security.



Image Credit: Adobe Stock

The collaboration will allow Liquid Cloud customers to access Oracle Cloud through FastConnect.

BOOSTING DIGITALISATION IN EAST AFRICA

IEC Telecom Group, an international provider of satellite communication services, expanded its services to East Africa in 2021 with an official partnership with Osta Tech Limited, a leading information and technology company in Kenya, which is fast becoming a tech hub for East Africa. This partnership has been key to creating economic opportunities as well as increasing investments in innovative infrastructure and satellite communications in the East African market.

"Digitalisation can empower business owners with reduced infrastructure investments and state-of-the-art hybrid technologies. It is almost a virtuous circle to see innovations in technology creating opportunities for increased entrepreneurship, and increased incentives for doing business in Kenya creating the demand for more connectivity," said Oscar Mwai, chief executive officer, Osta Tech Limited.

"Satellite connectivity allows humanitarian field missions, mobile telemedicine hubs, educators, remote workers, e-government, and public services to be available in communities that may be otherwise unreachable. Through our partnership with IEC Telecom and Thuraya, we offer flexibility for the complete satellite communications lifecycle, and we're thrilled to see Africa benefit from the opportunities that digital transformation brings to its young economies."

"We believe that the introduction of affordable satellite connectivity that enables access to resources for remote communities almost at par with well-connected urban areas creates immense incentives for entrepreneurship and innovation," shared Alaa Alsadi, business development director – Middle East & Africa, IEC Telecom Group. "Our wide portfolio of satcom solutions optimises e-business services, offers a reliable back-up for the GSM network, and ensures business continuity in an unpredictable and ever-evolving business landscape."

Hyphen closer to realising hydrogen project in Namibia

Hyphen Hydrogen Energy is reportedly making positive progress on its discussions with the Namibian Government as it moves towards signature of the implementation agreement before the end of the year for its planned US\$10bn Namibian green hydrogen project.

The Namibian Government's cabinet, in a recent meeting, endorsed the composition and appointment of the Government Negotiations Team assembled to finalise the implementation agreement as well as the proposed timeline of its signature.

The signing of the implementation agreement will trigger the commencement of the front-end engineering and design phase in the development of this ambitious green hydrogen project.

Hyphen is working closely with the Government to ensure that Namibia's potential for green hydrogen is realised. The company is building its team in the country as it looks towards the next phase in the development of the project. This includes the appointment of five Namibian nations.

Hyphen has leased space in Nedbank's newly completed flagship court-side office development in the centre of Windhoek, to house its growing team with occupation set for early October.

At full scale development, the Hyphen project is expected to produce around 350,000 tons of green hydrogen per annum before the end of the decade for regional and global markets, from 5GW-6GW of renewable generation capacity and around 3GW of electrolyser capacity.

The commencement of construction has been targeted in January 2025, with commissioning of the first phase by the end of 2026. The total investment in over both phases is around US\$10bn.

Marco Raffinetti, CEO of Hyphen Hydrogen Energy, said, "We're very pleased at the commitment and rapid pace of progress that the Namibian Government has shown as we move towards concluding the implementation agreement to enable us to start the next phase of the project. It demonstrates the Government's belief in Hyphen's vision and capability to execute this ambitious and transformative project. Our project will put Namibia's green hydrogen industry firmly on the global energy and decarbonisation map and position Namibia for rapid green hydrogen scalability."



Image Credit: Hyphen Hydrogen Energy

Hyphen has Boston Consulting Group and Lazard as its international strategic and financial advisors respectively, alongside its existing legal advisory team comprising of Slaughter and May and ENS Africa.

SERITI RESOURCES GAINS MAJORITY INTEREST IN RENEWABLE ASSETS

Seriti Resources has entered into an agreement to acquire a majority stake in Windlab Africa's 3.5GW wind and solar-powered assets.

The acquisition is being conducted through the company's subsidiary Seriti Green, as it seeks to lower its carbon footprint and ensure long-term sustainability as a diversified energy producer.

Windlab Africa consists of 100% of Windlab South Africa and 75% of Windlab East Africa.

Mike Teke, CEO of Seriti, commented, "The acquisition is a timely and strategic addition to our existing and valuable portfolio of coal assets. Our commitment to the responsible and reliable production of coal for both domestic consumption and exports remains unwavering."

As a coal producer, Seriti has indicated its commitment to playing an active role in helping manage the just transition to a low-carbon economy while balancing South Africa's energy needs.

The introduction of renewable energy into Seriti's existing portfolio of high-quality coal assets will provide long-term financial stability and diversification whilst embracing alternative energy sources and helping to secure the country's power needs.

"This acquisition is a significant landmark on Seriti's journey to becoming a diversified energy business and supports our ESG objectives and commitment to a just energy transition," said Teke.

Seriti uses 750GWh of electricity in the process of mining the coal that is used to fuel power stations. In line with the commitments made in the MOU signed in October 2021 with Eskom and Exxaro, Seriti will start using renewable wind and solar energy in its own facilities through the signing of PPA's in 2023. Seriti is partnering with Standard Bank, RMB, Ntiso Investment Holdings and Peter Venn.

MANGORA ASA GRANTED ENVIRONMENTAL AUTHORISATION FOR SOLAR PROJECT

Magnora ASA has announced that one of its solar PV projects in South Africa has been granted environmental authorisation. A granted environmental authorisation signifies that the project has the majority and most important permits in place.

The approved project will have a total installed capacity of approximately 260MW of solar PV, with an estimated production of over 600GWh per year. The environmental authorisation allows for the construction of a co-located utility scale battery storage facility and is located in an area with extremely good solar radiation, with an expected yearly output in the excess of 2300KWh/KWp.

Erik Sneve, CEO of Magnora, said, "We are very pleased with our development in South Africa and see great interest from potential buyers in the market for mature projects."

► BRIEFS

MCA builds solar plant in Angola

Image Credit: MCA



The two parks are part of Angola's 2018-2022 National Development Plan.

MCA has concluded two photovoltaic parks in Biópio and Baía Farta with an installed capacity of 285MWp. The two parks are part of Angola's 2018-2022 National Development Plan to diversify the country's energy production sources and will produce green electricity to supply around 1.8mn people. The plants are part of a set of seven which should be operational by the end of the year. Together they will provide electricity to around 2.4mn people.



Image Credit: Adonis Stock

The due diligence marks another step in closing out capital required for Phase Two operations at Virginia.

Virginia Gas Project closes in on investment

Renegen has announced the successful completion of due diligence by the Central Energy Fund SOC (CEF) on its agreement to invest around US\$60mn for a 10% ownership stake in the Virginia Gas Project.

Stefano Marani, CEO of Renegen, commented, "This will assist in bringing a new and critical source of energy online, at a time when South Africa is suffering a significant energy crisis."

Private sector to fund distribution infrastructure

There is hope across the continent that private sector initiatives will mobilise the huge investment needed to upgrade Africa's power networks.

Private investment might be the answer to funding the continent's power networks.

Image Credit: Adobe Stock

Despite the flood of new solar and other generation projects popping up across Africa, the continent's transmission and distribution infrastructure remains poor.

There is a growing movement, however, to see more private involvement as part of plans to modernise the sector.

South Africa is among those looking to bring in more private sector involvement in an area that has long been dominated by state power giant Eskom.

Yet the scale of funding required is considerable, given that half of Africans still have no reliable access to any modern electricity system.

Funding the future

The International Energy Agency (IEA) has estimated that achieving Africa's electrification ambitions may require investments of US\$120bn per year, with the bulk of

the money targeting low carbon and grid network projects.

In a paper earlier this year by Ryan T. Ketchum, a partner at law firm Hunton Andrews Kurth, the role of independent transmission projects (ITPs) was outlined as a potential solution.

Ketchum described ITPs as a "promising avenue" for private investment in transmission in Africa, followed by a whole lot of network concessions.

Practicing private

There are examples where private investors are already beginning to have influence.

In Uganda, UK-based Gridworks has an agreement with the Government to develop a project to use private investment to support the transmission sector. The deal was announced during the Commonwealth Heads of Government Meeting in Rwanda.

The project – known as Amara

Energy Transmission – consists of an upgrade to electrical substations that will solve capacity constraints at four key nodes of the grid: Tororo, in the East, close to the Kenyan border; Nkenda, in the West, at the interconnection point to the DRC Democratic Republic of Congo; plus Mbarara and Mirama, both in the southwest of the country. Each has been identified as a priority by Uganda Electricity Transmission Company Limited (UETCL), the national transmission utility.

Gridworks will develop and finance the project – providing up to US\$90mn funding – with Siemens undertaking the upgrade work on the four substations.

Going forward, it is a model that could be replicated to catalyse further investments in the sector, according to Gridwork's chief executive, Simon Hodson.

"Our pilot project has taken several years to develop and will demonstrate that this model can be

used to unlock critical projects," he said when announcing the deal in June.

He added it will benefit both households and businesses in Uganda and ensure that high quality renewable power is available to drive economic development.

As well as rolling out improved and extended infrastructure, network operators now face the added challenge of accommodating a vast wave of new, disparate renewable energy projects and technologies into the system.

The investments The Egyptian Electricity Transmission company made between 2014 and 2020 illustrate the scale of the spending that could be required to integrate renewable energy resources. They commissioned more than 3,600 km of 500KV transmission lines. Much of this investment was necessary to connect new renewable energy projects in the South to load centres in the North. ■

Nigeria's energy overhaul

With a significant deficit between grid power generation, distribution and consumption, Nigeria is undertaking a bold restructuring initiative to transform the country's power system.

It has now been four years since the Nigerian Government recognised its grid was in serious need of an overhaul owing to a serious imbalance between power generation, evacuation, dispatch and consumption.

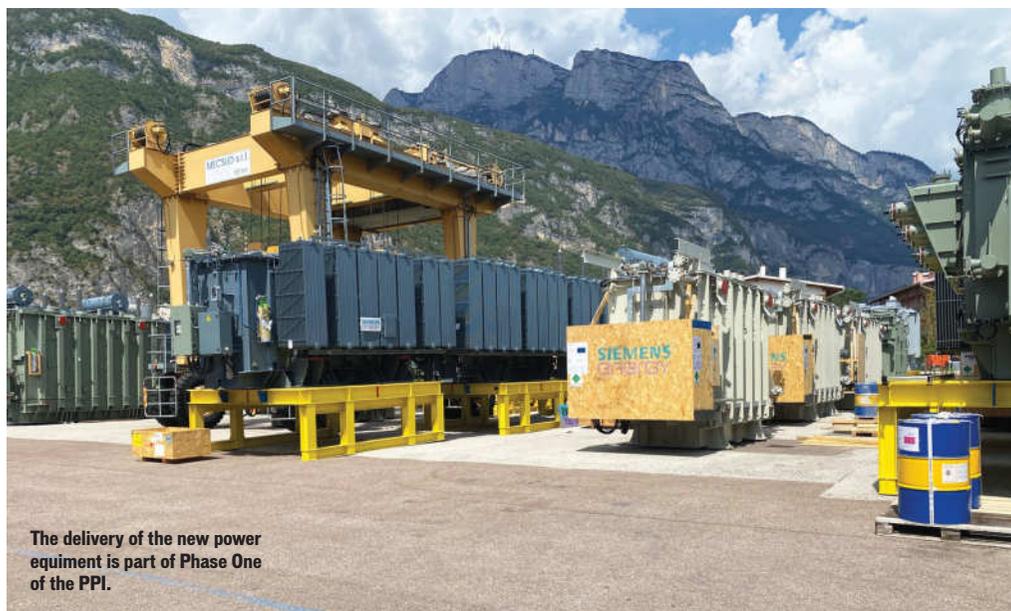
With around 15GW of grid power generation capacity installed but only 5GW operational capacity (according to a peak capacity recording in February 2018), the Presidential Power Initiative (PPI) was subsequently established between Nigeria and Germany during a visit by the then German Chancellor Angela Merkel. Together, the two countries agreed to resolve the challenges in the country's power sector and expand the capacity for future power needs.

While this task can be summarised quite simply, it was (and remains) by no means an easy feat.

In a whitepaper composed by Siemens Energy (which was present at the establishment of the PPI and brought on to assess and implement the project) Nigeria's power systems are constrained by partly idle assets, bottlenecks within the transmission and distribution grid and defective connections within key substations.

It identified the immediate need to redress these issues, upgrade the existing control centre, train personnel to enhance the quality of operations and improve revenue collection through smart metering systems. These would be delivered through three stages:

- **Phase One** will focus on critical and quick interventions to increase the system's end-to-end operational capacity from 5GW to 7GW. Interventions include transmission system upgrades, distribution system upgrades, power system studies and training, meta data management



The delivery of the new power equipment is part of Phase One of the PPI.

Image Credit: Siemens Energy

systems, and technical training of TCN and Disco employees.

- **Phase Two** looks to tackle distribution bottlenecks to enable the full use of existing generation and distribution capacities. It will bring the system's operational capacity to 11GW. Interventions include further transmission system upgrades, further distributions system upgrades, rehabilitation of existing power plants, embedded power generation projects for Discos, and gas processing projects to utilise flare gas for existing and new power generation.
- **Phase Three** will centre around achieving total operational grid capacity (25GW) in the long term with commensurate upgrades and expansion of the national generation, transmission and distribution systems. Siemens has identified power generation projects with the Nigerian National Petroleum Corporation (NNPC) which include combined cycle power plants; Kaduna

(1.35GW); Kano (1.35GW); and Agura (0.45GW).

