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# African Review

JULY 2022

of BUSINESS and TECHNOLOGY

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"Africa's energy sector has grown over the years in terms of diversity but there is still room for growth as the participation gap still exists."  
Anne Ezeh, communications director for GE Africa

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# Editor's Note

Welcome to our July issue, your essential business guide to all the latest news and events from across the Africa region.

Inside this month, we've got insight from all of the continent's big industries, from energy and mining, through to transport, construction and manufacturing.

Our focus on gensets looks at how the market has recovered since the 2020 economic jolt, with analysis of key markets, notably Nigeria, and import and sales data by machine size and capacity.

China's sales into Africa are surging, which suggests that despite the high-profile attention to clean and alternative energy solutions worldwide, demand for diesel gensets remains as strong as ever (page 22).

On the transportation side, we've got a feature on heavy trucks, the workhorses that haul goods across Africa's network of roads (page 16), and the growth in air cargo, including huge investments this year by Ethiopian Airlines in its freighter fleet (page 18).

In construction, we highlight the work of leading players, such as Bobcat (page 34), and report back from the first Volvo Days event in four years, held in Sweden (page 36). We also chart the progress of some of Africa's current crop of bridge projects, that together reflect the general rise in sophistication and standards across the continent (page 32).

Africa's potential is huge: explore it in confidence with ATR, your trusted business information source for almost 60 years.

**Martin Clark, Acting Editor**

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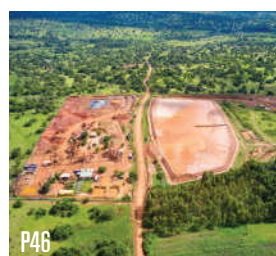
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## Siemens Mobility finalises high-speed rail system contract in Egypt

Siemens Mobility and its consortium partners Orascom Construction and The Arab Contractors have officially signed the contract with the Egyptian National Authority for Tunnels (NAT) to create the sixth largest high-speed rail system in the world.

The 2,000 km high-speed rail network will connect 60 cities throughout the country, with trains that can operate at up to 230 km/h. This means that approximately 90% of Egyptians will have access to the modern, safe, and integrated rail system.

With a modal shift to train transport, the fully electrified network will cut carbon emissions by 70% compared to current car or bus transport, further supporting Egypt's efforts in transforming its mobility to a more sustainable one.

Together with civil works partners Orascom Construction and The Arab Contractors, Siemens Mobility will provide its comprehensive turnkey services to design, install, commission, and maintain the entire system for 15 years.

The high-speed network will consist of three lines. The first, already named 'Suez Canal on rails', is a 660 km line connecting the port cities of Ain Sokhna on the Red Sea to Marsa Matrouh and Alexandria on the Mediterranean.

The two rail lines now signed include the second line which will be about 1,100 km and run between Cairo and Abu Simbel near the Sudan border, linking the mega city to rising economic centers in the south. Furthermore, it will allow for the development of communities up and down the Nile, which will subsequently provide additional opportunities for small and family-owned businesses to flourish. The third line will cover 225 km and will connect the world heritage archeological sites in Luxor and Hurgada by the Red Sea. In addition, this rail link will significantly improve the efficiency and sustainability of transport for goods and materials between Safaga harbor and inland locations.

To equip the entire rail network, Siemens Mobility will deliver trains based on its proven product platforms. This includes 41 Velaro eight car high-speed trains, 94 Desiro high-capacity four car regional train sets, and 41 Vectron freight locomotives.



The 2,000 km high-speed rail network will connect 60 cities throughout the country.

Image Credit: Siemens Mobility

## MOROCCAN AUTOMOTIVE INDUSTRY BOLSTERED BY RENAULT MOU

Managem Group, a Moroccan player in the mining and hydrometallurgy sector, and Renault Group, a major player in the automotive industry, have signed a MoU to secure the supply of low-carbon and responsible cobalt sulphate for the production of electric batteries.

After conducting an engineering study, Managem Group plans to invest in the construction of a factory located within the Guemassa industrial complex, Morocco, in order to transform cobalt ore into cobalt sulphate. With first delivery in 2025, Managem Group will supply 5,000 tonnes of cobalt sulphate per year for a period of seven years and Renault Group has been guaranteed a significant supply of cobalt sulphate, representing an annual battery production capacity of up to 15GWh.

This cooperation guarantees a long-term traceability system for the supply chain of cobalt for batteries and also aims to reduce the impact on the environment. This has been enhanced by the efforts of Managem Group which has optimised energy efficiency at its facilities through the growing use of green energies. The agreement includes the possibility for Managem Group, Renault Group and its Alliance partners to advance further cooperation in the supply of manganese sulphate and copper, as well as on the recycling of battery materials.

Gianluca De Ficchy, Alliance Purchasing EVP and managing director of the Alliance Purchasing Organization, commented, "We are very pleased to partner with Managem Group, a recognised mining player, who utilises unique and efficient production and processing methods and will contribute in this way to the economic, social, and environmental development of the automotive industry in Morocco."

## AFC WELCOMES TUNISIA AS MEMBER STATE

Tunisia has become the 34<sup>th</sup> member state of the Africa Finance Corporation (AFC), bringing the total number of North African member states to three alongside Morocco and Egypt.

This move will deepen the infrastructure provider's engagement with a vital gateway to Africa as the country's strategic position makes it an important transit route for natural gas exports from Africa to Europe.

The announcement comes after the AFC has invested for some time in the country to develop its key sectors and support the creation of high skilled jobs.

Samaila Zubairu, AFC president and CEO, said, "I am delighted to welcome the Republic of Tunisia as the newest member of the AFC. As the AFC celebrates 15 years of operations, we are committed to broadening our impact as the reliable and resilient bridge to a prosperous African future by delivering instrumental infrastructure that increases productivity and drives economic growth and sustainable development."

## ► BRIEFS

### IFC funds Averda for African expansion



Averda provides waste management services to more than 60,000 private and public sector clients.

The International Finance Corporation (IFC) has signed an agreement with Averda International, to help bring innovative waste solutions to emerging markets in the Middle East and Africa. IFC will provide a US\$30m loan to build Averda's resilience post-pandemic and enable it to continue its planned growth in Oman, Morocco and South Africa. The agreement marks IFC's first investment in the private waste management sector in Africa and the Middle East.

### Sophos names Digital Planets Outstanding Partner in Egypt



It is the third year in a row Digital Planets has received a Sophos award.

Digital Planets has been awarded the Sophos 2022 Outstanding Partner of the Year in Egypt and was recognised for its excellent performance in securing organisations with Sophos' next-generation cybersecurity solutions and services. Digital Planets has previously been named Cloud Partner of the Year in 2020 by Sophos, was awarded the Cyber Stellar Award in 2020, and received Synchronised Security Partner of the Year in 2021.

## ZainTech partners with LigaData for data-driven digital services in MENA

ZainTech, the digital and ICT solution subsidiary of the Zain Group, has announced a collaboration with LigaData, the data analytics specialist, to support its vision of delivering cutting-edge, data-driven digital services to its wealth of enterprise and government customers across the Middle East and North Africa.

The strategic partnership between the two organisations emphasises ZainTech's commitment to embracing the potential within data to continue to produce market-leading digital solutions for the customers of the wider Zain Group as well as its own.

Andrew Hanna, CEO of ZainTech, stated of the partnership, "ZainTech is dedicated to creating innovative ICT and digital services for our customers throughout the MENA region.

"Helping them harness the true value of data and AI is a key focus for us and collaboration with LigaData will provide demonstrable enterprise data expertise that supports numerous important multi-national initiatives."

Bassel Ojjeh, CEO of LigaData, concluded, "We're proud to establish this strategic partnership with ZainTech and support the company in further leveraging data and analytics.

"We look forward to building a strong relationship and replicating the robust data analytics and AI successes experienced by our existing client base and their 350 million+ subscribers worldwide."

ZainTech is a centralised service provider, emphasising the advancement of digital technologies such as the cloud, cybersecurity, big data, IoT, AI, smart cities, drones, robotics, and other emerging technologies. The company unifies the Zain Group's ICT assets, offering a unique value proposition of expansive digital solutions and services under one banner.

LigaData of Silicon Valley specialises in managed data services and products for mobile operators aiming to facilitate the digital transformation, target data-driven outcomes, and optimise operator resources.



Image Credit: ZainTech/LigaData

The partnership will capitalise on the potential of data-driven services across MENA.

## APICORP PREDICTS 9% GROWTH FOR MENA

The Arab Petroleum Investments Corporation (APICORP), a multilateral financial institution, has unveiled its MENA Energy Investment Outlook 2022-2026, which forecasts that the total planned and committed investments across the MENA region are expected to increase by 9%, exceeding US\$879bn over the next five years. This forecast represents a US\$74bn increase from the US\$805bn estimate published in 2021's five-year outlook.

The report examines the contrasting impacts of the Russia-Ukraine crisis on the region's energy landscape as net-energy exports spearhead the increase in project expenditure, thanks to the windfall of oil and gas revenues caused by the spike in prices. Global geopolitical volatility and headwinds are not expected to curtail oil, gas, power, and petrochemical investment growth in MENA through 2026.

Ramy Al-Ashmawy, senior energy specialist at APICORP, said, "Our latest MENA Energy Investment Outlook shows that the region continues to progress in its unique energy transition path.

"Namely, MENA countries shoulder the largest share of global investments in oil and gas going forward to ensure global energy security and avoid an impending super cycle that may severely hamper the world economy. The region continues to invest in decarbonisation, renewables and clean energy as part of the long-term strategic vision for a low-carbon future underpinned by a balanced and sustainable energy mix."

In the GCC, committed projects contribute approximately 45% of total energy investments. This figure is 50% higher than the MENA-wide average of 30%. Net exporters in the North Africa region will notice the impact of inflation, debt burdens and geopolitical instability on the energy investment landscape.

## GECOL AND TOTAL LAUNCH LIBYAN SOLAR PROJECT

Media reports have stated that French energy group TotalEnergies and the General Electricity Company of Libya (GECOL) have launched a solar project, totalling 500MW in capacity, in the north of Libya.

Following the launch of the project, further renewable projects are expected to be implemented across Libya to bolster the public power supply for citizens and organisations.

A preliminary agreement between TotalEnergies and GECOL was initially signed in May.

The project will take the form of a solar park in the region of As-Saddadah, marking the first and largest of its kind in North Africa.

"This project is part of the framework agreement we signed with Libya's Renewable Energy Agency to implement a strategic plan to integrate more installed capacity from renewable energy sources into the country's grid," said a spokesperson from GECOL to the media.

## BRIEFS

### Aya completes mobile health clinic

Image Credit: Aya Gold & Silver Inc.



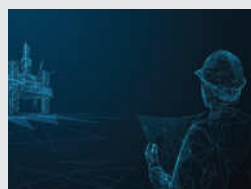
The mobile clinic is focused on diabetes and high blood pressure treatment.

Aya Gold & Silver Inc. has announced the completion of its first mobile health clinic near the Zgounder Silver Mine in Morocco. The initiative forms part of the company's 2022 ESG programme to support local communities.

The clinic aims to improve screening, treatment, and outcomes of patients with diabetes and high blood pressure by establishing a case database and funding the diabetes- and HBP-focused mobile clinic.