Progress so far

To explore the project and its progress in more detail, *African Review* spoke to Oladayo Orolu, head of business development and government affairs at Siemens Energy, who has been working on the PPI since its inception.

He explained, "The deficit comes from a range of issues such as mechanicals problems in plants (some are gravely debilitated) and limited access to supply such as gas in others; significant losses due to technical problems and dilapidated infrastructure in transmission and distribution; as well as commercial problems.

"The latter are now being addressed through a series of regulatory policies and actions such as the new tariff system which is structured to make distributor companies able to recover the most significant part of the cost of getting power to the consumers. The PPI, on

the other hand, is designed to fix infrastructure issues, build capacity and upgrade the transmission and distribution networks to improve on the quality of power and bring stability to the grid."

The initiative, conceived in 2018 with the implementation agreements signed in July 2019, was hampered by the onset of Covid-19 which caused significant delays. However, Orolu explained, the Nigerian Government used that opportunity to put in place a sustainable governance structure for the project and set up the FGN Power Company which is responsible for its execution.

"In 2021 we had the first work package order issued for the network studies (the power stimulation and pre-engineering activities for the distribution systems) which were begun immediately and training is being done in batches to improve the capacity of network operators in terms of load flow analysis and network planning," Orolu noted.

“In December 2021, we received the first work package for ten mobile transmission substations and ten power transformers. These are currently being manufactured in our factories and will then be arriving in Nigeria for installation and commissioning. This is a critical milestone in the execution of Phase One and will deliver an immediate impact on the grid.”

First milestone reached

At the end of July 2022 Factory Acceptance Tests (FAT) were held at the Siemens Energy high-Voltage Transformer Lab in Trento, Italy, on the first two transformers ready to embark for Nigerian soil.

Abubakar Aliyu, the Nigerian Minister of Power, was present at this stage and commented, “I am delighted that the FATs were successful. The transformers will contribute notably to resolving transmission/distribution interface issues in the power sector... I am confident that the PPI will deliver on its objectives to deliver electricity to households and businesses across the country.”

Kenny Anuwe, managing director for the FGN Power Company, added,

“The FATs were successful and the equipment will be delivered and subsequently commissioning in September. I am particularly delighted as this is the first major delivery of equipment under the PPI.”

Orolu remarked, “The Factory Acceptance Testing is the first of many milestones that we are going to see in the implementation of the project and it is an important one. Nigerians have been asking for results and they will now be able to see equipment arriving in the country and being installed. They can rest assured after seeing the project is making tangible progress.”

All together now

While there is tangible progress being made on the initiative, there are many obstacles that have been overcome to get it to this stage and many more yet to come.

Explaining these challenges, Orolu said, “The power sector in the country is a mix of public and private investment and control. The generation segments are partially privatised, for instance, with clients completely under private investors and some under concessions held by the Government. Transmission is

fully under the Government control through the Transmission Company of Nigeria (TCN) but the distribution companies are a mix of private sector ownership (60%) and state (40% managed by the Bureau of Public Enterprise).

“There are regulators such as the Nigerian Electricity Commission (NERC), there is Nigerian Bulk Electricity Trading (NBET), there is the Ministry of Power, the Ministry of Finance, the Bureau of Public Procurement and now you have the FNG Power Company. There are so many different stakeholders that are involved in the system and to deliver the project it requires them all to be brought together.

“Fortunately we have been able to do this successfully over the last few years and one of the key factors for this has been the support of the President himself and the office of the Chief of Staff. In addition there has been full commitment from the stakeholders who are working together to ensure the project promises success.

“Another factor is the experience of Siemens Energy. We have executed large-scale power projects in similar terrains such as Egypt, Iraq and Libya, and we have been working in Nigeria itself for more than 50 years. We have a very strong local presence and good experience locally – we understand the sector and our approach is one of co-creation. We also have good support from our global leadership team and they help make it easy to go through the internal procedures, reviews, controls and approvals.”

A platform for growth

The PPI has been touted as a potential game changer for the Nigeria’s long-term prospects. Siemens’ whitepaper showcased the awareness of electricity constraints as a hurdle to economic prosperity and development, and showed that power generation capacity consumption per capita needs to increase eight-fold to close the gap to peer countries such as Algeria and Morocco. Increasing investments and reforming the system is



Oladayo Orolu is the head of business development and government affairs at Siemens Energy.

therefore a prerequisite in the ambitious GDP growth expectations of the country.

“Electrification generally will have a trickle down effect on the economy,” Orolu commented.

“Having access to a stable supply of electricity will enable economic activities at different levels, especially for SMEs.

“At the same time, executing a large scale project of this nature will engage local engineering professionals, artisans, those who supply auxiliary equipment and materials (it will require a lot of cement and granite for instance), food suppliers, operators, all sorts of real estate, those involved in finance, subcontractors, vendors, SMEs. There are going to be a lot of opportunities along the line for the local economy and many locals will be trained within the sector to operate and maintain the new equipment.”

Orolu concluded, “Siemens Energy is very much committed to this project and we have the necessary required expertise, experiences, quality of equipment within our portfolio to enable the current and future development of the Nigerian grid. In addition other initiatives by the Government (such as the construction of the AKK Pipeline which will eventually feed into Phase Two or Three of the PPI) will significantly help.

“If we are able to successfully execute this project, and I believe we will, it will give Nigeria a stable network power grid and lead to economic development and growth for the country.” ■



The Factory Acceptance Tests held in Siemens Energy’s lab in Italy were successful.

Image Credit: Siemens Energy

Smart grid evolution raises electrification hopes

Efficient, flexible and transparent grid systems alongside the rise of renewables could hold the key for delivering reliable electricity across the continent.

The emergence of smart grids in Africa mirrors the rise of renewables and the convergence with technology. Together, there is renewed hope that these modern innovations can help to resolve one of Africa's most stubborn challenges and accelerate efforts to electrify the continent.

The intent is to create a more efficient, flexible and transparent grid system that will deliver reliable electricity to more Africans.

Today, most utilities are still unable to provide customers with reliable and affordable electricity – the average daily supply of electricity in the larger cities is less than 12 hours.

It is an area that brings together expertise from traditional energy giants like GE and Siemens, along with communications experts such as MTN and Huawei.

Yet smart grids are not a new concept: China's Huawei has been linked with the roll out of a smart grid system in Ethiopia for the best part of a decade.

At the same time, progress has been going slow. Nonetheless, it is an area that policy makers and officials are keen to nurture in the aim of building a better energy system for the modern era. A case in point is Morocco, which looks set to get its first smart grid in Marrakech.

The US Trade and Development Agency recently handed a grant to Régie Autonome de Distribution d'Eau et d'Electricité de Marrakech



There is hope that smart grids will be the innovation to electrify the continent.

Image Credit: Adobe Stock

(RADEEMA), the city's electric and water utility, for a feasibility study to transform its power distribution infrastructure into a smart grid.

The project is the first of its kind in the country and could serve as a model for other Moroccan cities.

The feasibility study – to be carried out by US-based Africa Climate Solutions – will define the framework for the proposed project and develop an implementation plan to guide the deployment of smart grid infrastructure in one of Morocco's main tourism cities.

According to USTDA, smart grids improve power sector efficiency and facilitate the integration of renewable sources of power into the grid.

It says the project will also help reduce technical and non-technical losses and the frequency and duration of power outages in Marrakech, as well as help integrate other new renewable energy sources into the grid.

Local hope

It is not just an area for international firms, however, with a new generation of African enterprises keen to lead in the development of smart grids.

Among them is Beacon Power Services (BPS), an energy technology company based in Nigeria.

It has developed an AI-enabled smart grid platform, Adora, which provides real-time visibility on network performance utilities. This connects to every utility asset and customer node on the grid, allowing energy providers to pre-empt outages, identify network losses, and distribute electricity efficiently.

The start up firm recently raised US\$2.7mn in seed financing to

support growth and help the company expand.

"It is impossible for Africa to develop without significantly improving electricity access and reliability across its major cities," said Bimbola Adisa, BPS' founder.

Adisa said that BPS has already helped utility clients reduce network losses significantly, as well as improve power reliability for over 30mn consumers.

"Most importantly, our technology is having a real impact on sustainable economic development and climate change in Africa by reducing reliance on diesel generators."

The BPS fundraising reflects the broader support for smart grid initiatives and related energy transition projects.

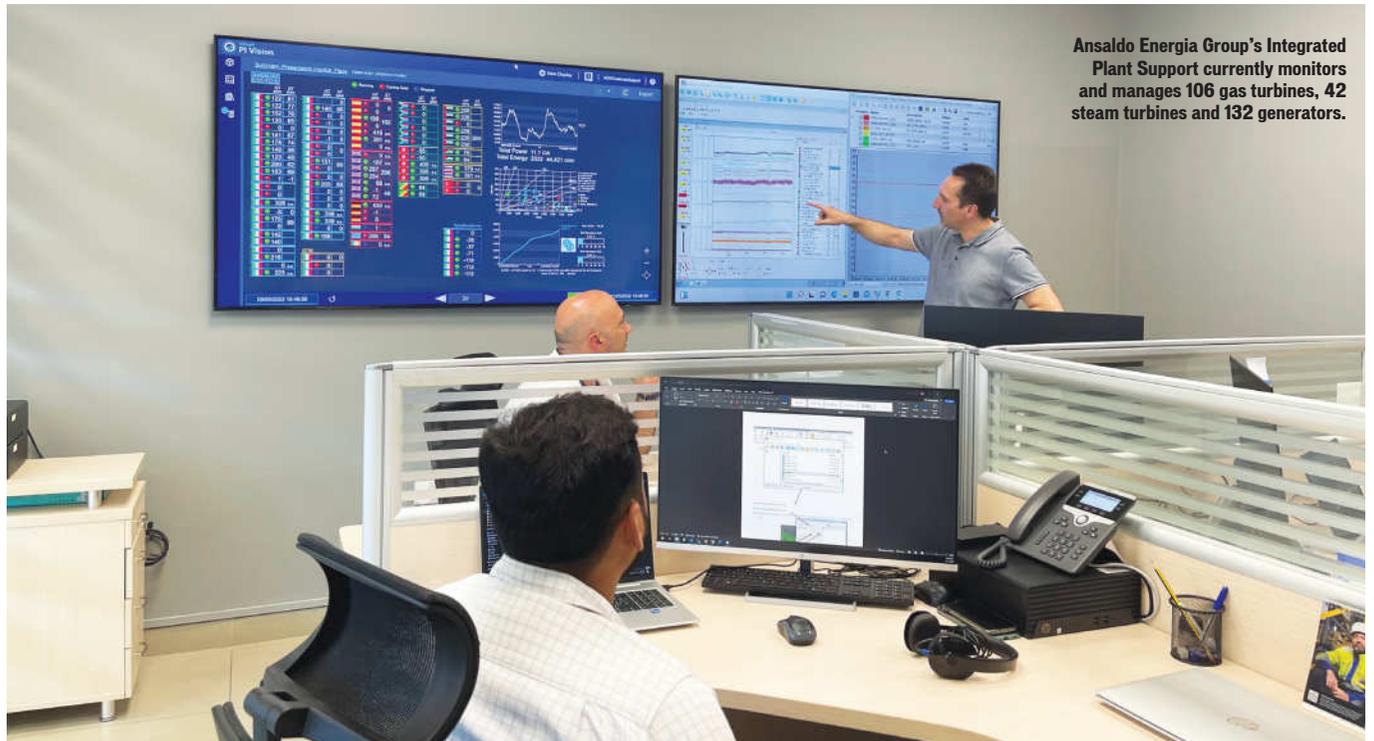
Among the grandest of them all is the long-term Just Energy Transition Partnership (JETP) to support South Africa's shift away from coal. It has drawn US\$8.5bn worth of support from the US, the EU and the UK. ■

“It is impossible for Africa to develop without significantly improving electricity access and reliability across its major cities.”

BIMBOLA ADISA, FOUNDER, BPS

High technology and predictive diagnostics for service activities

Ansaldo Energia has opened a new diagnostic centre in Abu Dhabi to strengthen monitoring for its customers.



Ansaldo Energia Group's Integrated Plant Support currently monitors and manages 106 gas turbines, 42 steam turbines and 132 generators.

Image Credit: Ansaldo Energia Group

The Integrated Plant Support Middle East, the new diagnostic centre in the United Arab Emirates, has been inaugurated at the Ansaldo Energia headquarters in Abu Dhabi.

The Integrated Plant Support works in close collaboration with the equal centre located in Genoa, inside the headquarters of Ansaldo Energia. Together, they represent two poles of high technology that allow the monitoring – with the most sophisticated digital systems and cyber security – of turbines and generators installed in plants under contract of Ansaldo Energia Service worldwide.

The new headquarters in Abu Dhabi will allow the Group to strengthen the H24 monitoring for all its customers, seven days a week, 365 days a year, of the machines installed in its plants, with significant advantages in their management.

With the inauguration of the new headquarters of Integration Plant Support, Ansaldo Energia reinforces its presence in the area, where it has been operating for over 30 years.

Thanks to the high innovation tools and the synergistic work of the two centres, not only are monitoring activities carried out, but also (and above all) remote predictive diagnostics. The analysis of data received in real time (more than 130,000 tags are downloaded every second) allows for a nonstop

overview of the real status of turbines or generators, anticipating any critical issues that can thus be resolved before generating a potentially very critical failure. All this is performed in direct contact with the customer, which can therefore improve the reliability of the plant.

Worldwide service

Ansaldo Energia Group's Integrated Plant Support currently monitors and manages 106 gas turbines, 42

steam turbines and 132 generators, for a total of more than 33GW. In 2010, the Ansaldo Energia Group built a new, recently renovated plant in Abu Dhabi, where service works on gas turbine parts take place.

In 2017, it finalised the Middle East Service Hub (MESH) a fully equipped rapid response unit with 120 technicians, with a light mechanical repair shop and a new area for service activities on generators, to respond quickly and efficiently to all customer requests. A strategic pole not only for the Middle East area, where the company has many projects, but also for the Asian and African regions.

On the African continent itself, Ansaldo Energia has eight power plants that currently have forms of remote service contracts; specifically in Congo, Tunisia, South Africa and Nigeria. ■

“ Together, they represent two poles of high technology that allow the monitoring of turbines and generators installed in plants under contract of Ansaldo Energia Service worldwide.”

Lagos State new electricity policy aiming for universal access

Following the unveiling of the new 'Lagos State Electricity Policy', *African Review* speaks to Olalere Odusote, Commissioner of Energy and Mineral Resources, Lagos State, Nigeria, to explore the new policy changes which are geared toward achieving universal and reliable electricity access for local residents and businesses by 2036.

African Review (AR): In terms of power consumption, how does Lagos compare to other parts of the country?

Olalere Odusote (OO): The Lagos economy is the fifth largest economy in Africa and is supposedly bigger than 24 African countries combined. It accounts for 60% of the industrial and commercial activities in Nigeria and, as such, is by far the largest energy consumer in the country. It's estimated that over 40% of the Nigerian electricity demand is from Lagos. However, Lagos is allocated between 24-26% of the power produced on the grid.

AR: What is your overall assessment of the current power situation?

OO: There has been a marginal improvement in supply since the electricity sector was privatised eight years ago, although many people in Nigeria still do not have access. This is because 40% of Nigerians remain unconnected to the grid. Over the years, supply into the system hasn't kept pace with population growth, so we are really not better off than we were at the time the privatisation was initiated. Privatisation was supposed to offer incremental improvements in power supply, but that hasn't been achieved. What has happened instead is a phenomenal growth in off-grid supplies.

At the beginning of the privatisation, we had next to zero solar infrastructure. However, that off-grid area has been vibrant and has seen a lot more investment activities than the grid sector.

There's still a disconnect between the commercial realities of the power sector and its current commercial representation. There is a price to be paid for power: if that price is not paid, it is impossible to attract investments. So, we have seen a dearth of investments because the organised grid sector is not paying for the power that is supplied.

AR: What is the rationale behind the creation of the new Lagos policy?

OO: What the policy has done is to communicate to the investing and consuming public the desires of Lagos State to achieve universal electricity supply. Our definition of universal access to



Image Credit: Olalere Odusote

Olalere Odusote is the Commissioner of Energy and Mineral Resources, Lagos State.

electricity is that anybody who wants power can get it, when they want it, and, in the quantity and quality that they want.

AR: What is your vision for the power sector in Lagos State, and what are your success metrics?

OO: Universal access to electricity state-wide by 31 December 2036. We looked at the infrastructure gaps and investment requirements and we recognised there's a timeline to construction.

For the first time, an Integrated Resource Plan (IRP) commissioned in partnership with the US Agency for International Development's Nigeria Power Sector Program (USAID – NPSP) has defined the infrastructure gaps and will guide the investments that will close those gaps. When people hear 2036, it doesn't fill them with a lot of excitement because it sounds far away, but we all know we cannot magically conjure up the infrastructure needed. Our expectation is that, given the importance of the electricity sector to future prosperity, we will put this law in place in the first half of next year.

AR: How does the new policy improve on the existing power structure in the state?

OO: The policy does not mandate anyone to do anything, but anybody who is interested in the direction of the Government can begin to take steps to prepare themselves for the opportunities coming up in the sector. For example, we have spoken about the aggregation of off-grid demands to meet electricity needs in a more efficient way than is being met currently.

Typically, you will buy a solar home system that provides the electricity supply your home needs. The same thing applies for industries – they get generators that feed the supply they require, then get back-up generators for those too. The cost of installation and maintenance of those generators is expensive. If we can aggregate the demand, even in the off-grid, then we can supply the off-grid cheaper than the cost today. For example, the back-up generators of seven big companies in Ikeja can power the whole of Ikeja, but that capacity is dedicated to just seven companies when it could be feeding the entire Ikeja.

With this policy, we have provided a framework that will enable investors to aggregate supply and demand, and meet those needs in a cost-effective way. We understand the grid is not suddenly going to grow to meet needs in the off-grid space immediately. But we will see an improvement in the off-grid space and make Lagos more attractive to investors by ensuring that the off-grid space is more efficient.

AR: What does the new policy mean for Lagos State residents?

OO: They can look forward to further investments in the state. Today, when you go into meetings at the federal level, where you have the transmission, generation, and distribution companies, we still hear recriminations among them, making it challenging to find a holistic solution. In Lagos, we have looked at the market as well as the infrastructure gaps and what we are recommending are specific, phased investments to close those identified gaps.

AR: What measures are being put in place to ensure policy implementation?

OO: In terms of implementation, we are putting together a first draft of a law that will give teeth to this policy. We will still go through a process of public consultations and we will also take feedback from stakeholders and the public to understand what we need to do to make that law effective. By effective, I mean the law must lead to improvements in power supply.

Today in Lagos, the grid supplies 900MW of electricity to the two Lagos distribution companies (Discos). Compare this to the records that show we have imported 8,000MW of diesel generators into Lagos over the past three years.

It is estimated that along with grid supplies, over 4,500MW of electricity are being concurrently consumed in Lagos. There remains room for significant growth in both the on-grid and the off-grid spaces given that we do not yet have universal electricity access. We can also have links between the off-grids, under-grids and the main grid itself. However, we will need a robust regulatory framework for us to manage the interface between the people handling the different grids to enable them to stay together and trade among themselves.

AR: What role will the public and private sectors play in achieving the policy's objectives?

OO: It is the responsibility of consumers to pay a fair price for the electricity they consume. It is the responsibility of the provider to ensure they supply the electricity needed by consumers and charge a fair price for this supply. The role of the Government and its agencies is to ensure that an enabling environment is created for

“Lagos State is going to create a market that is sustainable.”

OLALERE ODUSOTE, COMMISSIONER OF ENERGY AND MINERAL RESOURCES, LAGOS STATE

everybody to interact successfully. This environment will include support for enforcing contracts, providing clarity and consistency of regulation to encourage investors to confidently invest in the space.

AR: How can private sector investors play their part?

OO: When Lagos State opens up for investors to come into the power sector, the question will be: under what laws; are we allowed to make those laws by the Constitution? The answer to that is ‘Yes’. Electricity growth in Lagos and the rest of the country has been stifled. Let us divide the sector into the formal grid-connected electricity sector and the informal off-grid sector.

Over the past seven years, the formal sector has made one deal that was many years in the making – to inject an additional 450MW into the national network. But that’s the only deal that has been done. Most of the power consumed in Lagos is self-generated and not from the grid. With this in mind, the off-grid sector must be formalised to allow that sector to access as much offtake as available. This will give it the ability to enjoy economies of scale and

bring down the electricity price.

Once the investor sees access to the power market in Lagos State they will mobilise funds. Once they also can see there’s clear regulation that allows participation in that market, they will be encouraged to take part. This would make a difference for Lagos because, currently, everyone is constrained to putting small generation capacities in place for self-need rather than to serve the entire neighbourhood.

AR: How will this policy boost the economy of Lagos State?

OO: The policy will birth a conversation on the law that will lead to a scaling up of the capacities of the off-grid players which will, in turn, lead to lower cost of electricity and improvement in the competitiveness of commercial entities in Lagos. The policy has given clarity to the direction the state intends to go. Interested investors are already beginning to engage with the Government to craft the regulatory support that will promote and attract investments. The IRP already has provided insight on infrastructure gaps and a demand forecast. Lagos State is going to create a market that is sustainable. Sustainable simply means people will be charged the right price for the right products. Prices that are not too high such that customers are discouraged, and not too low such that investors don’t feel they can benefit financially from the space.

AR: How are climate change and net-zero policies affecting the sector?

OO: In protecting the environment, you also need to ensure people can carry on with their livelihoods. The transition has to be just. It cannot be an unfair transition. We can’t simply move away from fossil fuels and gas entirely to use wind because we have wind and it’s free. Essentially, we have to be good citizens of the world and achieve net zero, but this will happen over time.

Our plan is to significantly reduce our dependence on dirtier fuels and migrate as many people as possible to gas when we’re ready to; then move from gas to emissions-free technologies. It’s our commitment to move everyone as fast as possible to gas and that’s why we are trying to create this market such that when we bring the equipment in, we can get as much demand as we need and satisfy that demand rather than doing it on a small-scale basis. Getting a small gas generator is a lot more expensive than using a diesel generator. However, as we start to upsize and enjoy economies of scale, the difference in price is not that much. So, we’re able to achieve the shift from dirtier fuels to gas much quicker. ■



Odusote hopes to reduce dependence on “dirtier” fuels.

VOLTSTORAGE RECEIVES FUNDING TO PROGRESS BATTERY STORAGE SYSTEMS

Munich-headquartered VoltStorage has received 24mn euros in Series C financing from Cummins Inc, for the development of new battery storage systems and the expansion of the company.

VoltStorage develops pioneering battery solutions based on redox flow technology which are low-cost, scalable, and environmentally safe. It develops and produces commercial storage systems based on the vanadium redox flow technology. In addition, it is working on the low-cost iron salt battery, whose properties make it particularly suitable for ensuring base load capability for wind and solar farms. With the development of the iron salt technology, the company is setting new standards in the field of long duration energy storage, offering wind and solar farms a highly cost-effective and resource-saving option for ensuring base load capability.



Image Credit: VoltStorage

VoltStorage develops commercial storage systems based on vanadium redox flow technology.

“Cummins’ commitment to a sustainable, cleaner planet is unwavering and we are pleased to join with VoltStorage in these efforts,” said Jennifer Rumsey, president and COO, Cummins Inc. “Our Destination Zero strategy is integral to every technology, growth, business, and investment decision we make. We continue to make our products cleaner, and by investing in

VoltStorage, we are taking steps to also make the grid and energy storage greener as well.”

The capital will go toward developing larger-scale redox flow storage systems for commercial and agricultural enterprises, and accelerating product development of the iron salt technology towards commercialisation. To this end, VoltStorage plans to significantly expand its team and further expand the company’s activities.

“This future-oriented investment will enable us to pursue VoltStorage’s product and company development with even greater energy. It is now undisputed: energy storage systems are crucial for the conversion of the electric power supply to 100% renewables. With the newly-acquired funding, VoltStorage will be able to provide the necessary technologies for this,” explained VoltStorage CEO Jakob Bitner.

MUNDO-POWER LAUNCHES HYBRID POWER SOLUTIONS

Mundo-Power has launched its hybrid power solutions for African communities and businesses looking for robust renewable energy solutions.

David Brown, vice president of international business development at Mundo Power, said, “Many customers have already benefited from deploying the Mundo complete turnkey system: small wind turbines, solar panels and batteries. Suzuki School, the internationally recognised renewable energy school, has committed to a second turbine to provide further green renewable energy for the school.”

Mundo turnkey solutions are designed to last for years, and combining flexible solar panels on turbine poles answer theft and space concerns, the company says.

Mundo Power is partnering with Magcor Consortium Group of Companies Ltd., Ghana, which brings extensive African development experience.

Getech releases new version of Globe Platform

Getech, the geoenery and green hydrogen company, has signed a US\$1.1mn multi-year contract with a major international energy company for its 'Globe' platform and launched the next generation of this innovative tool that models the Earth's evolution over the last 400mn years.

Globe synthesises geoscience data into a 'digital twin' of the Earth – modelling geologic, climatic, and oceanographic systems to provide unique insight into the processes that locate and concentrate energy and critical mineral resources, which are essential to the delivery of a sustainable and secure energy transition.

The upgraded Globe 2022 has new content and functionality to deliver even more value for customers across transitional petroleum, critical minerals, geothermal and Carbon Capture and Storage (CCS) markets. Featuring a new dynamic plate model and innovative approach to understanding sediment supply which are key to locating critical minerals, the platform also determines optimal CCS and geothermal locations to support global decarbonisation.

Getech’s chief executive officer, Jonathan Copus, commented, “We are encouraged by the continued strong demand we see for our products, delivering growth in revenue generation, but also importantly providing a strong base from which we can further explore strategic partnerships and opportunities to expand Getech’s own portfolio of low carbon assets.

“The success of the global energy transition is reliant on a diverse range of solutions facilitated by the rapid development and application of technology and a significant increase in critical minerals supply. Getech’s Globe platform provides an excellent example of our ability to combine decades of experience and innovation with leading geoscience data to meet mounting market demand. Thanks to its fundamental role in de-risking natural resource exploration projects, Globe is optimally placed to accelerate the pathway to net zero.”