### Chariot signs Anchois FEED contract

Image Credit: Adobe Stock



The contract covers the engineering and design of the Anchois plant.

Transitional energy company Chariot has confirmed it has signed a front-end engineering and design (FEED) contract with Schlumberger and Subsea 7 for the Anchois gas project in Morocco. Olivier Blaringhem, CEO, Subsea Integration Alliance, commented, "We are delighted to work with Chariot on this FEED project. We remain fully aligned with their objectives and will build upon the work undertaken to date to optimise the design and development of the Anchois Gas Project."

## DuPont to provide clean water with the use of solar energy

In celebration of World Water Day, DuPont Water Solutions has announced a partnership with Kusini Water, the City of Mbombela Municipality and the U.S. Embassy on a new project that will leverage solar power to extract and purify groundwater in the rural community of Cairn site farm in South Africa.

The new multi-technology water treatment plant, leveraging DuPont-donated technology and funded in part by a DuPont global community impact grant, will soon supply safe and clean drinking water for 500 households that currently lack access to an adequate water supply.

“This year, World Water Day is focused on the power of groundwater and how this precious resource can be a lifeline for communities across the world,” said Thembi Thulare, business development manager, DuPont Water Solutions.

“DuPont Water Solutions is continually pioneering innovation to develop the technology to expand access to drinking water. Now, through our partnership with Kusini Water, the community of Cairn in Mbombela will be able to harness local groundwater supplies, to provide a reliable and sustainable supply of clean and healthy water for residents and businesses.”

Cairn, a rapidly-expanding community on the outskirts of Mbombela, is currently reliant on waiting for rainwater or water deliveries by tanker every few weeks – both of which are insufficient to meet their needs.

Wendy Tshawe, general manager of water and sanitation for the Mbombela city, said, “Such a partnership with DuPont Water Solutions has contributed immensely to the city’s mandate to ensure the provision of water to all its communities in a sustainable manner; in line with the provincial growth and development strategy to supply the entire region with potable water at an industry-accepted standard in fulfilling the constitutional obligation.”

Delivered in partnership with Kusini Water, and the City of Mbombela Municipality, this introduction of a sustainable source of clean water will provide further indirect benefits to the local economy, including supporting the creation of two new jobs to operate the system.



Mbombela is currently reliant on waiting for rainwater or deliveries by tanker every few weeks.

Image Credit: Adobe Stock

## GIYANI ANNOUNCES COMPLETION OF INFILL DRILLING AT K.HILL

Giyani Metals Corp., the developer of the K.Hill manganese oxide project in Botswana, has announced the completion of the reverse circulation (RC) infill drilling programme at the recently discovered southerly extension.

According to the company, a total of 4,561 m has been drilled across 54 holes (including three re-drills) on an approximate 75 x 75 m grid spacing to determine the correlation between the southern mineralised horizons and the northern resource horizons to establish continuity in order to convert the majority of Inferred Resources in the K.Hill Extension to Indicated Resources.

The drilling programme also extended along strike into a previously untested section to the South of the identified zones and confirmed the presence of further mineralisation and the potential to add tonnage to the existing resource.

An additional 19 holes were planned for this section, eleven of which have already been completed for 730 m, two are in progress and the remaining six will be drilled in the coming weeks.

A further ten diamond drill holes across the K. Hill Extension area will be drilled at pre-selected locations.

The drill holes will be drilled as twin holes to certain RC holes and will be used to confirm the results from the RC campaign as well as for geotechnical, geochemical and metallurgical studies.

Assaying will shortly commence for the RC drill collars and once the full set of drill holes has been assayed the results will be sent to SRK Consulting for updated resource estimation and, thereafter, the company would anticipate the completion of an updated Mineral Resource Estimate for the K.Hill Project.

## CO-DEVELOPING LONG DURATION ENERGY STORAGE PROJECTS IN SA

Kibo Energy PLC, a renewable energy-focused development company, has announced that it has entered into an exclusive agreement with the Hasta Trust to jointly assess and develop a portfolio of long-duration energy storage projects held exclusively by National Broadband Solutions (NBS) in South Africa, with an initial target of c. 36,320MWh capacity. NBS is currently 100% owned by Hasta.

The agreement is a major step forward in Kibo’s strategy to integrate long-duration energy storage into its commercial project pipeline and follows closing a framework agreement with CellCube to develop and deploy CellCube-based Long-Duration Energy Storage (LDES) solutions in southern Africa.

Kibo will acquire a 51% interest in NBS, in exchange for granting exclusive access to Kibo’s strategic capabilities and capacity, in respect of long-duration storage solutions.

## BRIEFS

### Hapag-Lloyd acquires DAL’s container business



DAL is an established liner shipping company for the transportation of containerised cargo.

Hapag-Lloyd has announced the successful closing of the acquisition of the container liner business of German carrier Deutsche Afrika-Linien (DAL), after having signed the framework agreement in March 2022. In advance, the transaction had been approved by all responsible antitrust authorities.

The integration will be moving at a swift pace, and full commercial integration is expected to be completed by Q4 2022.

### Namibia announces hydrogen energy progress



The Hyphen project will produce 300,000 tonnes of green hydrogen annually.

The Namibian Government has reported on the progress made with respect to the country’s first large-scale vertically integrated green hydrogen project, with Hyphen Hydrogen Energy (Hyphen). The Tsau/Khaeb National Park Southern Corridor Development Initiative (SCDI) Hydrogen Project was conceived by the Namibian Government in 2021, as part of its national growth and economic recovery plan.



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## Kasoa BSP marks completion of US investment in Ghana's energy infrastructure

The inauguration of the Kasoa Bulk Supply Point (BSP) has marked the successful completion of the MCC Ghana Power Compact – the United States's investment in Ghana's energy infrastructure, supporting more reliable power for hundreds of thousands of schools, hospitals, offices, and homes in Ghana.

"This was a nearly six-year, US\$316mn commitment by the American people to improve Ghana's energy infrastructure and support long-term economic growth," said deputy chief of mission of the US Embassy, Nicole Chulick, during the inauguration event.

The Kasoa BSP will reduce outages in the power system, help stabilise voltages, and improve the quality and reliability of power supplied to the Awutu Senya East Municipality in the Central Region of Ghana. The Kasoa BSP is a 435 megavolt ampere (MVA) gas-insulated power substation that will serve 250,000 ECG customers. It will also reduce technical losses in the power transmission and distribution system, contributing to the financial viability of the Electricity Company of Ghana (ECG) and the Ghana Grid Company (GRIDCo) in the long term.

The MCC Ghana Power Compact invested in new power infrastructure and reforms to provide more reliable, affordable electricity to Ghanaians. It also supported programmes designed to improve energy efficiency and expand opportunities for women in the power sector.

It successfully improved the country's power sector through the construction of four power substations – the Pokuase BSP, the Kasoa BSP, the University of Ghana Medical Center Primary Substation at Legon, and the Ellen Moran Primary Substation at Kanda.

The MCC Ghana Power Compact also established the Air Conditioner and Refrigerator Test Laboratory at the Ghana Standards Authority. The first of its kind in West Africa, the laboratory will help enforce standards to eliminate the importation of inefficient appliances that waste energy.

The Millennium Challenge Corporation is an independent US Government agency working to reduce global poverty through economic growth.



Image Credit: US Embassy in Ghana

The Kasoa BSP is a 435MVA gas-insulated power substation that will serve 250,000 ECG customers.

## ENVIRONMENTAL RESEARCH-INNOVATION PROJECTS FUNDED IN CAMEROON AND THE DRC

The Institut de la Francophonie pour le développement durable (IFDD), a subsidiary body of the International Organisation of La Francophonie (OIF), and its national implementation partners (Kongo University in the DRC, Eden Africa and Engineers Without Borders in Cameroon) have selected 15 major research-innovation projects to support sustainable development in the Congo Basin - in Cameroon and the DRC. These projects were selected by an international and multidisciplinary jury, within the framework of three calls for proposals organised between 20 May 2021 and 28 February 2022.

The financial support will make it possible to set up two laboratories for manufacturing innovations in renewable energy and waste recovery, and to develop 120 innovations in sustainable agriculture, agri-food, biotechnology, sustainable construction and health-environment. In addition, the funding will make it possible to carry out six national studies on the state of local and indigenous knowledge in terms of sustainable development, the needs, capacities and constraints of the private sector on sustainable development, as well as the financial capacities of actors of change to highlight the technical solutions generated.

"With the awarding of these 15 grants, we are taking a key step in the implementation of the Project for the Deployment of Environmental Technologies and Innovations for Sustainable Development and Poverty Reduction (PDTIE)," said Cécile Martin Phipps, director of the IFDD.

"I am all the more delighted that the actions target strategic sectors such as sustainable agriculture, agro-industries, biotechnology, digital technologies, renewable energies, waste recovery or ecological constructions which are all priority areas with high added value for Central Africa," said the representative of the OIF for Central Africa, Alphonse Waguena.

## HAYO TELECOM ACCELERATES NUMBER MANAGEMENT AND DELIVERY

Telesmart.io, an expert in global number and messaging services, has been chosen by Hayo Telecom, a Senegalese mobile network operator, for its fully API-enabled number and messaging platform. The platform automates the full supply chain, including sign-up, interconnect, on-line provisioning, functionality, visibility and reporting. The partnership will enable Hayo Telecom to serve its customers in Africa with increased efficiency and capabilities.

"Traditionally, inventory management is an expensive and time-intensive process for MNOs and unfortunately, the supply chain has not experienced digital transformation like other areas of the industry. Our platform resolves this manual process for Hayo Telecom so it can manage its extensive numbering network effectively," said Neil Kitcher, CEO and co-founder at Telesmart.io.

## ► BRIEFS

### SADA launches national digital academy in Ghana



Image Credit: SADA

SADA will support digital skills needs at national level.

Smart Africa's capacity building arm, the Smart Africa Digital Academy (SADA), in partnership with Ghana's Ministry of Communications and Digitalisation, has launched a national digital academy to support the uniquely identified digital skills priority needs at national level. Such national digital academies will soon be rolled out in Benin, Burkina Faso, Côte d'Ivoire, Tunisia, Kenya and the Democratic Republic of Congo.

### Avanti partners with Free in Senegal



Image Credit: Avanti

The new gateway will extend the coverage of Avanti's latest satellite, HYLAS 4.

Avanti Communications and Free in Senegal have announced a five-year partnership to build and host a new satellite gateway in Senegal for Avanti's HYLAS 4 Ka-band satellite. The new gateway will extend the coverage of Avanti's latest satellite, HYLAS 4, to Senegal and the neighbouring West African countries of Guinea, Sierra Leone, Guinea Bissau, The Gambia and Liberia, as well as completing Avanti's coverage of Cote d'Ivoire.



## LAMATA and OCEL partner to launch electric mass transit buses



Image Credit: Adobe Stock

The partnership between LAMATA and OCEL will help the Lagos State in the attainment of a sustainable road transport system.

Oando Clean Energy Limited (OCEL), the renewable energy subsidiary of Oando Energy Resources, has announced the signing of a Memorandum of Understanding with the Lagos Metropolitan Area Transport Authority (LAMATA), the Lagos State Government agency tasked with planning, implementing, regulating and franchising sustainable integrated public transport in Lagos.