PARTNERSHIP FOR PGM DEVELOPMENT

Sibanye-Stillwater and Heraeus Precious Metals have agreed to jointly collaborate on research and development of novel Platinum Group Metals (PGM) containing electrocatalysts with high activity and stability for Proton Exchange Membrane (PEM) electrolysers, utilised in the production of green hydrogen, amongst others. The project will be equally funded by the parties over a three-year period. The results will be mutually commercialised, and the parties will cooperate on communication and marketing of the novel catalyst.



The Globe Platform models the Earth's evolution.

Tata International Africa announces new John Deere dealerships

Tata International Africa has expanded its footprint in Africa as a trusted John Deere dealer in Tanzania and Malawi to support the agricultural and construction markets.

Tata and John Deere will provide equipment dedicated to the success of their customers, to those who cultivate, harvest, transform, enrich and build upon the land to meet the world's dramatically increasing need for food, clothes, and infrastructure.

Jaco Beyers, managing director of John Deere AME, commented, "At John Deere, we are committed to living out our strategy of providing customers with the best products, service, and aftermarket support in agriculture, construction and forestry. Tata International is a true partner and is also invested and dedicated to this strategy. Tata supports our customers in delivering sustainable food production and creating infrastructure in Africa."

Len Brand, CEO of Tata International Africa, added, "Tata International Africa's solid reputation of supporting John Deere products in several countries in Africa has enabled us to make this commitment in Tanzania and Malawi. We are extremely proud to have been given this opportunity to represent the brand in more countries on the continent."

"Tanzania and Malawi's diverse mining and mineral industries, as well as the all-important agricultural sector, play a significant role in the development of their economies. We look forward to contributing to the further development of these economies and their populations with this expansion and pledge our support to the customers through our uptime strategy."

Tata International Africa and John Deere will further expand their construction and forestry operations into the Ivory Coast, and their agricultural, construction, and forestry operations into Senegal.

John Deere has a strong presence throughout the Africa Middle East region and serves its customers through more than 218 dealer touch points. It supports its dealer network with a regional parts distribution centre in South Africa as well as sales and marketing offices in South Africa and Kenya.



Jaco Beyers and Len Brand.

Image Credit: John Deere

ROKBAK RECEIVES ROSPA GOLD AWARD

Rokbak has celebrated its second RoSPA Gold Award in a row for achieving the highest standards in health and safety.

The RoSPA Awards are presented to recognise world leaders in health and safety. Every year, around 2,000 entrants apply to achieve this accolade.

The two golds have come after four successive years of Silver Awards, demonstrating not only a continued high-level of safety standards but even a drive to improve. The company has noted that safety is deeply embedded in both Rokbak's and parent company Volvo Group's philosophy.



Image Credit: Rokbak

This is Rokbak's second gold award in a row.

Paul Douglas, Rokbak's managing director, commented, "Health and safety has always been a priority for us so we are thrilled to be recognised with a gold award from RoSPA. We have had a busy year with the rebrand and the various updates and changes that came with that, as well as lots of new team members on the shop floor. So, to hold firm and win our sixth consecutive award is a fantastic result."

Julia Small, achievements director for RoSPA, commented, "All our award entrants demonstrate their unwavering commitment and passion for keeping people safe at work. By receiving this recognition, Rokbak joins like-minded businesses and organisations worldwide, who represent the very best in their approach to health and safety."

ORASCOM BOLSTERED BY EGYPTIAN BACKLOG

Orascom Construction, a leading global engineering and construction contractor primarily focused on infrastructure, industrial and high-end commercial products in the Middle East, Africa and US, has added US\$1.8bn of new awards to its backlog in Q2 2022.

This reflects an increase of 55% year-on-year and brings total new awards in the first half of 2022 to US\$2.4bn. Of the new awards, 70% were comprised of projects in Egypt as the company increased its role in the development of the new high-speed rail system and signed a new 1,325 km phase for the project.

Orascom Construction also develops and invests in infrastructure opportunities, owns 50% of BESIX Group, and holds a construction materials, facility management and equipment services portfolio.

The estimated consolidated backlog stood at US\$6.4bn as of 30 June 2022.

BRIEFS

Central hub complete at Great Turtle Ahmeyim project



Image Credit: Eiffage Génie Civil

More than 75% of the teams on this operation were made up of local personnel.

After successfully completing the installation of 21 caissons, the Eiffage Génie Civil Marine teams have finished the central platform of the Great Turtle Ahmeyim project, located 10 km from the coast on the Mauritania-Senegal border.

The platform represents more than 3,200 tonnes of steel structure and 200 prefabricated concrete elements installed by two 300-tonne cranes moving forward. A fleet of 15 vessels was operated by Eiffage Génie Civil Marine teams.

State-of-the-art INI building for Rhodes University



Image Credit: Rhodes University

The building will take around 18 months to construct.

The construction of a state-of-the-art building at Rhodes University, South Africa, has officially begun after the institution's vice-chancellor, Sizwe Mabizela, officiated a sod-turning ceremony. The building will house a global Institute for Nanotechnology Innovation (INI) and is the first of its kind on the African continent to provide cutting-edge technology and fit-for-purpose research facilities. It will be built at a cost of approximately US\$5mn and will take around 18 months.

BKT's tyres are suited to even the toughest of terrains.



Image Credit: BKT

All-terrain tyres for all requirements

Rajiv Poddar, joint managing director at Balkrishna Industries Ltd. (BKT), discusses the company's offerings for Africa.

African Review (AR): What are BKT's products specific to Africa?

Rajiv Poddar (RP): Our company's key product range comprises off-highway tyres, catering to mining, agriculture, industrial, and all-terrain vehicle tyre requirements. In Africa, being one of the primary markets for our tyres, we are determined to play our role in helping the mining and construction industries – foundational sectors on the continent – overcome their challenges, build sustainability and grow in profitability. Mine and construction sites and their rough

terrains pose a challenge for machines operating on them. So, we have developed BKT EARTHMAX range of tyres, which are rugged, reliable tyres and provide the best productivity, traction, and stability, and durability.

AR: Please elaborate on the EARTHMAX range of tyres.

RP: Fitted to rigid dump trucks operating in rocky environments like mines, EARTHMAX SR 46 is designed to transport heavy loads. It is a casing with a steel belt that guarantees a high level of resistance to cuts. The tyre's specific design of tread, with blocks and grooving on the circumference, guarantees reduced damage to its surface, with improved performance on bends.

EARTHMAX SR 45 is designed for rigid dump trucks, with a specific design of blocks and a deeper tread, guaranteeing the product's extended lifecycle.

EARTHMAX SR 53 has been designed for loaders operating in difficult conditions. Its tread comprises a compound particularly resistant to cuts. It is also designed to offer extraordinary self-cleaning properties (expelling stones and other foreign bodies for example).

“With our 3,200 products, we offer one of the largest portfolios on the market.”

RAJIV PODDAR, JOINT MANAGING DIRECTOR AT BKT

AR: What is BKT's advantage over competitors in Africa?

RP: Our users certainly appreciate the size of our range, which translates into the possibility of always finding the model, the size, the compound suitable for every situation, application and machinery. With our 3,200 products, we offer one of the largest portfolios on the market and we respond to the most specific requests. But most importantly they trust our quality products – a sturdy and durable product saves money for everyone and increases productivity. This is the biggest reason that BKT believes it is just the right player for Africa. ■

Image Credit: BKT



Rajiv Poddar is the joint managing director at BKT.

Innovations at the heart of hauler design

Operator safety and climate impact are among the chief concerns shaping the design of new haulers for the construction industry.

Since the expansion of its construction brand into 18 more countries across southern and western Africa last year, John Deere has continued its unwavering offensive on the continent's construction market.

Alongside the consistent release of agricultural equipment, the company has been cementing its position by strengthening ties with dealers – Tata International, for instance has struck a new deal to represent the company in Tanzania and Malawi and will further expand their construction and forestry operations into the Côte d'Ivoire and Senegal.

In its latest announcement, John Deere has introduced the 460E-II Articulated Dump Truck (ADT) to the southern African market – a machine that combines the most popular features of the E-Series line with customer-driven performance and operation enhancements.

With a redesigned dump body, which is wider and has a lowered levelled rail height, the ADT improves on material retention and can be more easily loaded. The 460E-II model is also available with a new ejector body solution which allows operators to spread a load over a given area and can be used in areas with overhead powerline



The 460E-II ADT consumes up to 7% less fuel due to reduced weight and improved hydraulic efficiency.

Image Credit: John Deere

concerns or where the risk of rollover is high due to steep grade unloading.

Delivered to be both reliable and durable, the 460E-II ADT boasts axles designed for heavy-duty and longer life and the hose and wire routing has been simplified to reduce rubbing.

Operators have been given particular attention as a number of safety features such as remote park-brake release, rollover protection, ground-level service and auto horn ensure the user is kept out of harms way. In addition, the operator station includes features to promote productivity and comfort such as a single switch model which reduces the number of switches by 25% compared to previous models.

The three drive modes available on the 460E-II ADT help optimise the drivetrain, reduce inputs from the operator, and enable easy customisation. These include normal mode for everyday operations; eco mode for conserving fuel by managing power delivery and optimising transmission response for conditions; and traction mode which optimises differential lock for maximum tractive effort in soft and slippery ground conditions.

With these modes, John Deere noted, clients will save fuel costs and help reduce the environmental impact of operations.

Decarbonising construction

John Deere is not the only company working with the environment in mind however. In recent months Volvo CE has been stealing headlines for its innovative approaches to delivering essential construction equipment with reduced damage to the natural world.

The company became the first company in the world to deliver a construction machine using fossil-free steel when it presented an A30G articulated hauler to long-standing customer NCC. The A30G was produced using the existing manufacturing process but with fossil-free steel from Swedish steel-company SSAB.

The move came just nine months after it unveiled the vehicle concept using fossil-free steel – a load carrier for use in mining and quarrying – and reportedly represents an important milestone in the group's ambition to drive industry transformation towards global climate goals. Commercial introduction is expected to be gradual with selected customers.

Volvo CE was not done there, however, as they quickly followed this announcement by starting tests for the world's first hydrogen fuel cell articulated hauler prototype, the Volvo HX04. These tests are being conducted to explore the potential of electrification of such machinery through hydrogen fuel cell technology.

Carolina Diez Ferrer, head of advanced engineering programmes at Volvo CE, commented, "While an early prototype, this innovation will give valuable insights into the opportunities of hydrogen in the energy transformation alongside battery-electric solutions. We believe that by exploring multiple technologies and working in partnership we can create the best path forward to decarbonise the construction industry." ■



Commercialisation of hydrogen-powered machines is expected during the second half of this decade.

Image Credit: Volvo CE



Image Credit: Road Development Agency, Zambia.

A gateway to growth

Nawa Mutumweno explores the challenges around maintaining resilient road infrastructure - a gateway to sustainable development on the continent.

Road transport is the main avenue of transport in sub-Saharan Africa (SSA), accounting for close to 90% of the region’s passenger and freight transport, and providing access to rural communities where over 70% of citizens live.

Despite its importance, it is evident that most African countries do not do enough to ensure the sustainability of road infrastructure, with many roads suffering premature deterioration of varying degrees. This can be attributed to inadequate provisions for financing and deficiencies in management.

Without adequate and timely maintenance, roads deteriorate, leading to higher vehicle operating costs; increased number of accidents; and reduced reliability of road services, resulting in road transport costs becoming high, thus suppressing socio-economic development.

Most countries have adopted institutional reforms, mainly the creation of road funds and road agencies, and made remarkable progress on road maintenance.

These reforms are aimed at addressing the huge backlog of deferred maintenance, the shortage of funds for maintenance, and ineffective institutional arrangements. The main thrust has been to bring roads into the market place by charging for road use on a fee-for-service basis; and to manage

roads as a business.

Although spending on road maintenance has increased over time, it remains insufficient to cover the needs.

According to the Tanzania National Roads Agency (TANROADS), the road infrastructure of any country is the most expensive asset. It puts the replacement costs of the national roads in the country at approx. US\$2.3bn.

“By far this is a huge asset by any standard and requires routine and periodic maintenance to keep it in a stable long-term condition to enable it play its role as a catalyst for socio-economic development,” TANROADS says.

One major maintenance project in the southern African region has been the reconfiguration, restructuring and rehabilitation of the 360 km Great East Road with five bridges running through Zambia to the border with Malawi. This road is also part of the regional 1,650 km Nacala Corridor, a regional transport corridor linking Malawi and Zambia to the deepwater port of Nacala in Mozambique. The project which was co-financed by the European Commission (EC), African Development Bank (AfDB), European Investment Bank (EIB), and French Development Agency (AFD) commenced in September 2013 and was completed in December 2018.

“The maintenance of road and bridge infrastructure is vital as it

ensures sustainability of these structures,” commented Anthony Mulowa, Zambia’s Road Development Agency (RDA) acting director of communications.

The agency’s maintenance activities are classified as follows:

- Routine maintenance: works applied on road/drainage structures in good and fair condition in order to preserve them;
- Periodic maintenance: works carried out after a specified maintenance period has been attained and includes works such as gravelling, resealing, overlaying and line markings;
- Force account works: these are in-house works and usually small projects carried out by the agency through the regional offices;
- Emergencies: unplanned works carried out in reaction to adverse weather conditions that disrupt the road network with related infrastructure such as culverts, bridges and embankments;
- Bridge maintenance: repair works on bridges.