The Public-Private Partnership between LAMATA and OCEL will enable the successful fulfillment of the objectives of the Lagos State Government in the rollout of electric mass transit buses, supporting charging infrastructure, and service centres through the deployment of an EV Infrastructure Ecosystem towards the attainment of a sustainable road transport system.

Speaking at the MoU signing ceremony, the Commissioner for Transportation, Lagos State, Frederic Oladeinde, said, "With an understanding that transportation is a key emitter of greenhouse gases in Nigeria, we developed a strategy to cut greenhouse gases by 50%. A key component of this strategy was identifying and developing a more robust mass transit system for Lagos that would include rail and waterways amongst others. Using electricity to power mass transit is a step in the right direction, and from there we would gradually transit to private cars."

Engr Abimbola Akinajo, managing director of LAMATA, commented, "This initiative will not only accelerate the Government's transportation agenda but also positively impact the health of Lagosians and the environment. The magnitude of its impact is far-reaching, and when you start to look at it as more than a transport initiative, you will see how laudable a project it is. The Oando brand comes with know how and experience, and we are relying on this to successfully move from MoU signing to actual implementation that will in the medium to long term benefit over 22mn Lagos commuters."

## KOPORE TO RAISE FUNDS FOR EXPLORATION AND DEVELOPMENT OF AGADEZ URANIUM PROJECT

Kopore Metals Limited has announced that it has received commitments for a placement to raise US\$3mn to fund the exploration and development of the company's portfolio of assets, in particular the Agadez Uranium Project located in the Tim Merso Basin of Niger, and for general working capital purposes.

The placement was strongly supported by existing shareholders and incoming investors, including domestic and offshore institutional investors. The managing director of Kopore, Caroline Keats, commented, "We are extremely pleased with the response to the placement with firm commitments to raise a total of US\$3mn before costs. With the exploration programme due to commence in early June 2022 with a 5,500 metre drilling programme at Agadez, we expect consistent news flow over the coming months, as we continue to unlock the value of the Agadez Project for our shareholders."

## PAYU STRENGTHENS PRESENCE IN AFRICA

PayU, an online payment service provider operating in 50 emerging markets, has announced that it is strengthening its foothold in Africa with expansion into Ghana alongside strategic product updates including Payflex in South Africa, as well as Scan to Pay and Pay by USSD in Nigeria.

Through PayU's partnership with Payflex, consumers in South Africa now have the ability to pay in four equal and interest-free instalments, creating greater access to funding and autonomy on how consumers pay.

Through Pay by USSD and Scan to Pay in Nigeria, PayU is promoting financial inclusion even in unbanked sectors of society.

Scan to Pay allows merchants to display a QR code which supports Visa and MasterCard through local QR codes, avoiding unnecessary third party involvement and fees by allowing customers to pay directly from their bank accounts.

By introducing these innovative and popular payment methods, PayU's customers are now able to provide a better and more inclusive experience in their online shops with popular and accessible local payment.

These solutions will help both local and global SMBs by increasing their consumer reach and building customer loyalty through preferred payment methods.

PayU now offers Ghana as a new market for its merchants to expand into, via a single integration through the PayU Hub.

Merchants can offer Ghanaian shoppers the ability to pay by card, and popular local mobile money payment methods such as MTN MoMo, Tigo Pesa and more.

Karen Nadasen, CEO, PayU South Africa, said, "At PayU, we pride ourselves on our global reach and local expertise. Enabling access to popular local payment methods or even more specific-to-market alternative payment methods such as MTN MoMo, is key for our merchants to flourish in this region."

## BRIEFS

Image Credit: Tata International Africa



The award is presented to the dealer that performs over and above in various aspects of the business.

### Tata Ghana receives John Deere Africa award

Tata International Africa's Ghana operation has been awarded John Deere Africa's prestigious 2021 Dealer of the Year Award for dealers outside the SADC region, for a second year in a row. The award is presented to the dealer that performs over and above in various aspects of the business. In addition to overall customer satisfaction, key criteria for the award include turnover and market share growth. Rating of dealer performance also includes delivering value to their customers.

### New drill rigs at Ewoyaa Lithium Project Ghana



Ewoyaa is positioned to benefit from the growing lithium demand.

Atlantic Lithium Limited, a lithium exploration and development company on track to bring West Africa's first lithium mine into production, has announced the mobilisation of an additional three drill rigs, the expansion of the drilling programme and new drilling observations at the Ewoyaa Lithium Project in Ghana.

The original planned programme of approximately 19,000 m of drilling has been increased to approximately 37,000 m.

## Djibouti holds potential to become global ICT centre: AfDB

African Development Bank group president Akinwumi Adesina met with Djibouti President Ismail Omar Guelleh and senior government officials to discuss the country's economic progress and opportunities. The event was part of Adesina's two-day official visit to Djibouti.

The bank president and his Djibouti counterpart discussed ways of transforming the country's economy as it strives to achieve its vision of becoming an information, communication and technology (ICT) hub in the region.

The bank group chief also received Djibouti's highest honour of *commandeur dans l'ordre national*, presented to him by Prime Minister Abdoukader Kamil Mohamed.

Adesina said, "Djibouti needs to look beyond the port, diversify its economy and scale-up development. Flying over the country, one sees huge tracts of dry land. But it is only when one meets and talks to the people in this country that one realises, there is no drought in terms of ideas, creativity, passion and determination."

Djibouti was also invited to consider joining the Bank Group's Africa Disaster Risk Finance Facility, through which countries receive support to insure themselves against extreme weather events. The facility is already helping nine countries pay for insurance premiums to protect themselves from the effects of climate change.

The bank group chief also toured one of Djibouti's interconnection substations for power imported from neighbouring Ethiopia. The African Development Bank invested US\$60mn in the first interconnection with Ethiopia, to transmit a total of 320MW.

Djibouti has approached the bank for a similar investment to distribute an additional 320MW line from Semera in Ethiopia to Nagad in Djibouti, a distance of 192 km.



**AfDB group chief Akinwumi Adesina and Djibouti President Guelleh discussed ways of transforming Djibouti into a prominent hub in East Africa.**

Image Credit: African Development Bank Group

## COCA-COLA INAUGURATES FACTORY IN ETHIOPIA

Coca-Cola Beverages Africa (CCBA) has unveiled a new US\$100mn Coca-Cola bottling plant at Sebeta in Ethiopia and is set to unlock export opportunities, increase local production and ease foreign exchange constraints as it adds 500 employees to the workforce in the country.

The inauguration of the Sebeta Dima Coca-Cola factory was attended by government representatives, accompanied by CCBA Ethiopia managing director Daryl Wilson, CCBA CEO Jacques Vermeulen and Africa president for the Coca-Cola Company Bruno Pietracci.

Completion of the bottling plant brings CCBA's production capacity in Ethiopia to more than 100mn cases a year and will enable the company to integrate the production of inputs such as preforms, closures and other materials, as well as the local production of new products such as Minute Maid Juice, reducing imports and adding to national GDP.

According to the company, the production of these input materials, besides meeting CCBA's own demand, is planned for the export market to generate foreign exchange and supply the local market to help resolve shortages in the sector.

Wilson said the opening of the new plant in Sebeta was another proud milestone in CCBA's growth in the country and the investment demonstrates confidence in the Ethiopian economy.

"The first Coca-Cola bottle was manufactured in 1959 in Addis Ababa in the Abinet area. Since then, Coca-Cola has built a very strong local business in Ethiopia over more than six decades of investment, creating shared opportunities for communities and employees as it continues to grow," he commented.

## KENYA HITS ELECTRICITY DEMAND RECORD

Kenya's demand for electricity has hit a new peak demand of 2,051MW up from 2,036MW recorded in November 2021, pointing to accelerated growth and recovery in demand which slowed down in the wake of the Covid-19 pandemic.

The new peak demand was recorded in the Daily System Operation and Dispatch Analysis Report by Energy and Petroleum Regulatory Authority (EPRA).

This growth was driven mainly by renewable energy sources with geothermal energy making the greatest contribution, giving a further boost to Kenya's climate action agenda.

According to the report, the country's highest energy gross demand was recorded on 18 May 2022 and registered a 2.5% growth to record a new peak of 37,273.17MWh up from 36,380.63MWh in November last year.



**Graphex is a producer of spherical graphite for Li-Ion Battery anodes.**

## Volt signs LOI with Graphex

Graphite producer and battery materials developer Volt Resources Limited has announced the execution of a letter of intent for the sale of 5,000 tonnes of fine flake graphite product annually for a term of 10 years from the Bunyu Graphite Project. The LOI is said to be non-binding and includes a provision for the parties to enter into a definitive offtake agreement within 60 days. It was signed by Volt Graphite Tanzania Ltd, with Graphex Technologies LLC.

Image Credit: Adobe Stock



**The programme commenced with drilling anticipated by Q4 of 2022.**

Image Credit: Adobe Stock

## IonicRE updates Makuutu exploration target

Ionic Rare Earths Limited has updated the exploration target and the associated planning of the Phase 5 exploration programme at its 51% owned Makuutu Rare Earths Project. Additional to the May MRE, the revised exploration target range for additional potential mineralisation at Makuutu has been estimated at 216-535mn tonnes grading 400-600ppm TREO.

## Grey partners with Cellulant for East Africa operations

Grey, a Y-combinator backed fintech startup has announced the launch of its service in East Africa in partnership with Cellulant, an African payments company.

Through the partnership, products and services such as foreign bank accounts, instant currency exchange and international money transfers, are now available to Kenyan residents who sign up on Grey.

The partnership has enabled Grey to expand its services into East Africa – kicking off with Kenya – to address the difficulties of sending and receiving money abroad.

The company offers an international money transfer service that enables its users to send and receive international payments without restrictions. Cellulant is the company's payments processor, powering its payouts to thousands of Grey's customers.

The company, during a signing ceremony, showcased how users could create a virtual foreign USD, GBP, and EUR bank account for free. Users can receive payments and convert directly to Kenya Shillings or the Nigerian Naira.

The instant currency exchange service offered by Grey enables its customers to have virtual international bank accounts for free, helping small businesses, freelancers, remote workers, and content creators in Kenya enjoy a seamless payment process.

Grey allows Kenyans to get paid in their preferred foreign currency and withdraw directly to M-Pesa or their local bank account. International travellers can also avail of services in Kenya and are able to convert any supported currencies to Kenyan Shillings, pay for services directly to M-Pesa, or withdraw to a local bank account.

Grey services are now available in Kenya and Nigeria via the Grey website and will soon be available on the mobile app stores.



Image Credit: Cellulant

**Richard Gesimba, Cellulant's head of sales; Grey's CEO Idorenyin Obong; David Waitthaka, Cellulant's CRO; and Femi Aghedo, COO of Grey.**

## SUPPORTING COFFEE FARMERS WITH DIRECT INTERNATIONAL SHIPMENTS

Bolloré Transport & Logistics was recently commissioned to handle a logistic operation organising the first direct shipment of coffee by Kenyan farmers to South Korea without the use of a coffee brokerage. This was made possible thanks to sector reforms by the government of Kenya that now allow farmers to market their products directly with a view to fetch a better price for their produce.