The agency has 153 ongoing routine maintenance contracts in all the provinces during the second quarter of 2022.

The running contracts covered a total distance of 4,346 km of both paved and unpaved roads.

In the period under review, there were 329 expired contracts and 423

lots under procurement.

“There were eight periodic maintenance road projects that were being undertaken by the agency in the second quarter of 2022. These were Kasama-Chambeshi in Northern Province; Mansa-Musaila –T2 Junction in Luapula Province; holding maintenance on Mansa-Chembe Road in Luapula Province; Linda-Kafue including U8 Chyanyanya Road in Lusaka Province; Livingstone-Sesheke (Lot 2) (M10) in Southern Province; Kamilulu-Luangwa Bridge (T4) in Lusaka Province; Katete-Chanida (T6) in Eastern Province; and the Ndola-Kitwe Road on the Copperbelt,” Mulowa elaborated.

The way forward

Africa’s development is anchored on an adequate, reliable road system. In recent times, climate change has taken a heavy toll on the region’s transport infrastructure, especially roads and bridges and traditional sources to finance transport infrastructure are becoming a challenge.

There is therefore an increased need for alternative funding arrangements such as public-private partnerships which can cover up financial deficits on such programmes, and it is imperative that planners develop the most cost-effective and appropriate adaptation pathway under a variety of climate scenarios. ■

A LONG WAY TOGETHER



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The Zhen Hua 28 arrived at the port after a two-week voyage from Shanghai.



Image Credit: Lekki Port/LFTZ Enterprise Limited

Lekki Deep Sea Port gears up for grand opening

As the first vessels arrive at the new Lekki Deep Sea Port in Nigeria, the significance of this impressive project is hard to overstate.

When it officially opens – anticipated later this year – the Lekki Deep Sea Port will be the country’s largest deep sea port and instantly become a major conduit for trade with Africa’s most populous nation.

It is also the single largest private infrastructure investment project in Nigeria, built in partnership with the Singapore-based group, Tolaram, alongside China Harbour Engineering Company.

Other key stakeholders include the Nigerian Ports Authority (NPA) and the Lagos State Government, where the facility is located.

Port officials took to social media recently to state that the objective is “to complete construction by September 2022.”

While the grand opening still awaits (at least at the time of this magazine’s publication), the first vessels have already arrived, bringing with them key items and equipment for ongoing development works.

In the latest major update from the project team – published on 22 July 2022 – work at the port was said to be almost 96% complete.

First arrivals

At the start of that month, the port welcomed the arrival of its first vessel, Zhen Hua 28, after a two-week voyage from Shanghai.

The Chinese ship delivered three Super Post Panamax Ship to Shore (STS) cranes and 10 Rubber Tyred Gantries (RTGs) to be used in the container terminal, which will be operated by Lekki Freeport Terminal, a subsidiary of CMA CGM Group.

When operational, the multi-purpose deep sea port will help expedite Nigeria’s free trade zone agenda and provide a significant boost to local and international businesses.

Managing director of Lekki Deep Sea Port, Du Ruogang, said it will be the first time that the new

sophisticated cranes will have been deployed in Nigeria, boosting the country’s container operations and putting the West African state on the global maritime map.

In August, the port received its second vessel, Zhen Hua 35, bringing a second batch of two STS and five RTGs. By the time of the formal commencement of the port operations, all five STS and 15 RTGs are expected to be in place, according to Ruogang.

Mohammed Bello-Koko, managing director of the NPA, described the delivery of the cranes as “historic” and that it will enable the country to optimise opportunities arising from the African Continental Free Trade Area (AfCFTA).

As Nigeria’s first fully automated port, Lekki is expected to propel efficiency in the maritime trade sector. It forms a key part of the overall Lagos Free Zone blueprint, an initiative that also includes Tolaram.

Integrated with Lekki Deep Sea

Port, it will boast world-class infrastructure and a host of attractive economic incentives for business.

Collectively, the hope is that these mega projects will redefine ease of doing business in the country and counter traditional infrastructure or other bottlenecks.

Centrally located in Lagos State, the free zone is the first private free trade zone in Nigeria.

Lekki Port LFTZ Enterprise Limited (LPLEL) was awarded the concession for 45 years by the NPA on a build, own, operate and transfer basis.

Meanwhile, work at the port itself continues apace under the watchful eye of engineering, procurement and construction (EPC) contractor, China Harbour Engineering LFTZ Enterprise (CHELE).

As of 27 July, dredging and reclamation works were over 98% complete, the quay wall 96%, the breakwater 93%, and land side infrastructure 91%. ■

IVECO T-WAY

IVECO S-WAY

DRIVE THE NEW WAY



NEW IVECO T-WAY: HIGH PRODUCTIVITY AND SAFETY ON OFF-ROAD TERRAINS

With a complete line-up of AWD and PWD versions and the the 16-speed HI-TRONIX automated gearbox, the IVECO T-WAY features a host of functionalities such as Rocking Mode, Off-road Mode, Creeping Mode and 4 reverse gears to tackle with ease the toughest off-road conditions. The new architecture of the EBS system, combined with disc brakes on all wheels, greatly improves the vehicle's performance and the driver's safety in the most demanding applications.

NEW IVECO S-WAY: HIGH TECHNOLOGY AND EFFICIENCY FOR ON-ROAD MISSIONS

The new IVECO S-WAY, with a completely redesigned and reinforced cab, offers a wide choice of Euro III/V diesel engines, a delivering class-leading power from 360 HP to 560 HP Euro III / 570 HP Euro V and superior fuel-saving devices, such as anti-idling feature, Ecoswitch, Ecoroll and Smart Alternator. 12-speed HI-TRONIX automated transmission with the most advanced technology in its category, electronic clutch and best-in-class torque-to-weight ratio.

IVECO

Scaffolding safety

Thierry Baranzika, business development manager at Layher South Africa, explains the standards and technology keeping workers safe when using scaffolding and formwork.

African Review (AR): What are the most important safety considerations when using scaffolding?

Thierry Baranzika (TB): From a scaffolding assembly point of view, following the local scaffolding standards and the manufacturer's recommendations are the starting point. Where the scaffolding falls outside of the local standards (for example SANS 10085 in South Africa) or the manufacturer's specifications (Layher's instructions for assembly and use), it is crucial to have the scaffolding designed, checked, and signed off by a registered professional temporary works engineer.

Within these standards and recommendations however, it is important to consider the built-in features. Features to increase safety while allowing for quick and ergonomic assembly. Most system scaffolding manufactured in Africa (and the world) do not come with these features included.

The Layher Allround Scaffolding on the other hand, thanks to lightweight and constructively optimised components as well as the bolt-free connection technology, can be assembled quickly, ergonomically and be flexibly adapted to building geometries and topographical features. Security is also ensured: the self-locking wedge lock connection AutoLock enables ledger assembly from a secured position.

AR: How have modern innovations shaped scaffolding safety?

TB: Safety in scaffolding has remained rather stagnant in the southern African context with very little improvement to the first versions of

modular scaffolding manufactured in Africa.

During that time however, Layher has continuously worked on creating parts and systems which would enhance the safe assembly and use of scaffolding. Simple innovations such as lock against lift-off and securing screws to prevent boards from sliding or coming off and we have created multiple cover solutions to enhance safety in scaffolding. The award-winning modular access system AGS includes AGS guardrail frame units which are installed from a safe position to allow workers to move onto the next platform with pre-existing guardrails.

Our aluminium FlexBeam has multiple uses that benefit the construction industry as seen in bridge repair by providing a stronger, lighter and more ergonomic bridging solution.

More recently, the TwixBeam, an aluminium formwork beam that is lightweight and heavy duty, has been developed to be used as primary beam in formwork construction. This allows increased load transmission while reducing the materials consumption and assembly effort involved in shoring structures when compared to the use of conventional timber beam formwork constructed from H-20 double main beams.

Each year, there is something new coming from our R&D in Germany or with the input from any of our many global branches.

Finally, digitisation has brought numerous advantages on construction sites with Layher SIM

In addition to a high level of planning and scheduling security as well as cost control on construction sites, digital processes also make it easier exact geometry adjustment of height



Image Credit: Layher South Africa

Thierry Baranzika is the business development manager at Layher South Africa.

accesses as well as the coordination with safety officers in advance. Layher SIM is specially designed for scaffolding projects and includes all essential factors of scaffolding construction – from planning to logistics to execution.

With the integrated software solution LayPLAN SUITE is also available powerful tool with practice-oriented modules available – suitable for every need. You can learn more about our innovative solutions at bauma 2022 and on our website www.layher.co.za/software

AR: How seriously do African construction companies take safety around scaffolding?

TB: Overall, the approach of contractors in various countries in southern Africa are very similar. The difference lies in the products allowed to be used in some countries rather than others where homemade and cheaper scaffolding solutions are allowed. Many construction companies are more interested in getting the work done quickly than working safely.

Safety in scaffolding is more rigorously adhered to in mining, oil and gas as well as other industries where the regulations require this of the contractors. This still needs to improve largely in construction. At Layher, we play our part by ensuring that speed and safety are not contradictory.

AR: What can be done to improve awareness and the safety environment?

TB: The legislators and manufacturers would need to take more responsibility in enforcing the safety standards and highlighting the risk involved in the scaffolding industry.

With an extensive range of seminars and detailed technical documentation, Layher provides the support customers need to ensure that employees are optimally qualified for their upcoming tasks. For further information, request our seminar brochure or visit us online at www.layher.co.za/en/customer-centre ■



Image Credit: Layher South Africa

INZAG TO UTILISE LIEBHERR CRANE FOR GHANAIAN CONSTRUCTION PROJECT

German construction company INZAG has been awarded the contract for 'Lot 1' of the rehabilitation of the Eastern Corridor Road in Ghana. For their contribution to the project (of central importance for the transport and economic development of the West African state), the company will be undertaking some complex operations such as the development of the first 64 km from Tema to Akosombo and the widening of lanes through the city.

As the company set up the construction site, it was met by a special delivery from Liebherr in the form of a LTM 1090-4.2 mobile crane to help complete this task. Benjamin Knell, purchasing manager at INZAG, noted, "In addition, we will use the flexible 4-axle crane for steel construction and prefabricated assembly. As an all-rounder, the 90-tonne mobile crane will be a



The crane will initially be used to set up the construction site.

key piece of equipment for the construction project. In addition, more cranes are needed on site, especially larger equipment for the heavy lifts."

The LTM 1090-4.2 combines mobility and performance and is economically mobile all over the world, as it can be moved with different axle loads for road and construction sites. ECOdrive

and ECOmode reduce its fuel consumption and noise emissions and the VarioBallast variable counterweight radius and the VarioBase variable support base provide extra performance and safety as well as flexibility in use. With its 60 metre telescopic boom and lattice extensions, the 90 tonne crane can reach lifting heights of up to 76 metres and radii of up to 62 metres.

Achim Becker, managing director of INZAG, remarked, "We have a long-standing business relationship with Liebherr. We appreciate their renowned excellent service. It is a great advantage that Liebherr is present here with a branch office in the capital Accra. It is also an important aspect of our corporate strategy to work with German manufacturers in the African market and to establish strategic partnerships with them in Africa."

Bobcat releases Heavy Duty Box Blade for grading applications

In an expansion of its line-up of attachments, Bobcat has launched the Heavy Duty Box Blade, aimed at both 2D and 3D grading applications.

Suitable for use with most of the models in the Bobcat skid-steer and compact track loader ranges, the new Heavy Duty Box Blade attachment saves time and money while producing a more accurate and higher precision finish grade, even on tough jobsites. The fingertip controls and user-friendly display on the Bobcat loaders also guarantee ease of operation and the new attachment offers a plug & play integrated solution, that can be installed on Bobcat loaders within a minute.

The Heavy Duty Box Blade can be used for rough grading or enhanced with Bobcat's compatible laser-guided control systems for precision grading.

As a result, the new attachment can be used to level ground effortlessly in roadwork and construction, including creating bases for car parks or pavements. Engineered for maximum precision, no rework is needed while grading.

When it is set up for 3D applications, the new solution is capable of grading complex designs on landscaping projects with either GPS or UTS guidance. This increases business opportunities and market share for contractors by increasing the range of projects they can bid and work on.

Wheels behind the cutting blade allow the operator to push material more efficiently and quickly and also enable operation in tight spaces while also improving travel and stability. The increased precision offered by the compact design and rear positioned casters allows grading to take place in corners, around pillars or next to walls. Additionally, the side edges are adjustable to the desired cut depth, maintaining a precise grade.

The adjustable articulation of the grade enables the operator to remain at peak efficiency. Even working on slopes has been made simple – filling in low spots is easier thanks to the wheels being mounted behind.

Bobcat has also ensured that there is a high-quality standard of durability with its Heavy Duty Box Blade as the dual-sided and replaceable cutting edge provides a long product life with its hardened steel.

Optimised for Bobcat machines, this attachment gives more control while providing less ground disturbance and giving the robustness that customers of Bobcat have come to expect.



The Heavy Duty Box Blade is suitable for use with most of the models in the Bobcat skid-steer and compact track loader ranges.

LINARC LAUNCHES PROJECT MANAGEMENT SOFTWARE

Linarc, an all-in-one project management solution, has been developed to solve the daily challenges that owners, design teams, and contractors confront while driving projects to completion, according to Shanthi Rajan, CEO and founder of Linarc Inc.

"Linarc uses technology, integrated connectivity, intelligent data analysis, and real-time updates to give everyone the tools, resources, and information they need to perform at their best," Rajan commented.

The project management solution is designed to eliminate the need for multiple systems. It has built-in features that provide everything customers need to manage construction projects successfully in a single, easy-to-use platform. Linarc is an open API and integrates easily with standard project management solutions, ERPs, and other software for seamless accounting and transparency. Advantages include:

- Project owners having clear insights into work progress and budget expenditures
- Design teams connecting to project execution for quick reference and problem-solving
- CFOs and procurement specialists having control of project financials
- Management teams getting detailed reports and quick reference dashboards
- Supervisors and forepersons gaining the ability to control work assignments and material deliveries for seamless workflows and sustainable progress
- Field crews receiving detailed work assignments with documents, photos, and visual cues to keep them safe, productive, and on task.

VOLVO'S L350H WHEEL LOADER READY FOR ACTION

The upgraded L350H wheel loader from Volvo Construction Equipment (Volvo CE) can tackle a range of application from mining and quarrying to heavy infrastructure.

The flagship of the Volvo wheel loader range comes prepared for heavy-duty applications as standard from the factory thanks to the proven Z-bar lifting arm with double sealing on each of the pins, and strong frame structure, which is joined by a reinforced upper center hinge and new Volvo axles.

This heavy-duty upgrade is built on the success of its forerunners with a few notable improvements. A more responsive hydraulics system, featuring new lift and tilt cylinders, and an increased hydraulic working pressure allows for 10% faster work cycles and higher productivity.

Meanwhile, the upgraded driveline features new Volvo axles and an all-new Volvo transmission which enables the third generation OptiShift to be equipped as standard. Already found on Volvo L150H-L260H wheel loaders, this technology integrates the Reverse by Braking function and the lock up function in transmission to boost fuel efficiency. Efficiency is further enhanced by an optimised gear shifting ratio and the new converter.

Customers can keep working with the updated L350H for longer and



Operators can configure the machine with a choice of three hydraulic modes, customisable lockup engagement and rimpull control.

Image Credit: Volvo CE

reduce costs thanks to extended service intervals. In addition customers can further minimise machine downtime and increase component life with features including heavy-duty axles with fully floating shafts, planetary hub reduction, and maintenance-free rear axle trunnion bearings.

Telematics connectivity and established features, such as the Load Assist suite of apps accessed from the in-cab Volvo Co-Pilot display, further improve efficiency and uptime.

KOMATSU'S SMART CONSTRUCTION RETROFIT KITS TO UPDATE FLEETS

Komatsu's Smart Construction Retrofit kits allow conventional Komatsu excavators to be equipped with 3D guidance and payload monitoring, giving operators and managers more ways to help work efficiently and accurately.

Designed to improve grading performance and provide more time- and cost-management tools, Smart Construction Retrofit can bring 3D to most Komatsu excavators. Easily installed by a local Komatsu distributor, Smart Construction Retrofit is a low-cost guidance kit that gives operators in the field and managers in the office access to 3D design and payload data to help drive accuracy, control load volumes and improve operations.

Ron Schwieters, senior product manager, customer solutions for Komatsu, said, "Smart Construction Retrofit kits are an entry-level solution that can bridge the technology gap and drive production improvements to your fleet."

Once a conventional excavator is fitted with Smart Construction Retrofit, operators no longer have to set up a laser or bench every time the machine moves. The global navigation satellite system (GNSS) can determine where a machine is on the job site and what the target grade is.

Machine production can be monitored from the office by integrating Smart Construction applications, and as-built and payload data can be collected for progress tracking.

The payload meter helps prevent overloaded trucks by promoting proper loading weights for on- and off-road vehicles, to reduce the potential for equipment damage and other risks.

Mitas expands GRIP'N'RIDE tyre range

Mitas, a leading tyre brand for agricultural machines, construction vehicles, material handling equipment and more, has expanded its GRIP'N'RIDE construction tyre range by introducing a larger size tyre for wheeled and backhoe loaders.

The new 21L - 24 IND tyre is designed for improved performance even on softer terrain and features strengthened sidewalls for greater durability when handling increased load capacity. A special tread pattern delivers increased grip, and self-cleaning properties.

Larger than the existing 19.5L - 24 IND tyre, the new GRIP'N'RIDE construction tyre delivers almost 1,000 kg greater load capacity when stationary, and 400 kg greater load capacity at a speed of 40 km per hour.

When compared to other construction tyres, both GRIP'N'RIDE tyres in this range have a

reduced height to width ratio and corresponding profile number.

Marcello Mantovani, product manager for construction tyres at Trelleborg Wheel Systems, commented, "Initial production of this new tyre will serve the extensive North American market, where it is in high demand. This is due to the high number of backhoe loaders in use, which require wider tyres and greater load capacities. Shortly thereafter, we will roll out the new 21L - 24 IND tyre for customers globally."

Backhoe loaders have a front shovel for earth moving and a hydraulic arm with a backhoe in the rear. This makes them universal machines on many construction sites, especially road and path construction.

The entire GRIP'N'RIDE range are designed specifically for the rear axles of construction machines.



Image Credit: Mitas

The new GRIP'N'RIDE construction tyre is larger than the existing 19.5L - 24 IND tyre.

Orica announces valuable acquisition of Axis Mining Technology

Orica has entered into an agreement to acquire Axis Mining Technology (Axis), a leader in the design, development and manufacture of specialised geospatial tools, with the aim to become the industry's first integrated mine to mill solutions provider.

The agreement represents a highly strategic acquisition to Orica's Digital Solutions platform, with the geospatial technology accelerating the company's capabilities in supporting new mineral discoveries that are required for decarbonisation. Furthermore, Axis' gold and copper exposure will accelerate Orica's broader commodity mix objectives.

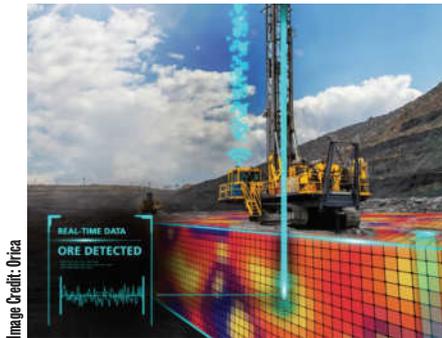
Orica CEO and managing director, Sanjeev Gandhi, said, "We are extremely pleased to welcome Axis into Orica. This strategic acquisition further strengthens our existing Digital Solutions vertical and expands our Orebody Intelligence portfolio upstream.

"Orica's purpose is to sustainably mobilise the earth's resources and achieving this starts with a better understanding of the orebody at the start of the mining value chain. I believe that Axis' differentiated geospatial tools and instruments, combined with our existing suite of digital solutions will provide compelling orebody intelligence to customers and support the delivery of the industry's first end-to-end solutions platform, from mine to mill."

Axis' management team will enter into new employment agreements with Orica to ensure a successful integration of the business, with all Axis employees expected to remain with the business under the new ownership.

Gandhi commented, "The integration of Axis' technology and expertise will accelerate our ability to support our customer's digital transformation efforts around the world, helping them to operate more efficiently, sustainably and safely."

The combination of Orica and Axis is expected to deliver compelling growth opportunities for both businesses, with their combined global network connections and capabilities.



The agreement is a highly strategic acquisition for Orica's Digital Platform Solutions

AKOBO TO OPERATE SEGELE UNDERGROUND MINE

Akobo Minerals, the Scandinavian-based Ethiopian company, has announced their agreement with IW Mining Ltd to operate the underground mine at Segele. This decision secures Akobo access to Segele gold ore for both personnel and competence mining.

CEO of Akobo Minerals, Jørgen Evjen, said, "Getting IW Mining on board was the last piece of the puzzle. Together with Solo Resources for the plant production we have now secured all necessary expertise to start mining. Our companies share the same values and philosophy, delivering responsible and world class projects."

Mining is to be underway in October 2022, with the first gold extraction to begin in Q1 of 2023 and the full production to follow by the end of Q2. Ahead of signing the agreement, planning and preparation initiatives have taken place between the two companies, including sourcing the necessary equipment, with the first shipments to be dispatched imminently.

In line with the ESG guidelines, IW Mining will recruit and train a substantial number of Ethiopian personnel to work in the Segele mine alongside an experienced South African mining team.

Ian Lowers, CEO of IW Mining Services, commented, "For IW Mining Services this contract in Ethiopia with Akobo Minerals is an important milestone in line with our growth strategy. Our belief is that this mining project is the beginning of a strategic multi-party partnership in Ethiopia between Akobo Minerals and IW Mining Services."

After having secured the convertible loan for the first phase of the project in May, as well as signing Solo Resources for the plant design, which has been completed and fabrication for the process plant has begun, Akobo is firmly on track with their mining operational targets.

EXXARO TARGETS YOUTH WITH YES PARTNERSHIP

Exxaro Resources has established a partnership with South African Youth Employment Services (YES) which will see the implementation of employment pathways for young South Africans in the Limpopo and Mpumalanga mining provinces.

Tebogo Leepile, community development manager, said, "There are many challenges that deprive the growth of our country, such as youth unemployment, therefore, innovative ways to equip the youth with quality work experiences and skills development will empower them to create impact locally."

The programmes will include the SME Tax initiative, providing 50 young accountants with work experience, and the LulaRides programme, training 200 young scooter drivers across various online delivery platforms.

BRIEFS

Pensana to receive US\$10mn equity investment



This investment will increase FSDEA's equity holding in Pensana to 24.42%.

Fundo Soberano de Angola (FSDEA), the Angolan Sovereign Wealth Fund, is set to make a US\$10mn investment into Pensana, with the funds being directed to the Longonjo Rare Earths Project in Angola. The capital will go towards a number of project programmes including agricultural livelihood restoration, associated infrastructure for the main plant construction in 2023 and the establishment of the hydro-power transmission line link.

Image Credit: Lupaca Diamond Company Ltd



The 'Lulo Rose' is the fifth largest diamond in Angola

Lulo's historic pink diamond

Lucapa Diamond Company Limited, Endiama EP and Roses & Petals has announced the recovery of a historic 170 carat pink diamond from the Lulo alluvial mine.

It is believed to be the largest pink diamond recovered in the last 300 years and it has been nicknamed the 'Lulo Rose'. The diamond will be sold via international tender to be conducted by Sodiam EP, the Angolan State Diamond Marketing Company.

NextSource on track in Madagascar

NextSource Materials Inc., a strategic materials development company, has provided a progress update for Phase 1 of the Molo Graphite Mine in Madagascar.

The company has stated that the processing plant has arrived and been unloaded at the local port of Fort Dauphin and has cleared customs. With this achieved, company-appointed logistics specialists have now commenced transporting all modules of the plant (including two mobile cranes) to the mine site.

Earthworks at the mine site are complete and civil works are on schedule to be completed by the time the processing plant arrives. It is expected to take approximately 45 days to re-assemble the processing plant, which was previously erected and underwent factory acceptance testing prior to shipment. Once re-assembled, the processing plant will be subject to site acceptance testing. This will be the final step before mine commissioning.

The company also reported that the pre-fabricated units for the camp accommodations and auxiliary buildings have also arrived at site and assembly of these support structures will commence shortly.

President and CEO of NextSource Materials, Craig Scherba, commented, "Now that the processing plant has arrived in-country, on-site activity will ramp up significantly over the next several weeks as we begin re-assembly of the processing plant and the auxiliary buildings."

CrossBoundary Energy's Madagascar subsidiary commenced construction of a solar thermal hybrid energy power plant that will power Phase 1 of the Molo mine earlier this year. Construction of the hybrid plant is currently on schedule with the thermal portion of the hybrid solution expected to be installed and operational at the time of commissioning of the processing plant, with the renewable energy portion following thereafter.

The Hybrid Plant will be located adjacent to the Molo mine site and when fully operational, will provide up to 33% of the mine's total Phase 1 electricity needs from renewable solar energy, with the remainder coming from thermal generators.



The processing plant has cleared customs at the local port of Fort Dauphin.

Image Credit: NextSource Materials Inc.

RAINBOW AND MOROCCAN PARTNERS TO EXPLORE RARE EARTH EXTRACTION

Rainbow Rare Earths, has entered into an agreement with OCP S.A. (OCP), a Moroccan world leading producer of phosphate products, and Mohammed VI Polytechnic University (UM6P) to investigate and develop the optimal technique for the extraction of rare earth elements from phosphogypsum.

Phosphogypsum contains rare earths as a by-product of phosphoric acid production. With use of research produced by UM6P, OCP has built up significant IP assets and expertise in the field of phosphogypsum processing. This has formed the basis of the opportunity for joint development with Rainbow, given the latter's expertise and intellectual property on rare earths extraction and processing gained from work carried out at Phalaborwa. This has been completed with the separation technology licensed from K-Technologies. OCP and UM6P will contribute their respective expertise, including adapted complementary separation technologies.

The parties intend to develop the optimal route for the extraction of rare earths from phosphogypsum and the subsequent processing of the rare earths into separated elements. Together, they will aim to develop pilot and industrial-scale solutions.

Rainbow's CEO, George Bennett, commented, "Our team is focused on securing opportunities for both collaboration and expertise sharing, as well as gaining access to new supply as shown by our recently announced agreement with a diversified chemicals group in South Africa.