The shipment that was flagged off in March docked weeks after into the country. It was successfully done with Bolloré Transport & Logistics, the company is contracted to oversee the processing, bulking, stuffing and shipping of the containerised cargo.

Through this operation, the company was able to support 9,582 small-scale farmers from the South Rift Region of Kenya.

## EAIIF SUPPORTS RENEWABLE ENERGY PROJECT

The Private Infrastructure Development Group's (PIDG) Emerging Africa Infrastructure Fund (EAIIF) is providing a US\$10.6mn loan over 17 years to Serengeti Energy, the developer of the Nyamwamba II 7.8MW run-of-the-river hydroelectricity plant in the Kasese District of Western Uganda.

A 20-year power purchase agreement will see all the energy produced by the plant sent to Uganda's national grid. Design, construction and installation were done by SAEMS Hydro Ltd from Uganda – with Andritz Hydro as the electromechanical supplier.

The financing transaction was signed with EAIIF as the sole lender. Construction was initiated using equity to expedite project delivery. EAIIF's loan will make the project more financially sustainable and deliver a long-term impact.

Serengeti Energy's new project brings to 10 the number of hydro and solar green energy plants EAIIF has backed in Uganda. The new plant began producing electricity earlier this year. The project includes a 5.5 km transmission line that delivers the plant's output to the regional grid.

Uganda's Government has plans to set up an industrial park in the Kasese district, focused on food and raw materials processing, leading to increased demand of between 50MW and 100MW. Nyamwamba II is part of a regional electricity generation and supply industry proving power for manufacturing, agriculture, homes and public services.

Sumit Kanodia, investment director at EAIIF's managers, Ninety One, said, "PIDG and EAIIF are delighted to support yet another renewable energy project in Uganda. Nyamwamba II will deliver green energy that will stimulate economic activity in a rural region, unlock suppressed demand for power, reduce transmission losses and improve the stability of the electricity grid."

## BRIEFS



Image Credit: Adobe Stock

**Partnership with Vertiv will complete TFG's infrastructure portfolio.**

### Vertiv signs agreement with TFG for regional coverage

Vertiv, a global provider of critical digital infrastructure and continuity solutions, recently announced a distribution partnership with Tech First Gulf (TFG), an IT infrastructure and security value-added distributor.

Through this partnership, Vertiv will aim to enhance TFG's existing portfolio with its robust power and IT infrastructure solutions for data centres and edge applications.



Image Credit: Adobe Stock

**The plant will consist of solar PV, battery energy storage and diesel generators.**

### Construction begins on the hybrid power plant

NextSource Materials has announced that a Madagascar subsidiary of CrossBoundary Energy (CBE) has commenced the construction process for the solar and battery hybrid power plant for Phase 1 of the Molo Graphite Mine in Madagascar.

This step was taken after the company executed a definitive energy services agreement with CBE's subsidiary.

# Upcoming Events Calendar 2022

## JULY

4-7

### NOG

Abuja, Nigeria  
<https://www.nogevent.com/>

5-7

### 6TH NIGERIA BUILD EXPO

Lagos, Nigeria  
<http://www.nigeriabuildexpo.net/>

## AUGUST

17-18

### INFRASTRUCTURE AFRICA

Virtual  
<https://www.infrastructure-africa.com/>

23-24

### POWER & ELECTRICITY WORLD AFRICA

Johannesburg, South Africa  
<https://www.terrapinn.com/exhibition/power-electricity-world-africa/index.stm>

## 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 COMMERCIAL VEHICLES

Hanover, Germany  
<https://www.iaa-transportation.com/en/visitors/iaa-2022>

## OCTOBER

3-7

### AFRICA OIL WEEK

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

18-21

### AFRICA ENERGY WEEK

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

24-30

### BAUMA

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

## NOVEMBER

6-18

### COP27

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

8-11

### ECOMONDO

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

## Ecomondo, Mission 2022: to guide the ecological transition

Ecomondo, the 'beacon' event for ecological transition, is back. The best 'green' technological solutions will be on show in the halls of Italian Exhibition Group's Expo Centre in Rimini from 8 to 11 November.

The exhibition will be arranged according to Ecomondo's four pillars:

- One: Management and valorisation of waste and its transformation into a second raw material;
- Two: Circular bio-economy and bio-energy;
- Three: Treatment and management of water resources;
- Four: Reclamation and redevelopment of contaminated and disused industrial sites and hydro-geological risk. From large machinery for metal recovery to digital control solutions for distributing water; from technologies for regenerating soil and degraded industrial sites to 3D printers powered by bioplastics.

With particular reference to the NRRP, supply chain and 'beacon' conferences, the 2022 edition of Ecomondo will feature a series of congresses and seminars with experts, researchers, companies and national and international institutions with the ever-increasing involvement of the European Commission, thus making the IEG event of prime



Image Credit: Ecomondo

Ecomondo brings together all sectors of the circular economy on a single platform.

European and Mediterranean importance on the innovation and ecological transition policy front. The organisers have also paid thanks to the work of the Technical-Scientific Committee headed by professor Fabio Fava from Bologna University.

Special content will also feature:

- The Textile Observatory: The hub that since the 2021 edition has aimed to unite all the main players along the supply chain, from waste producers, to managers, consortiums, trade associations and research and development institutes, with focus on eco-design in sustainable textile production;
- Environmental protection and regeneration: From 'trenchless technologies' to the remediation and redevelopment of polluted sites and the regeneration of coastlines; the very best of authentic, made-in-Italy,

environmental protection solutions that provide planning services for major works, will all be on show in Rimini;

- Food waste: In order to achieve objective 12 of the 2030 Agenda, institutions, companies and citizens must reduce food waste. Ecomondo will present the latest technologies and good practices that combine food quality and waste reduction in the pre- and post-consumption phases;
- Sanitisation Village: Another area that made its debut at the last edition will be back with technologies and products that are now an integral part of prevention and health standards in public and private workplaces;
- Start-ups and Innovation: Italian and international start-ups and scale-ups will be at Ecomondo to complete the green technology supply chain with innovative products and services, from recycling to renewables, in partnership with ITA-Italian Trade Agency and ART-ER.

Ecomondo will host the 11<sup>th</sup> edition of the States General of the Green Economy promoted by the National Council for the Green Economy in collaboration with the Ministry of Ecological Transition and with the support of the European Commission.

For more information visit the website here: <https://en.ecomondo.com/>

“The future of Africa’s youth is not overseas but in an Africa that is thriving in a sustainable and equitable manner. Young people do not need handouts or what is often referred to as ‘empowerment.’ Show me one young person who can readily tell you they have been empowered. Young people need investment.”



Image Credit: ADB

**AKINWUMI ADESINA**  
President of the African Development Bank Group

“International public financing for renewable energy needs to accelerate, especially in the poorest, most vulnerable countries. We have failed to support those most in need. With only eight years left to achieve universal access to affordable and sustainable energy, we need radical actions to accelerate the increase of international public financial flows and distribute them in a more equitable manner, so 733 million people who are currently left behind can enjoy the benefits of clean energy access.”

**FRANCESCO LA CAMERA**  
Director-general of the International Renewable Energy Agency

“Having different levels of protection in different parts of the world will not help to end the Covid-19 pandemic or control other vaccine-preventable diseases. It is essential to create decentralised vaccine manufacturing capacity to address this imbalance and ultimately build a safer and healthier world.”

**AMADOU ALPHA SALL**  
Director of the Institut Pasteur de Dakar

“We have seen first-hand through our extensive work across Africa, the impact that access to solar energy can have on communities, and how innovative technology can empower growth and change lives. The technologies exist, they are environmentally friendly and affordable. The time is now for African leaders to reimagine their energy policies and commit to bringing solar power to rural communities to support the culture of innovation that forms such a dominant part of life in Africa.”

**SIVAN YAARI**  
Founder & CEO of Innovation: Africa

“We are witnessing an unprecedented demand for digital services, apps, broadband, cloud technologies, and more, all of which are seeing data demand soar to unimagined levels... Many exciting innovations have their home in Africa, and numerous startups are raising billions to debut disruptive models across a wide range of sectors. With Ghana being the second-largest economy in West Africa, it is an attractive investment destination for international tech giants that want to expand their footprint in the region.”

**TESH DURVASULA**  
Chief executive officer at Africa Data Centres

“The EAC will in the coming year focus on strengthening regional governance, political commitment, and inclusivity to improve peace and security in the build-up to an EAC Political Confederation. In addition, the EAC will also prioritise infrastructure development and increased participation of different stakeholders such as the private sector in the regional integration process.”



Image Credit: EAC

**PETER MATHUKI**  
Secretary general of the EAC

“We need to create an energy environment in Africa that fosters industrialisation while meeting global and country climate change targets. For GE, gas and renewables is the most viable solution to make substantive reductions in emissions quickly.”

**NOSIZWE DLENGEZELE**  
Regional sales executive for GE Gas Power sub-Saharan Africa

# 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](http://www.africanreview.com)

## GLTC OPENS NEW BRANCH IN SOUTH AFRICA



Image Credit: GLTC

*The branch currently focuses on service delivery and marketing of Goscor products and services.*

Goscor Lift Truck Company (GLTC) has commissioned a new branch in George, a large city in the Western Cape province of South Africa.

Having previously serviced the Garden Route area through its Cape Town and Port Elizabeth branches, with additional support from East London and Gauteng branches when required, GLTC has opened a dedicated branch in George to serve the growing market there.

The new branch located in the George Industrial area is a shared premises with other Goscor sister brands: Goscor Cleaning Equipment, Goscor Earthmoving and Goscor Compressed Air Systems.

Ben Churr, general manager of Goscor Industrial and Construction Equipment (GICE), explained that the new branch was established following extensive due diligence, which evaluated current and future business trends in the area.

“We spent almost a year evaluating projects, government infrastructure spending and proposed new infrastructure before we decided that investing in a Garden Route branch made business sense,” Churr commented.

“We see initial cost savings from being able to service locally, as well as the potential growth with existing customers, as the immediate opportunity. We are however encouraged by the long-term growth potential in the Garden Route region,” added Churr.

## CONDRA WINS CUSTOMISED CRANE ORDER IN ANGOLA



Image Credit: Condra

*Condra's solution proposed a double-girder overhead crane running along an extendable crane gantry.*

Consulmet Pty Ltd gas has placed an order with Condra for an overhead crane and gantry specifically designed to overcome delivery and functionality constraints for a mine in Angola.

The mine needed to be able to position the crane over three milling and screening areas which will be constructed in phases and serviced by multiple conveyors on either side. The nature of access roads to the site dictated that the 28-metre-span crane be disassembled into 12-metre containers.

Condra's solution proposed a double-girder overhead crane running along an extendable crane gantry erected initially over just the first milling area. The gantry's legs will be sited between the conveyors to allow uninterrupted crane movement over them. The gantry will later be extended to allow the crane to service additional milling areas.

Road transport limitations were overcome by designing the 26-metre-long overhead crane girders to be spliced in two places, and by reducing gantry leg height to match the 12-metre length of the flatbed transports. Additional completed gantry height will be achieved by concrete plinths cast as part of the milling area foundation, and by steel pedestals incorporating the crane's end-carriages below the crane girders.

Effective lifting height after commissioning will be 16 metres. Consulmet Pty Ltd's 50-ton crane and 29-metre-long gantry will first assist with milling area construction before its role moves to plant maintenance.

## ABENGOA PASSES ALL CONTRACTUAL TESTS FOR THE AGADIR DESALINATION PLANT



Image Credit: Abengoa

*The Agadir desalination plant is a benchmark project for Abengoa in the desalination sector worldwide.*

Abengoa, an international company that applies innovative technology solutions for sustainable development in the infrastructure, energy and water sectors, has successfully passed all contractual tests for the Agadir desalination plant in Morocco.

It is the largest plant designed and conceived for combined use of drinking water and irrigation worldwide, with a capacity of 275,000 cu/m per day and reverse osmosis technology.

The Agadir desalination plant is a benchmark project for Abengoa in the desalination sector worldwide, with the possibility of expansion to 400,000 cu/m per day. The project also includes the construction of an irrigation network for an area of 15,000 ha.

This is a unique project for two clients: ONEE (Office National de l'Electricité et de l'Eau Potable) and the Moroccan Ministry of Agriculture, Maritime Fisheries, Rural Development and Water and Forests, which was awarded the "Best Public-Private Partnership" prize by the International Desalination Association. The Public-Private Partnership (PPP) contract for the design, construction, financing, operation and maintenance over a 30-year period (including construction) of the Agadir desalination plant was awarded to Abengoa in 2017, with financial close having been obtained in June 2019.

## MALAWI'S PRESIDENT INAUGURATES GOLOMOTI SOLAR



Image Credit: Adobe Stock

*The Golomoti and Salima Solar projects have added 80MWac of renewable energy capacity to support Malawi's clean energy transition.*

Lazarus McCarthy Chakwera, President of the Republic of Malawi, has presided over an official inauguration ceremony to mark the addition of 20MWac of additional clean energy to Malawi's national grid.

Following the inauguration of its 60MWac sister plant – Salima Solar – late last year, the Golomoti Solar plant has reached commercial operations.

Developed by JCM Power and PIDG company InfraCo Africa, Golomoti incorporates highly efficient bifacial solar panels and a utility-scale 5MW/10MWh battery energy storage system (BESS), the first of its kind in sub-Saharan Africa and Malawi.

The President said, “Malawians deserve an energy programme that aligns with our nationally determined goal of reducing greenhouse emissions by 51% by 2040. For this reason, I must commend the innovation and speed exemplified by JCM in the implementation of these projects, taking us 80MW closer to our goal of having 1000MW supplied to the grid.”

Golomoti Solar's state-of-the-art lithium-ion BESS will help support existing hydro generation plants and reduce Malawi's reliance on diesel generation by enabling the solar plant to provide reliable power during the day. The BESS will ensure that grid stability is maintained, a key consideration when adding new intermittent renewable energy capacity. It will also enable the technical training and development of young engineers in Malawi and neighbouring countries around battery energy storage technologies.

# 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. ■

# Heavy trucks doing the heavy lifting

Robust and reliable heavy-duty trucks from the world’s leading manufacturers have long served Africa well and continue to support businesses as the region’s economy matures.

**N**ot much can happen in Africa without the big trucks that travel the dusty roads and modern highways crisscrossing the continent.

Robust and built to last, these heavy-duty vehicles – made by iconic brands such as IVECO, Daimler, Volvo, and Scania, among others – are the lifeblood of business. In an emerging continent with a bright future ahead of it, that’s some responsibility.

There are few more vital businesses than food supply and last year IVECO delivered 160 of its Trakker trucks to the Phibela agro-processing complex in Ethiopia, which produces and distributes edible oil across eastern Africa.

Phibela Industrial Plc covers 29 hectares of land leased from Amhara Regional Government around the industrial town of Bure, about 441 km from Addis Ababa.

The company is also part of the Belayneh Kindie Import Export Group, an assembler of IVECO heavy trucks shipped in kits from Europe in completely knock-down units.

The new trucks will be used to cover the route between Bure and Djibouti – a vital task, especially given current constraints facing regional food supplies.

IVECO has recently updated its heavy line with the new IVECO T-WAY off-road vehicle designed and engineered for the toughest missions in the most extreme conditions. The latest update also includes the new IVECO S-WAY long-haul truck.

## Service veterans

All of these leading truck brands share a proud history in serving the African continent and nurturing intra-regional trade.

Daimler Trucks & Buses



Image Credit: Daimler Truck

**Bakers SA Limited takes delivery of 90 Mercedes Benz Actros trucks.**

celebrates 60 years of assembly operations in South Africa this year, for example. In a note to mark the occasion, Michael Dietz, chief executive of Daimler Trucks & Buses Southern Africa (DTBSA), highlighted the role his company plays in keeping Africa moving and said 2022 is set to be “another exciting year” for the group.

Daimler’s client base continues to endorse that sentiment. Last October, it handed over a whopping 90 Mercedes-Benz Actros 2645LS trucks to local logistics specialists, Bakers SA Limited.

This addition builds on Bakers’ current mega fleet of nearly 650 vehicles, which remarkably comprises 100% Mercedes-Benz Truck products – a true endorsement of the brand.

A month later, South Africa’s Cargo Carriers took delivery of 13

new Mercedes Benz Actros 2645/LS33 Pure truck tractors to be incorporated into its powders (cementitious) division. Together with the Mercedes Benz Truck tractors, Cargo Carriers invested in bulk tankers with optimal payload capacity to complement the truck tractors. The new truck tractors are 6% lighter than the older models, with greater power efficiency, as well as fuel saving technical innovations.

Safety improvements include anti-lock braking systems, acceleration skid control, disc brakes, electronically controlled braking systems, lane assistance, roll over control, and proximity and stability control. As well as safety, performance, and energy efficiency improvements, the leading truck builders are making improvements to their vehicles all the time.

It is bringing with it

groundbreaking innovation, with Volvo Trucks recently launching the world’s first trucks that are not only electric, but are also made with fossil-free steel, reflecting its ongoing commitment to the environmental cause.

The steel is produced by Swedish steel company SSAB using a completely new technology, based on hydrogen.

It means today, around 30% of the materials in a new Volvo truck come from recycled materials, and up to 90% of the vehicle can be recycled at the end of its life.

“We are continuously striving to further minimise our climate footprint. We are also moving towards greater circularity in both our operations and our trucks,” said Jessica Sandström, senior vice president product management, Volvo Trucks. ■



# Between the road and the load

Troy Geisler, vice president of sales and marketing at Talbert Manufacturing, explains how to calculate true capacity before buying a trailer.

Long before a single load is booked or any wheels turn, someone – usually a fleet manager – needs to determine exactly what is going to separate the road and the load.

There's a lot riding on this decision because a trailer can be manufactured to many different specifications, with multiple raw material options, dozens of load and geographical considerations, various top speed requirements and hundreds of possible axle configurations coming into play.

To select the right trailer, the one that will require the least amount of maintenance, provide the greatest lifespan and deliver the highest possible return on investment, it is vital to understand the most important factor of all – capacity. For this, there are five contributors to capacity ratings which apply to any kind of open trailer, from flat and step decks to lowbeds. It is up to every buyer to be in tune with the method each manufacturer uses to calculate capacity before making a purchase decision.

## Load Concentration

A key difference between manufacturers' ratings comes in load concentration or the length of the deck that can handle the rated weight. Obviously, a 26-foot, 50-ton lowbed can haul 50 tons. But how much of the deck those 50 tons occupy is just as important as the weight itself. Whereas one trailer might need the entire length of the deck to be rated at 50 tons, another can be rated for 50 tons in a 16-foot span, and another can handle that same weight in half the deck length.

Trailers rated for half the deck length can carry a specified load in just that: half the length of the deck. These ratings give a more realistic indication of the concentrated loads the trailer will be able to handle safely and without structural failure. In addition, manufacturers who

build trailers with half-deck ratings often do so with a two-point rigid load base specifically for the tire spacing, or hot spots, of large equipment and heavy machinery.

## Load Distribution

How a load is distributed over the deck and the axles can be just as important as the overall weight rating.

It's important to have the proper trailer configuration to make the load distribution work for a fleet's particular area of operation. Manufacturers bear some responsibility, too, and should work with buyers to define not just the best trailer for the cargo those buyers will be carrying, but also the best axle configurations for maximising the load.

## Speed

Another capacity determinant is speed. While some manufacturers rate their trailers at 55 mph, others rate them at 65 mph. The slower a rig travels, the less added weight or stress is placed on the trailer. That's due to the fact that, while road dynamics such as potholes, railroad tracks and so on still come into play, the impact on the trailer decreases along with the speed. However, sometimes a 55 mph rating is not as realistic for a carrier as a 65 mph rating. The key is to purchase trailers that will perform at a fleet's normal operating speeds.

## Safety

A trailer's safety rating also comes into play when discussing capacity. Without understanding the safety rating, it's difficult for a carrier to get a clear, comprehensive picture of true capacity.

A safety rating is an indicator of how much stress a trailer can safely handle. It encompasses the strength of the raw materials and components

that a manufacturer has put into the trailer's design and construction, how the beams and cross members are configured, and so on.

Not only does the safety rating tell a carrier how strong his trailer is, but it's also a very good indicator of potential life.

## Materials

Safety factors are strongly related to the quality of the components incorporated into the trailer, and that gets down to the nitty-gritty of the steel and the deck material.

Manufacturers have several options when choosing steel. For the most capacity and smallest impact on the trailer weight, some manufacturers use a T1 material with 100,000 psi minimum yield. T1 not only has maximum strength versus ductility but also equates to a lighter, stronger trailer frame over other materials.

A trailer's decking is continually exposed to the elements, making durable decking with a long wear life another crucial factor.

## Overload at risk

It can be tempting to look at a trailer's capacity rating and stop there. But for a true sense of how much a trailer can handle and how it will hold up under the stresses of a specific operation, fleet managers need to consider everything that goes into that rating. Overloading a trailer consistently over time will mean it will likely fail.

Purchasing the right trailers for a fleet can be complicated and, clearly, the decision is an important one – but there is help available. Many manufacturers have salespeople who know capacity from top to bottom and can help fleet managers select exactly the right trailer with the optimal combination for specific applications and load types. ■

# Freighter fleets flying high

Despite a setback in passenger numbers in recent years, air cargo operations in Africa are holding up well.



Image Credit: Boeing

The past couple of years have been a tremendous challenge for all, but few more so than the major airlines.

With passenger numbers drying up during the Covid-19 lockdowns, the big carriers shifted their focus to air cargo in a bid to keep moving and transporting vital goods and supplies around the globe. This lifeline continues today, with passenger numbers still in recovery mode after the Covid-19 crisis – although the outlook on that front now appears a little brighter.

According to the International Air Transport Association (IATA), passenger travel is starting to pick up despite the war in Ukraine and tightening travel restrictions in China – although high fuel prices now present a fresh challenge.

At the same time though, context is important: Africa's overall share of air passenger traffic remains tiny by global standards, at around 2%; the bulk of traffic is dominated by Asia-Pacific, Europe and North America.

The focus on air cargo, amid ongoing development efforts across Africa, means some of the region's big airlines are upgrading their fleets in response.