"The successful global transition to clean energy is reliant on a considerable increase in supply of critical materials and we are therefore continually exploring the best way of producing rare earths responsibly from secondary sources, which removes significant time, risk and cost from the overall project timeline."

TRIGON REVISES MINE PLAN TO OPTIMISE PRODUCTION

Trigon Metals Inc., a company with core business focused on copper production and exploration, has revised its mine plan based on new information from mining the Kavango Open Pit in Namibia.

Initial mining had begun in the area of the Kavango Pit as planned but management has now elected to pause operations at the Kombat Mine in order to optimise its newly increased working capital.

Owing to new information from stripping and mining at the Kavango Pit (indicating that mineralisation in the area was of much higher and more consistent grade) management took the decision to pause and focus the mine plan to exclusively operate from the Kavango Pit and Kombat Trend mineralisation. This is in comparison to the original strategy which would have employed Kavango ore to supplement production from the central pit.

► BRIEFS

Sandvik launches AutoMine Mapping Solution



AutoMine Mapping Solution will be available to order later in 2022.

Sandvik Mining and Rock Solutions has introduced AutoMine Mapping Solution, designed to maximise productivity and improve safety of autonomous vehicle navigation in underground mining. The solution enables vehicles to safely record an underground 3D environment with a mine mapping tool, and convert 3D maps to 2D. This reduces the time and cost involved in manual mapping and enables a safer, autonomous underground operating environment.

Image Credit: Sandvik Mining and Rock Solutions

Tirupati strides ahead with essential workstreams



All road connectivity is now operational.

Tirupati Graphite plc has made progression on important workstreams in Madagascar. The company remains on track with the construction of both pre-concentrate and main processing plants at Sahamamy; it has indicated its confidence in ramping up the plant so that it will be well placed to operate at an estimated minimum 80% installed capacity of 30,000 tons per annum; the company has also utilised its mining fleet to rebuild all the road network.

Image Credit: Adobe Stock

No need to fear the future

Jeannette McGill, VP and GM, metals & mining at AspenTech, explores the fast-moving world of technology in mining and why the industry needs to embrace, not fear, modern introductions such as artificial intelligence (AI).

Jeannette McGill is the VP and GM, metals & mining at AspenTech.



Image Credit: AspenTech

Technology within the mining sector is a story of constant evolution. From new machinery underground to management systems above, there are always new solutions arriving on the market.

McGill, speaking to *African Review* in an exclusive interview, understands that this can make engaging with the new challenging, but stresses that the benefits will far outweigh initial concerns, especially in regards to one of the most modern introductions to date – AI.

McGill notes, “Advances in AI have really snowballed. At the start, people did not really understand what it was all about, but it has ramped up quickly in a short amount of time. A lot of people have struggled to understand how AI works or what the value-add can be for their companies. As we know, the mining sector does tend to be a bit parochial and not particularly aggressive from a technology standpoint, which has certainly slowed its adoption.”

However, the narrative around AI in mining is beginning to change as the benefits are becoming more apparent.

“One of the biggest challenges within the mining sector is the capital and running cost around fixed plants and mobile fleet,” McGill remarks. “A little while ago it was always fairly rigorous maintenance schedules which

people were tied to, but now what AI is bringing on board is this notion of being able to understand when a failure is potentially going to occur.

“This creates significant savings from a cost and safety perspective, as if equipment fails it can be catastrophic for a mine. The value-add around AI is to have predictive ability and see in plenty of time where challenges are going to arise before they get too consequential.

“At AspenTech, AI is really about some of the advanced processing that can occur in software suites and being able to train agents to become far more predictive. We help customers to catch failures before they occur, and the cost savings can be significant – in the millions of dollars.”

AI-enabled software can also support gains with regards to the environment – which has become a significant imperative of the mining industry. To name but a few examples, AI can improve energy

consumption and production capacity of industrial assets, assess sustainability-related risk of locations and improve emissions monitoring – all of which can help achieve emission and climate goals.

African assimilation

In Africa specifically, the advantages of AI are beginning to be realised and implemented, but there is still a fair way to go.

“The tier ones and tier twos are using it more because they tend to be more globally focused and/or with global assets. They can therefore compare and contrast the effects more easily and tend to push a bit harder when using technological applications in the African context,” McGill comments.

“I think the importance for Africa is knowing the opportunity around upskilling empowerment and being able to get a range of people in touch with these technologies. Technology is not

being used to remove manpower, but instead is used to enhance and uplift the skills base in these mine sites.

“One of the challenges is getting the workforce to really believe what the data is saying and to trust it. My role is very much around showing people the art of the possible but, once they do, they see that there is significant financial upside to deploying these various agents among (other gains such as keeping employees safer).”

In regards to the future of technology in mining, what really excites McGill is the notion around changing the whole system of mining.

“A lot of the technology that is deployed is very much based around point solutions and this can result in a spider’s web of technology. The moving from discrete point solutions to far more systematic impacts will really help shift the needle not only for customers and individual miners but even for resource-intensive countries as a whole.

“I think that the entire sector is going to look and feel a lot different in 10 years time compared to where it is now. It is going to be far more hands off, with a lot more industrial technology supporting companies. The notion of the industrial complex is really one that we need to get our heads round.” ■

“Technology is not being used to remove manpower, but instead is used to enhance and uplift the skills base in these mine sites.”

JEANNETTE MCGILL, VP AND GM, METALS & MINING AT ASPENTECH



Image Credit: Adobe Stock

Miners often work in hazardous environments.

Changing mining mindsets

While there are positive signs the continent is taking greater strides towards zero harm mining, there is still much work to be done.

At this year's edition of Investing in African Mining Indaba, few attendees could have failed to notice a heightened emphasis on mining employee welfare.

With ESG draped as a key theme for the conference, numerous sessions and presentations across the agenda were centred around safety in mining with discussions focusing on how Covid-19 has affected zero harm approaches, the role of technology in ESG-centred mining, encouraging good governance frameworks to mitigate and manage EHS risk, and more.

On the exhibition floor, this aspect was reflected in a healthy contingent of companies showcasing their safety wares. Advanced Group of Companies was present in full force displaying the full range of solutions and services from its subsidiary companies which has allowed it to become a formidable force in the risk management, risk mitigation and emergency response market. Medi Response, for instance, offers on-location medical services for remote and industrial sites in harsh working environments while Advanced Fire Global provides an extensive range of advanced lubrication solutions, products and services through its network of more than 40 container service workshops on the continent.

Elsewhere in the exhibition hall was ATA International Holdings presenting the Clinic-in-a-Box solution – an on-site clinic with medical staff

and equipment featuring a number of functions such as primary healthcare, occupational healthcare, emergency rooms and laboratory units. Having successfully delivered services to 34 African countries so far, ATA has an expanded solutions portfolio which includes Remote Medical Staffing, Medical & Rescue Equipment and Consumables, Healthcare Consultancy and Emergency Evacuation Services.

At a media briefing at the conference the Minerals Council South Africa claimed that it was acting to halt and reverse the regression in mine safety in the country and, despite a rise in fatalities from 2021 to 2020, had achieved success in reducing the deaths caused by fall-of-ground events (the most prevalent occupational injury in South Africa's mining industry). Since then, it has delivered another update celebrating historic firsts on the safety front with no fatalities caused by fall-of-ground at the country's underground gold and platinum mines in the first seven months of the year and no deaths associated with trackless mobile machinery across the first six months. The council has agreed a six-pillar Fall of Group Action Plan in conjunction with professional mining associations for its members to implement to address incidents and so far this year has reported 25 fatalities compared to 29 in the same period last year.

While the tangible presence of safety

awareness at Mining Indaba and subsequent positive announcements suggest the continent is heading in the right direction in this respect, other sources suggest it is still lagging far behind global standards. The ICMM has published its 2021 safety performance data for its members which include a range of companies from across the globe including African Rainbow Minerals, Anglo America, Barrick Gold and more.

Their data showed that despite a continued industry focus on operational, cultural and leadership transformation which has reduced fatalities in recent years, the goal of zero harm is still far from being achieved. In 2021, 43 people from companies associated with the ICMM lost their lives which compares to 44 in 2020 and 287 in 2019 (this includes the 250 workers who died in the Brumadinho tailings dam collapse in Brazil).

A standout point within this data is that of the 43 fatalities across members, 27 occurred on African soil (this equates to 63% of the global total). While these statistics are of course not a definitive indicator of the wider mining industry, it remains a worrying sign that the continent accounted for such a high percentage of global fatalities across ICMM members – suggesting that while the continent is continuing to work on increasing health and safety in the industry, there is still a long way to go.

‘More productive tons safely’

One company, OIM Consulting which was also present at Mining Indaba this year, has suggested that while the focus on safety in mining has traditionally revolved around implementing rules and regulations and incorporating modern tool sets, the most important aspect (and one often overlooked) is the mindset.

OIM Consulting focuses on a combination of providing tool sets, equipping skill sets and affecting the mindsets of supervisors and front-line leaders to unlock the potential of mining companies. In helping their clients boost productivity and profitability by changing mindsets and the workplace culture, the company has identified that this can also have a significant impact in reducing lapses in safety. It is this concept that has fed into its company mantra: ‘more productive tons safely’.

African Review spoke to Arjen de Bruin, managing director, and Lani van der Merwe, organisational development consultant, at the company to find out more.

Van der Merwe commented, “In South Africa specifically, there has been a lot of emphasis in the last few years on safety rules, regulations, policies and procedures which has shown results (in 2000 the country had 285 fatalities compared to 74 last year). However, what is incredibly important and what still largely needs to change is the mindset and behaviour around safety incidences. Research shows that 80% of accidents, incidents and violations of safety rules are born out of poor safety culture, leadership practices, behaviours, and a lack of understanding of employee mental state.”

There are multiple building blocks, the OIM representatives explained, in the journey to reach zero harm. These include ineffective safety leadership practices that arise from a lack of clarity of roles and responsibilities, communication barriers, implementing corrective

“You can get higher returns in terms of production but also in safety at the same time – it all comes down to this shift in mindset.”

ARJEN DE BRUIN, MANAGING DIRECTOR AT OIM CONSULTING



Arjen de Bruin, managing director of OIM Consulting.

actions, ineffective management routines and people not taking accountability for their deliverables.

Safety leaders need to be able to communicate effectively, solve problems, encourage team member involvement, create a sense of belonging, change the mindset of their team, reduce at-risk behaviours, provide the correct resources, and ensure effective management routines.

Furthermore, it is essential that managers understand their employees’ individual risk profiles – their propensity to take risk – which have a major impact on work-place safety lapses.

What needs to change?

According to OIM, in order for mining companies to close the gap towards zero harm, they must change their workplace culture which, inevitably, starts with the leadership.

“Mining culture, specifically in South Africa, is very hierarchical. It is very much ‘I tell you and you don’t answer back here’. In the past this worked, but from a safety perspective if this is the structure in place it creates an environment where people do not feel psychologically safe, they do not feel they can be open and free to talk about their mental wellbeing or report lapses or near misses within the organisation,” said van der Merwe.

“There is a growing realisation, therefore, that this culture is outdated and needs to be broken. There are a lot of initiatives coming in to address this type of culture but there is still a lot of work to be done. It is imperative that leaders within an organisation create a safe space where people feel they are able to speak honestly about what is going on within their working environment which can generate effective feedback.

“There is also a history of violation or noncompliance to rules becoming ingrained into



Lani van der Merwe, organisational development consultant at OIM Consulting.

culture and behaviours. In certain instances, people are so burned out that they don’t see it anymore. They are tired, they don’t have the energy and the motivation, or they are risk takers. So we need to start focusing more on those elements on an individual and on a team level to create zero harm and get people home safely every single day.”

OIM is seeking to encourage these changes as a by-product of its services to the industry.

“Our main focus is supervisory development with a behavioural focus,” de Bruin explained. “At a lot of the people we speak to don’t understand how to plan properly, they have poor analysis and problem solving but they are assertive. What we do is provide operational coaching – usually over a 16 week period – for supervisors or leaders and essentially make them more effective and efficient in their roles.

“While safety is not usually the focus, it inevitably comes in here as that is a logical part of behavioural coaching. If you make the frontline leader more effective and efficient in how they manage their team, one of the outcomes will be a healthier safety thinking and a healthier mindset.

“With one of the gold mining companies we worked with we were focused on efficiencies and were able to turn their business around from suffering significant losses over 11 years to profit within a year and a half. We did not really focus on safety, and yet we noticed that their safety improved in the period we worked with them. The reason for this was because leaders were less likely to just ‘tick the box’ on procedures including safety and also in terms of the culture change, with feedback more accessible.

“What this showed, for us, is that you can get higher returns in terms of production but also in safety at the same time – it all comes down to this shift in mindset.” ■

FREUDENBERG FILTRATION TECHNOLOGIES SUPPORTS OPERATOR HEALTH

Contaminants can enter the cabins of mining vehicles such as haul trucks, wheel loaders and bulldozers, either through air vents or via the operators themselves. Other than causing severe health effects, contaminated air can damage mining vehicles.

To reduce contaminants and keep CO₂ concentrations within limitation; Freudenberg Filtration Technologies has devised Freudenberg S.A.F.E.air, a filtration solution for ISO 23875 compliant cabin pressurisation and filtration.