## Ethiopian upgrades

Ethiopian Airlines has just announced an order of five new 777 Freighters to add to its all-Boeing freighter fleet, a reflection of its confidence in the

future of cargo operations.

Ethiopian Cargo and Logistics Services covers 127 international destinations around the world with both belly hold capacity and dedicated freighter services.

"The addition of these five B777 Freighters into our cargo fleet will enable us to meet the growing demand in our cargo operation," said Mesfin Tasew, chief executive of Ethiopian Airlines Group.

He said the growth of the freighter fleet will take the airline's shipment capacity to the next level.

"Africa's largest cargo terminal, coupled with fuel-efficient freighters and well-trained cargo-handling professionals, will enable our customers to get the best-quality shipment service," he added.

The airline currently operates a fleet of nine 777 freighters, with a maximum structural payload of 107 tonnes (235,900 lb) and a range of 4,970 nautical miles (9,200 km) to connect Africa with dozens of dedicated cargo centres worldwide.

Boeing's 777 Freighter is the world's largest, longest-range and most capable twin-engine freighter, currently flying with 17% lower fuel use and emissions compared to earlier models.

But there could be more to come as well with Ethiopian Airlines looking further ahead.

In early March 2022, it also announced the signing of a memorandum of understanding with Boeing for the intent to purchase a further five 777-8 Freighters, the industry's newest, most

capable and most fuel-efficient twin-engine freighter. In a statement, the airline said the additional freighters will enable the company to meet expanding global cargo demand and position the carrier for sustainable growth.

Ethiopian Airlines also operates three 737-800 converted freighters, as well as a combined passenger fleet of more than 80 Boeing jets including 737s, 767s, 787s and 777s.

As well as the new aircraft, it is updating other areas of its business, such as the launch of a new feature that enables customers to make online reservations for their cargo via a simple mobile app.

South African Airways (SAA) is also now recovering after the pandemic, resuming flights and now increasing capacity.

Some of that is down to the decision by Comair to voluntarily suspend all flights, effective 1 June 2022 – a reminder of the difficulties caused by Covid-19 lockdowns and high fuel prices.

SAA itself emerged from a business rescue plan last year after the crisis.

The airline's interim chief executive, Thomas Kgokolo, said in February that the company would look to more opportunities in the cargo segment in order to drive up business.

These remain testing times but air cargo looks set to play a vital role in Africa's ongoing economic development. ■

## Swedfund makes renewable investment

Swedish Development Finance Institution (Swedfund) has invested US\$20mn in Serengeti Energy, a sub-Saharan independent power producer which develops, constructs, owns, and operates grid-connected renewable energy resources.

With sub-Saharan Africa still heavily depending on fossil fuels to meet its energy requirements, Swedfund has invested into Serengeti to add environmentally and socially sustainable and cost-efficient capacity to the grid.

Maria Håkansson, CEO of Swedfund, said that the investment would strengthen the company's already existing renewable energy portfolio with small- and medium-scale hydro and solar power in sub-Saharan Africa.

While the region is reliant on fossil fuels, a combination of favourable conditions, such as Africa being the continent with the richest solar resources in the world and falling costs for equipment, is driving the build-out of renewable energy capacity.

This investment gives Swedfund an opportunity to contribute to sustainable economic development, including climate change mitigation, by supporting access to reliable and affordable renewable energy. It also enables the Swedish financier to further support a strengthening of Serengeti Energy's Environmental, Social and Governance processes within climate, biodiversity, and gender. Partnering with Serengeti, and investing in solar expansion, is also expected to increase the production of renewable energy and promote sustainable economic development. It is another step on the institution's mission to contribute to poverty reduction through sustainable investments in developing countries.

Swedfund will provide its capital as part of a structured fund raise of US\$80mn, alongside the French Development Finance Institution Proparco and STOA, a French impact fund.

Serengeti Energy is well-known within the Development Finance Institution sphere with previous equity raised from the German Development Bank, KfW, the Norwegian Development Finance Institution, Norfund, and the Nordic Development Fund, NDF. The company is a medium-sized African Independent Power Producer that was established in 2013.



Construction of a solar PV plant in Malawi.

## AIIM OBTAINS SOLAR PLANTS IN SOUTH AFRICA

African Infrastructure Investment Managers (AIIM), a large and experienced infrastructure-focused private equity fund management firm in Africa, has acquired majority stakes in three new solar power plants in South Africa through its IDEAS Managed Fund (IDEAS).

The 30MW portfolio of facilities are expected to reach commercial operation in March and April 2023 and will connect via a combination of wheeling and behind-the-meter solutions, feeding energy into Harmony operations in the Welkom area in South Africa.

When all three power facilities are fully operational, it is expected that they will deliver 68GWh of clean energy in the first twelve months of operation and 1.3TWh over the 20-year lifespan of the facilities. The energy provided by the portfolio is expected to mitigate 65,000 tonnes of CO<sub>2</sub> emissions in the first year of operation.

The portfolio has been financed through a mix of debt and equity. Equity was funded by IDEAS and the Mahlako Financial Services-managed Mahlako Energy Fund 1 (Mahlako). Debt was provided by Rand Merchant Bank (RMB), a division of FirstRand Bank Limited.

Commenting on the transaction, Sean Friend, investment director at AIIM and co-portfolio manager of the IDEAS Managed Fund, commented, "Together with our partner Mahlako, we are excited to conclude this transaction and create a long-lasting partnership with Harmony. This portfolio further entrenches IDEAS as a leading investor in the renewable energy, as well as the commercial and industrial private power market in particular. We look forward to pursuing additional investments in this sector, in light of the focus on clean energy and the need to pursue a sustainable energy mix for SA."

## ALGERIA STRENGTHENS ENERGY TIES WITH ITALY

SONATRACH and Eni have signed a memorandum of understanding (MoU) to accelerate the development of gas fields in Algeria and encourage decarbonisation through green hydrogen.

The signing ceremony was attended by Toufik Hakkar, chairman of SONATRACH; Claudio Descalzi, CEO of Eni; Abdelmadjid Tebboune, President of Algeria; and Mario Draghi, Prime Minister of Italy.

The MoU represents a further step in strengthening energy co-operation between Italy and Algeria and is in line with Eni's strategy of diversifying energy sources with a focus on decarbonisation.

In more detail, the Memorandum of Understanding will allow SONATRACH and Eni to evaluate the gas potential and opportunities for accelerated development at specific fields already discovered by SONATRACH in Algeria. The MoU also covers the technical and economic evaluation for a green hydrogen pilot project in Bir Rebaa North (BRN) in the Algerian desert.

## BRIEFS

### AfDB to advise on Mphanda Nkuwa hydropower project



The Mphanda Nkuwa project is expected to be commissioned in 2031.

The African Development Bank (AfDB) has signed an agreement with Gabinete de Implementação do Projecto Hidroeléctrico de Mphanda Nkuwa to provide advisory services for the development of the US\$4.5bn, 1,500MW Mphanda Nkuwa Hydro Power Project in Mozambique.

The plant will be located on the Zambezi River in the Marara District of the country's Tete Province. 1,300 km of 550kV high voltage DC transmission line will also be constructed.

### Scatec eyes unique projects in South Africa



Financial close is to be achieved within 60 days from the signature date.

Scatec ASA, a leading renewable energy solutions provider, has signed power purchase agreements for the three Kenhardt projects in the Northern Cape, South Africa.

The project will provide 150MW of dispatchable renewable energy based on a hybrid installation of 540MW of solar PV capacity and 1.1GWh of battery storage.

Once financial close has been reached, Scatec will start construction on the projects.

## Eskom targets stability with latest acquisition

Eskom, following five months of vigorous testing and optimisation, has announced that Unit 4 of the Kusile Power Station Project was handed over to the generation division to formally become part of the Eskom commercial fleet.

It is another step in Eskom's efforts to stabilise the power system and will add a much-needed 800MW.

"This milestone means the construction of four out of the six generation units have now been completed at the Kusile Power Station project. The Kusile project team and Eskom are working tirelessly to complete the rest of the project without any further delays as the country needs every megawatt of power it can get," said Bheki Nxumalo, the Eskom group executive for capital projects.

The unit has undergone a series of tests while intermittently supplying electricity over the past five months. Since synchronisation in December 2021, the unit has performed to expectation, intermittently sending up to 720MW and contributing to reducing the implementation of loadshedding.

Once completed, the station will consist of six units, and will produce a maximum 4,800MW. Construction and commissioning activities on the remaining Kusile Units 5 and 6 continue to progress according to plan.

Situated near Emalahleni in Mpumalanga, Kusile is South Africa's largest construction project and will be the world's fourth largest coal plant at completion.

Eskom is fitting wet flue gas desulphurisation (WFGD) to the Kusile plant as an atmospheric emission abatement technology.



Image Credit: Eskom

**Eskom is fitting wet flue gas desulphurisation (WFGD) to the Kusile plant as an atmospheric emission abatement technology.**

## SAVANNAH TO DEVELOP RENEWABLE PROJECTS IN CHAD

Savannah Energy plc, an independent British energy company, has signed an agreement with the Ministry of Petroleum and Energy of the Republic of Chad for the development of up to 500MW of renewable energy projects.

The first project comprises an up to 300MW photovoltaic solar farm and battery energy storage system (BESS) located in Komé, southern Chad. This is being developed to provide clean, reliable power generation for the Doba Oil Project and the surrounding towns of Moundou and Doba. In doing so, it will displace existing hydrocarbon power supply resulting in a significant reduction in CO<sub>2</sub> emissions and provide a supply of clean, reliable electricity on a potential 24/7 basis to the surrounding towns of Moundou and Doba.

At 300MW, the Centrale Solaire de Komé would be the largest solar project in sub-Saharan Africa (excluding South Africa) as well as constituting the largest battery storage project in Africa. Project sanction for the Centrale Solaire de Komé is expected in 2023 with first power in 2025.

The second project involves the development of solar and wind projects of up to 100MW each to supply power to the country's capital city, N'Djamena. A significant portion of this project is anticipated to benefit from the installation of a BESS, potentially enabling the provision of 24/7 power supply. At up to 200 MW, the Centrales d'Énergie Renouvelable de N'Djamena would more than double the existing installed generation capacity supplying the city and increase total installed grid-connected power generation capacity in Chad by an estimated 63%. Project sanction for the Centrales d'Énergie Renouvelable de N'Djamena is expected in 2023/24, with first power in 2025/26.

## IEA: COVID-19 SLOWS PROGRESS TOWARD UNIVERSAL ENERGY ACCESS

According to a report by the International Energy Agency (IEA), Covid-19 has been a key factor in slowing progress toward universal energy access, with 733mn people still having no access to electricity globally.

At the current rate of progress, 670mn people will remain without electricity by 2030 - 10mn more than projected last year. The effects of Covid-19 have also been compounded by the Russian invasion of Ukraine which has led to uncertainty in global oil and gas markets which has sent energy prices soaring.

Africa remains the least electrified region in the world with 568mn people without electricity access. The report noted that sub-Saharan Africa's share of the global population without electricity jumped 71% in 2018 to 77% in 2020.

While 70mn people globally gained access to clean cooking fuels and technologies in the same period, this progress was not enough to keep pace with population growth, particularly in sub-Saharan Africa.

## ► BRIEFS

### BGFA to open funding round for DRC

Image Credit: BGFA



**There is enormous potential in the DRC for solar home systems, mini-grids and productive-use appliances.**

Beyond the Grid Fund for Africa (BGFA) has announced that it will open a funding round in the Democratic Republic of the Congo (DRC), representing its fourth call for proposals to incentivise clean off-grid energy solutions in sub-Saharan Africa.

The upcoming funding round aims to accelerate the entrance and scale-up of commercially sustainable businesses in the DRC with a focus on reaching underserved communities in the country.

### Tenaz acquires North African assets

Image Credit: Akhile Stock



**SDX has producing assets in Egypt and Morocco.**

Tenaz Energy Group has acquired all of the issued and to-be-issued share capital of SDX Energy PLC, which has producing assets in Egypt and Morocco. Tenaz stated that SDX's assets in the two countries create a production base with potential to build an operating presence of significant scale. Anthony Marino, Tenaz chief executive officer and director, commented, "This transaction is an important step in the execution of our strategy for international growth."

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# Genset market recovery underway

Diesel genset demand is holding firm as Africa looks to a dependable energy supply from a proven, traditional technology.

In 2022, as in other recent years, there is an endless stream of news focusing on renewable energy and innovative ways to generate electricity, both in Africa and worldwide.

Yet, amongst this chorus, the diesel generator, or genset, remains an integral part of Africa's energy mix, just as it has done for many decades.

Indeed, the market is retaining its steady growth given that a huge number of inhabitants and organisations, both small and large, continue to rely on this ever-dependable piece of equipment for their energy requirements.

That ranges from small households, health clinics and hospitals, to mining sites and oil platforms.

For operations and activities that require dependable 'without fail' electricity, then it's still hard to beat the traditional genset, especially in a region with such patchy, erratic grid-based power.

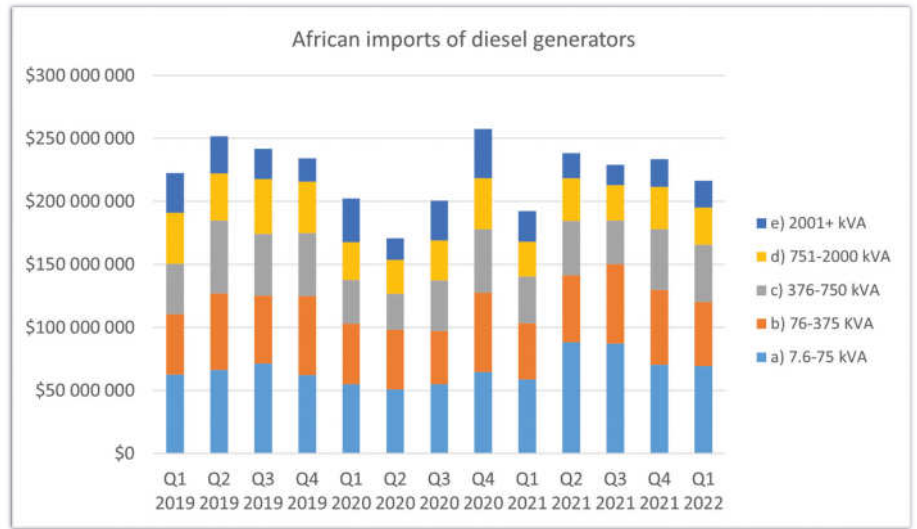
Not that there's anything traditional about the modern gensets now being sold into Africa, though, in terms of their performance, power and energy efficiency.

The gensets now being manufactured by leading brands in this niche – the likes of Kohler SDMO, Caterpillar and Cummins, among others – are a huge leap in comparison to the machines of yesteryear.

## Genset demand recovery continues

There is positive news too in terms of overall demand emanating from the African continent.

Imports of diesel generators increased by 12%



in the first quarter of 2022 compared to the same quarter of last year. Moreover, they are now only 3% lower than the pre-crisis level (first quarter of 2019), reflecting a sustained pick up since the chaos wrought by Covid shutdowns.

Most countries and industry sectors – including construction, manufacturing, mining and telecommunications – witnessed an increase in demand due to the general market recovery and rising need for electricity.

However, the recent spike in commodity prices may create a few differences between the oil and gas exporting countries that will benefit from this

increase in income, and others that will suffer from the higher prices.

At the same time, the higher cost of fuel right now may add further impetus to the shift to renewables and other alternatives, a long-term transition that may ultimately dampen genset demand considerably later in the decade.

## Key trends shaping 2022

The increase in demand was particularly significant for generator sets at the smaller end of the scale, below 75 kVA.

This category saw imports increase by 18% compared to last year, and are even higher than in 2019 (by 11%).

This strong surge is due to an increased demand and need for electricity in construction and the residential and telecommunications sectors, as well as slightly lower lead times compared to other bigger products.

In this environment, and despite high transport costs, Chinese exports have boomed since 2019 – a 98% increase in Q1 2022 compared to Q1 2019, while UK exports have been reduced by 50% during the same period. The recent lockdown in China is expected to moderate this growth in Q2 2022, however.

Nonetheless, the overall trend is likely to continue due to China's low cost advantages and large manufacturing capabilities, especially for generators below 300 kVA.

Low cost may not always imply quality,

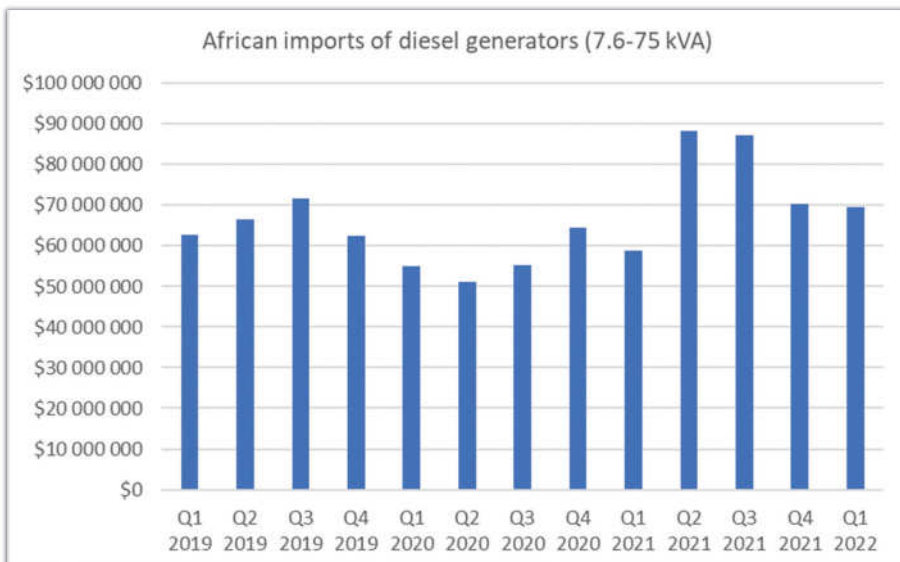


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however, and the long-term price that customers pay may sometimes be higher when compared to more sophisticated or energy-efficient machines from elsewhere.

### Kohler enhances Nigeria commitment

Leading international brands continue to make their presence felt as the competition heats up.

Among them, Kohler Power Systems Nigeria – part of Kohler Power Systems EMEA – recently announced the expansion of its genset range available to local customers.

To help meet the demand for mission-critical power across industry, construction, commercial and residential use, customers in the country will now be able to access five high-power KDI generators – supplied from a dedicated Nigerian assembly and testing facility in Lagos.

The newly available KDI generators – K16, K22, K33, K44 and K66 – have an optimal power-to-size ratio and adapted cooling capacity.

Robust enough to handle load impacts, the five KDI generators maintain frequency and voltage at all times to ensure the quality of the electricity produced. The new generators join the existing range of Kohler gensets all available from the Ikeja facility, as well as John Deere, Doosan and Volvo, Mitsubishi and KD Series engines.

Fully equipped to assemble and test gensets imported from Kohler’s production site in Brest, France, the Lagos plant includes storage space for 400 gensets, allowing for the quick supply of most generators. This is another key consideration, with turnaround times often a major factor in decision making. Generators from 15-750kVA are in stock in Lagos, with larger generators available for projects.

### Local presence, global support

Local footprint means gensets can be easily customised and there is available support as and when required: a must-have for clients seeking ultra dependable power.

At Kohler’s Nigerian facility, chassis, alternators, engines and control panels are combined to local specifications and tested to ensure they meet local rules on noise levels.

Customers for these gensets then benefit from local support, which is in turn supported by Kohler’s global services.

“Our ability to offer customers in Nigeria a combination of local assembly in Lagos and global partnerships means that they benefit from optimum quality, not only in the products they choose but in the services that support them too,” said Daniel Roudaut, Nigeria national sales manager.

“Further expansion of generator ranges is planned for the near future, meaning customers in the country – and across the African continent – will have access to an even wider selection of

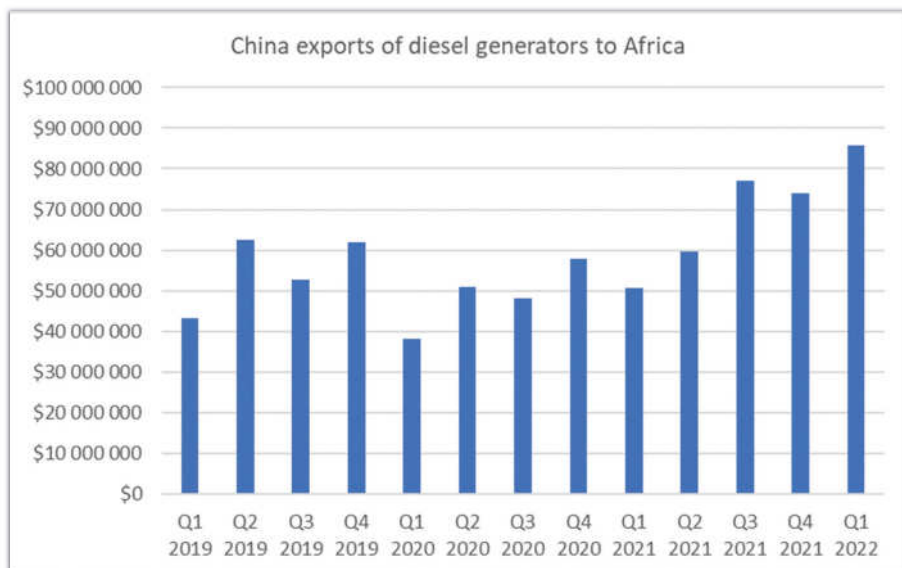


Image Credit: PowerGen Pages

the most efficient and effective mission-critical power on the market.”

### Nigeria demand outlook

Nigeria is a prime example of how Africa’s energy shortfalls are driving demand for gensets.

According to Olalere Odusote, commissioner of Energy and Mineral Resources, Lagos State, the shortage of grid-based power has fuelled genset sales over recent years.

“Today in Lagos, the grid supplies 900 MW of electricity to the two Lagos discos [distribution companies],” he told *African Review*.

“Compare this to the records that show that we have imported 8,000MW of diesel generators into Lagos over the past three years.”

As Africa’s biggest city evolves, the need for further energy will become even more pressing.