Air entering the Freudenberg S.A.F.E.air system first passes through a cyclonic dust ejection system that filters out heavy dust particles, before the second pre-cleaning filter takes care of coarse dust particles. Two stages of HEPA filters then eliminate 99.995% of sub-micron particles, achieving a full cabin air



Image Credit: Freudenberg Filtration Technologies

Freudenberg S.A.F.E.air reduces airborne contaminations in mining vehicles cabins in accordance with the ISO 23875 requirements.

exchange within 20 seconds. In addition to filtration of outside air entering the cabin, Freudenberg S.A.F.E.air also draws and filters air from within the cabin.

The HEPA-filtered air re-enters the vehicle cabin via the air vents into the occupants'

breathing zone while also allowing some air to escape the system for fresh air exchange. Thus, Freudenberg S.A.F.E.air provides hospital grade air at ambient CO₂ levels and further continuously monitors CO₂ levels inside the vehicle and remotely via telemetry.

This is essential because high CO₂ levels are a major concern of miners due to its association with fatigue and drowsiness and its association with accidents.

In addition, the Freudenberg S.A.F.E.air system delivers a constant minimum required pressure of 100 Pa, preventing any contaminants from entering the cabin from outside. Thanks to the limited dust ingress, the system provides protection to air-conditioning components such as fans and evaporators, abolishing premature failure due to contamination.

BME TARGETS SUSTAINABILITY

According to BME, technology in blasting - alongside advanced low carbon emission emulsion explosives - is helping pave the way on mining's sustainability journey.

BME has developed solutions that can enhance output and are easily integrated. BME's electronic detonation system, AXXIS, improves the quality of blasts and mine productivity. Applied in conjunction with BME's Blastmap blast planning software, AXXIS demonstrates the value of product integration. Complex blast designs can be easily and quickly transferred from the Blastmap planning platform to the AXXIS initiation platform. Blastmap can also export to third party initiation systems that a mining customer might already be using.

The increased firing window of AXXIS Titanium gives miners the opportunity to conduct larger and more complex blasts.

The quality of these blasts ensures better fragmentation, so that less energy is consumed in downstream stages such as loading, hauling, crushing and milling. Less energy converts directly to lower carbon emissions when coal- or diesel-fired electricity is used.

BME's emulsions also contribute to environmental protection through their inclusion of used oil as a fuel agent. The company's large collection network for used oil means that after being incorporated into emulsion, it can be safely disposed of when the emulsion explodes.

"By using this waste oil in our emulsions, we are eliminating the use of diesel," said Sachin Govender, BME's used oil manager. "This plays a positive role in helping our mining customers achieve their ESG goals."

Prestolite delivers robust alternators

Prestolite Electric, a leading global manufacturer of alternators and starters, has introduced a new extreme-use product lineup – the IdlePro Extreme M-Series alternators.

The new product assortment includes a variety of voltage, amps, and mounting configurations for extended flexibility and coverage in the field and delivers extended protection against dust and particle infiltration for use in mining worksites.

The IdlePro Extreme M-Series high-efficiency/high-output alternators also include unique technologies that help extend service life and increase vehicle uptime by enhancing electrical system and engine performance.

"This is a powerful, protected and uniquely capable mining design that delivers extra sealing against the invasive powder often generated during mining," said Jonathan Smith, assistant

director of sales and marketing, Prestolite. "The new IdlePro Extreme M-Series alternators include a robust, sealed housing to help substantially improve service life duration, and our engineers have also added extra seals in front and behind the front bearing and in other areas of the alternator prone to contaminant infiltration."

Packaged inside a lighter weight and lower maintenance package, the IdlePro Extreme M-Series high amp brushless alternator is among industry leaders in output at low engine speeds, while improving battery life.

IdlePro Extreme M-Series alternators also include Prestolite Electric's Isolated Ground Technology, which protects engines from potentially severe electrolytic damage caused by stray voltage. This technology also eliminates electrical noise that can cause ghost or false engine codes that can potentially result in unnecessary diagnostic troubleshooting and increased vehicle downtime.



Image Credit: Prestolite Electric

The alternators also include unique technologies that help extend service life and increase vehicle uptime.



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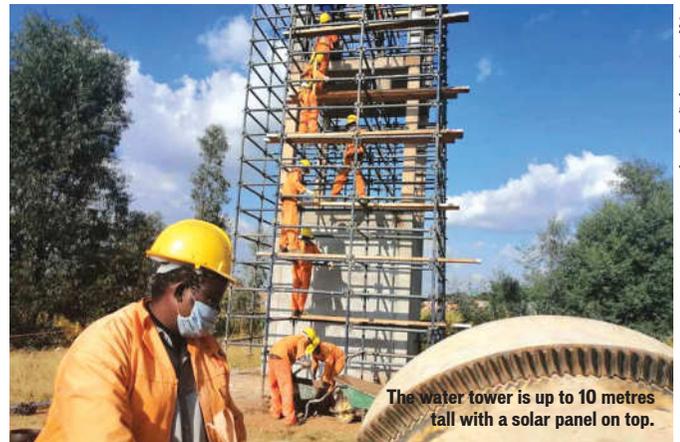
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Pumping away

From construction and mining through to agricultural and residential sites, there are few settings which do not have a water pump working away behind the scenes in some capacity.



The process begins with the drilling of a well up to 250 metres into the ground.



The water tower is up to 10 metres tall with a solar panel on top.

Perhaps the most obvious example of water pumps, or at least one that usually claims the headlines in the African continent, are those used in the fight against water scarcity. In this capacity, they help deliver the world's most precious resource in a continent where one in three are affected by issues around access to clean water (according to the World Health Organisation).

Innovation: Africa is a non-profit organisation tackling this startling statistic through the implementation of its solar pumps. These use the power of the sun to utilise trapped water below the ground in aquifers in regions where there is drought and hunger.

The pumps are installed in several steps which consist of:

- Drilling a well up to 250 metres into the ground to reach the aquifer;
- Building the water tower up to 10 metres tall;
- Installing solar panels on top of the tower to power the pump (also installed at this stage);
- Raising a 10,000 litre water tank to the top of the tower to hold the groundwater ready for distribution;
- Digging trenches in a 4-8 km

radius around the village to install pipes to distribute water to the taps;

- Constructing 10-15 water stations throughout the village;
- Installing in-house remote monitoring technology at each project to track in real-time the amount of water pumped and provide alerts should a malfunction occur.

With local teams and contractors, the company has built more than 430 solar water pumping systems across the continent. At a cost of just US\$55,000 they can bring clean water to a village of up to 10,000 people.

Due to the in-house monitoring

technology present at each project, the company is able to keep a record of the combined impact its pumps are having across Africa. From 7 July 2022 to 7 August 2022, the company recorded a total energy production of 4,159KWh and 61.28mn litres of water produced across its projects.

Wastewater

In a less glamorous but also vitally important setting are pumps operating within the world of wastewater, ensuring that used liquids are safely transported away from communities to maintain hygiene levels and offset the chance of associated disease.

One of the most significant recent announcements in this sphere has come from Caprari which has expanded its K+ Energy range to include models for both small and medium flow rates. The K+ Energy electric pump offers exceptional features such as its truly unique cooling system – the Dry Wet System – which allows one electric pump model to be used for both submersed installations and applications in dry chambers. This guarantees reliability even when liquid levels inside the tank are unknown. Advantages offered by the K+ Energy range include:

- Energy savings courtesy of the IE3 efficiency class motors;
- Versatility from the Dry Wet System which means the K+ Energy range can be used for any type of application, thus allowing for stock reduction;
- Maximum ease of maintenance and handling as usability is enhanced thanks to the standard plug, the large micro-cast stainless steel handle, and the new system for disassembling the plug side mechanical seals;
- Reliability and operational safety as the conductivity probe in the oil chamber, the temperature probes, and the double



Up to 30,000 litres of clean water are available to the community.



The K+ ENERGY range is now more extensive thanks to three new models.

Image Credit: Capraart

mechanical seal are all design solutions aimed at guaranteeing total protection for the electrical components.

The K+ Energy range is now more extensive thanks to three new models with F and H sizes electric motors, and the company is also ensuring clients can reduce their carbon footprint as the IE3 class motor reduces CO₂ consumption and amount oil required to lubricate the mechanical seals.

Pump protection

Sulzer and Nordic Water have paid attention to the importance of protecting pumps within municipal wastewater systems and avoiding harmful blockages.

In a press release, Sulzer noted that blockages within these systems are costly for utilities, inconvenient for users and potentially harmful to the environment. Municipal wastewater systems are progressively dealing with less water and more waste which is having a profound impact on network reliability and maintenance costs.

Materials such as rags, nappies, and wipes, are likely to drop out of the flow and accumulate and this can cause blockages requiring expensive, unplanned maintenance (which could even lead to environmental damage and fines).

Another challenge, Sulzer explained, is handling the ‘first flush’ of rain after an extended dry spell. This can be the trigger for a host of problems, as large volumes of solid material are imposed on network pumping stations and other vulnerable points.

One way to prevent this and protect wastewater networks is to stop solids reaching the places they are likely to do the most harm – installing screens in network pumping stations to protect the pumps for instance. Another alternative is the use of equipment designed to cope with solids such as clog-resistant wastewater pumps with large free passage that can handle high levels of solid contamination. In more challenging situations, grinders can even be used to crush and shred solids.

While these technologies, Sulzer continued, can offer effective and sustainable solutions to blockage-prone pumping stations, they can cause issues elsewhere. Therefore, screens at the beginning of the wastewater treatment process are the most cost-effective and reliable way to capture and remove solids prior to treatment.

Sulzer is a proponent of utilities taking a system-wide approach to the engineering of their wastewater networks, taking in mind a clear understanding of the loads imposed on the system and making use of the wide range of equipment available.

The company, for instance, offers the Monster Stack system used in the Muffin Monster grinder range

where cutters in the stack are carefully sized to match real-world wastewater requirements. Larger cutters at the bottom of the stack make short work of heavier debris, while smaller cutters at the top give good results on lighter materials.

Sulzer’s broad range of solutions means that the company’s experts are not tied to any single technology, and they can work with customers to specify grinders, heavy duty pumps or specialised screens from the Nordic Water brand. They also have the skills to tie all those components together with smart control technology and provide support for installation, commissioning and maintenance activities. ■



Grinders can tackle many of the modern challenges facing pumping stations.

Image Credit: Sulzer

Advertiser’s Index

Balkrishna Industries Ltd	35
Caterpillar SARL	2
CONEXPO-CON/AGG Show Management Services	13
IVECO Regional Representative Office	37
Jessop & Associates (Pty) Ltd.....	7
Liugong Dressta Machinery Sp. z o.o.	51
MTN Group Limited	52
Umm Al Quwain Free Trade Zone	5

The demand-supply gap in many minerals could worsen if levelling production rates are not augmented with new sources of supply.

Image Credit: Adobe Stock

Fresh projects needed to meet mining demand

Ralf Hennecke, managing director of Omnia Group company BME, explains that while times are good for the mining sector, more exploration and mine development is vital if it is to keep up with future demand.

Hennecke noted that with an increased focus on a low carbon future, there is an ever-growing demand for minerals which can deliver it (such as battery metals) and emphasised a commodity pipeline that is falling short.

“Greenfield projects to boost the production of key commodities are scarce,” he said. “Minerals like nickel, copper, cobalt and platinum group metals are likely to experience supply shortages in the not-too-distant future if new projects are not initiated soon.”

He reiterated that new mining operations – or even large expansions – typically take 7-10 years to progress from the planning stage to the production of metal. There is a likelihood that the demand-supply gap in many minerals could worsen if levelling production rates are not augmented with new sources of supply. The demand for battery minerals is being driven by a range of green technologies.

“We are fortunate that mining is attracting substantial interest from investors, especially as the sector embraces environmental, social and governance (ESG) priorities,” he said. “It is also being supported by its key supply partners in pursuing important sustainability goals; this is all contributing to a more stable outlook, also building on more constructive links with communities and host governments.”

The mining industry has also taken an active stance concerning climate change, which is a key priority for many end customers of mineral



Image Credit: BME

Ralf Hennecke, BME's managing director.

“The digital age offers a great deal to our efforts in developing productive technologies.”

RALF HENNECKE, MANAGING DIRECTOR OF BME

products. Health and safety continue to be critical areas of focus, helping to keep investors committed over the longer term.

Hennecke pointed to the ongoing pursuit of efficiency in mining – to serve both sustainability and production imperatives. On this front, mines are looking increasingly to their partners in the supply chain for enabling technology and skill sets.

“As we work together with mines to improve on-site efficiencies, supply partners like BME can assist customers in reaching output and sustainability goals,” he said. “The digital age offers a great deal to our efforts in developing productive technologies, and we are confident that investors will also recognise this potential.”

Operationally, mines and their supply partners must carefully balance their sustainability and efficiency priorities with the security of supply, he emphasised. Building and maintaining robust supply chains has returned to the spotlight since the outbreak of the Covid-19 pandemic. Economic lockdowns severely disrupted global logistics networks and many – such as shipping – are yet to recover. More recently, geo-political instability caused by Russia's invasion of Ukraine has added to the factors that threaten reliable supply chains.

“Despite these challenges, we hope to see levels of investment grow in mineral-rich countries like the Democratic Republic of Congo and Zambia among others,” concluded Hennecke. ■

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