“It is estimated that along with the grid supplies, over 4,500MW of electricity is being concurrently consumed in Lagos,” noted Odusote.

“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.”

### Reliable energy for traditional users

Elsewhere in Nigeria, business is thriving among key industries that look to gensets for secure power in the absence of reliable grid supplies.

Mantrac Nigeria recently completed the delivery of gas gensets in the northern region of Kano for Mafa Rice Mill Limited, reflecting key industry and energy shifts. Its customer has been using CAT diesel gensets for the past couple of years, but the shift marks part of Nigeria’s initiative to adopt more gas-powered solutions.

The installation of a 2MW CAT CG170-20 gas genset marked the first phase of a two-part project. Phase two includes another two gas units to

complete Mafa Rice Mill’s gas power plant, giving it a total capacity of 6MW.

Once all units have been delivered, Mafa Rice Mill will be the first owner of a complete Caterpillar gas and diesel power plant in Kano.

Mantrac is supporting other remote customers elsewhere in West Africa, such as mining operators, which often work far away from established network infrastructure.

It recently completed the delivery of CAT 3516 diesel gensets to support a remote mine in Sierra Leone on behalf of Koidu Limited, a large underground diamond mining company.

The ability to produce power on site is critical for continuous operation, and significant capital can be lost without it, due to fleet downtime.

### Fast-growing markets, new niches

While Nigeria still remains the most important market in Africa in terms of overall demand, the strongest growth has come from countries elsewhere, such as South Africa, Kenya and Libya.

It highlights an uptick across all four corners of the continent, an encouraging sign as the region navigates out of the chaos of the Covid-19 era.

Again, the telecommunications segment, as well as infrastructure, have helped these territories flourish, while new market niches, notably data centre projects in Kenya and South Africa in particular, are expected to continue this growth.

While economic prospects vary from country to country, Kenya’s outlook appears solid enough.

The World Bank said in June that it expects Kenya’s real gross domestic product (GDP) to grow by 5.5% in 2022 and 5.2% on average in 2023–24, underpinning potential demand prospects going forward.

Given that energy is the lifeblood of any economy, it bodes well for the genset industry. ■



## Wärtsilä guarantees power for remote gold mine

Wärtsilä has signed a five year performance-based agreement for a 20MW power plant combined with a 40MW plant extension installation at a gold mine in Africa.

Matching power availability with operational demand is required, monitored and incentivised on a daily basis. The agreement further covers the generating engines' optimised usage and fuel consumption.

Marc Thiriet, energy business director, Africa West, Wärtsilä, commented, "This is an isolated mine with no grid connection, so a reliable source of electricity from the captive Wärtsilä power plant is essential for maintaining the mine's productivity and operating revenue-earning capability. After analysing the customer's needs and how we could meet them, we developed the performance guarantee as an assurance of plant availability, while minimising fuel consumption and running hours as important cost-saving benefits. We see performance-based agreements becoming widely utilised



The power plant featuring four Wärtsilä 32 engines commenced operations in 2016.

as an effective solution for our customers."

The power plant featuring four Wärtsilä 32 engines commenced operations in 2016, after which the extension project with a further four Wärtsilä 32 engines was added and commissioned in 2021. Wärtsilä has had an earlier Operation and Maintenance (O&M) agreement with the customer since 2017, which has now evolved into becoming this performance-based agreement.

Long-term service agreements are an important element within Wärtsilä's lifecycle services providing value-adding customer support. Performance-based service agreements include quantifiable targets, which are mutually agreed based on the customer's business needs. The

measurable indicators can include, for example, power availability, reliability, fuel consumption, and emissions.

Globally, Wärtsilä currently has 14GW of power plant capacity covered by long-term service agreements, of which 2GW is in Africa.



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# PowerPackPlus proving its point for genset OEMs

As part of its strategy to aid genset OEMs in the African region, Mitsubishi Turbocharger and Engine Europe B.V. (MTEE) teams up with Linz Electric to launch the PowerPackPlus product range.

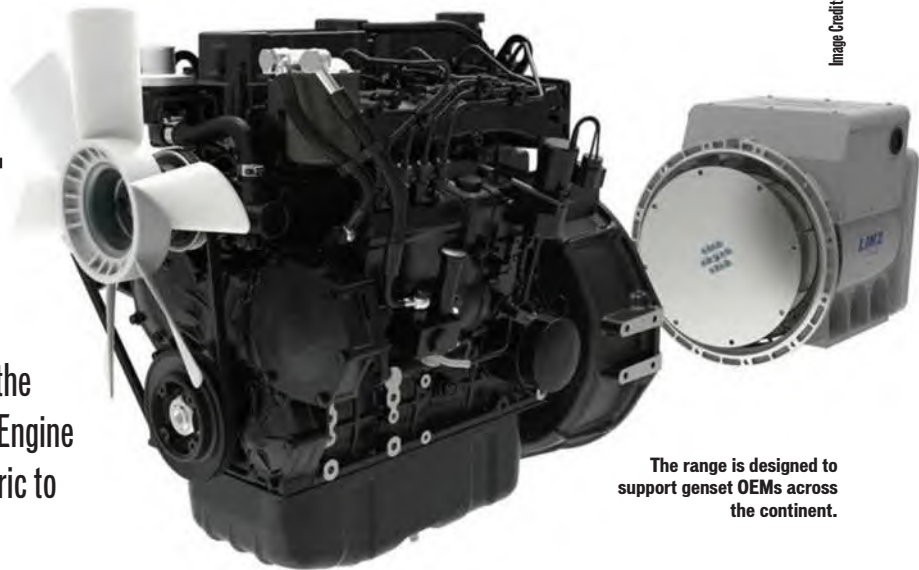


Image Credit: Linz Electric

The range is designed to support genset OEMs across the continent.

As part of its strategy to support genset OEMs in Africa, Mitsubishi Turbocharger and Engine Europe B.V. (MTEE) have launched their PowerPackPlus product range. PowerPackPlus products involve the consolidated supply of a Mitsubishi Diesel Engine, radiator and Linz Electric alternator, giving OEMs the opportunity to simplify the management of their purchasing, logistics, customs clearance and after-sales support processes.

Developed under the 'Mitsubishi & Partners' initiative, the Engineering Department at MTEE have combined selected Linz Electric alternators with Mitsubishi Diesel Engines to provide a technically integrated and fully guaranteed and supported product that gives optimum performance.

Four variants of the PowerPackPlus are currently available – 15 KVA 50 Hz Prime, 20 KVA 50 Hz Prime, 28 KVA 50 Hz Prime and 40 KVA 50 Hz Prime. In addition to the engine, radiator and alternator, the PowerPackPlus range includes intake, assembly and connection kits, which allow the OEM to tailor the specification to match their needs.

The union of Japanese and Italian technical and manufacturing expertise in the PowerPackPlus provides customers with a dependable, durable, efficient and

cost-effective power-production unit that can form the foundation of any packager's product, all of which is supported by the assurance of the manufacturers' warranties and the Parts, Service and Engineering networks of MTEE.

To learn more about the range, African Review spoke to Paul Kaliski, product manager – G-Drive Engines at MTEE and Alberto Azzolini, sales manager – Alternators at Linz Electric.

## Why is the African market important for Mitsubishi and Linz Electric?

**MTEE:** The demand for generator sets in Africa is continuing to grow and MTEE would like to grow with it. Mitsubishi is already an appreciated brand in Africa and our products fit the market needs of reliable energy solutions that are easy to install and maintain. More so than in Europe, the demand for generator sets includes the residential, commercial and small to medium-scale manufacturing sectors so we are tailoring our product range for the African market and are steadily expanding our dealer network in the region.

**LE:** Linz Electric have important collaborations in Africa and we do believe that for the future it will be increasingly a key market for us. The demand of electrical energy is constantly expanding, and Linz

Electric want to be a part of the electrification process in the African region.

## Why did you create the PowerPackPlus product?

**MTEE:** The African diesel generator set market is highly competitive with many OEMs servicing the demand from local production sites in Africa, as it is more economical to carry out the final assembly of the gensets closer to the final destination. Furthermore, some of the bulkier components, such as base frames, supports, fuel tanks, canopies, etc., are even more cost-effective to manufacture at or local to the OEMs in Africa.

However, obviously, some items still need to be sourced from further afield. This is where the PowerPackPlus product comes in.

At MTEE, we are always looking for ways to add value to our products across their entire life cycle and this includes the supply chain of the product. To that effect, the PowerPackPlus takes the basic components of a genset that are not fabricated in-house, or easy to source locally, at the African OEMs and packages them as a single product from a single supplier.

This simplifies the various processes that surround these items, giving benefits in order processing, customs administration, transportation costs, stock

management and delivery coordination. Regardless of sector or size, efficient supply chain management is vital for the success of any company. Moreover, with the PowerPackPlus, MTEE has undertaken some of the technical analysis work for the OEMs and streamline the after-sales support processes. All of which enhances our core business of providing powerful, reliable diesel engines that are easy to install and maintain.

**LE:** In our opinion, it is really important for the African OEM to deal with just one contact for both the engine and alternator. This will lead to several advantages: being in contact with only one supplier will end up saving time and make the entire purchase process easier, not to mention the fact that both engines and alternators will be on stock together and ready to be delivered. Additionally, the Power Pack Plus will simplify all of the after-sales processes as a result of the Mitsubishi service network being able to provide aftermarket support for both engine and alternator. ■

*To learn more, contact Abdesselam Bennis, business development manager EMEA, engine & energy division.*

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Over the past 10 years, several African countries have announced gas discoveries.



Image Credit: Adobe Stock

# A necessary step along the path to green power

With the leap to clean energy a tall order to complete in one, natural gas is a strong candidate to act as the step between. *African Review* reached out to Africa Energy Forum sponsors Aggreko to explore the potential of this fuel.

## **African Review (AR): How does gas fit in the current African energy landscape?**

**Aggreko:** Gas is an enabler for the transition to cleaner energy sources in Africa, because it has a lower carbon impact than traditional liquid fuels used for power generation in large parts of Africa. According to the US Energy Information Administration, natural gas emits almost half the carbon dioxide of coal, making it a viable way to transition to a lower carbon impact.

It is no longer a question of whether the transition is going to happen, but rather when. Globally, we are seeing increasing pressure to reduce carbon impact and the continent cannot afford to ignore those. Governments in Africa, therefore, need to prioritise finding ways to bridge the financial gap, to allow them to capitalise on more carbon-neutral fuels such as LNG to kickstart the process of transitioning to cleaner energy.

## **AR: How important is this resource for the continued economic development of the continent?**

**Aggreko:** Over the past 10 years, several African countries have announced gas discoveries, with the most recent discovery in Egypt, yet it is estimated that almost 40 countries on the continent currently do not have access to gas and have therefore not introduced gas into their energy mix.

There is an urgent need to expand in-country gas infrastructure and develop competitive gas markets on the African continent. While we are already seeing a slow increase in the use of gas for energy generation, this accounts for less than 40% of energy in Africa, so there is an opportunity to increase that dramatically to lower the continent's carbon impact.

Governments across the continent must look at creating environments that are conducive to investment in liquified natural gas (LNG) infrastructure and create the demand needed for private companies to invest. They also need to support the industry through the relevant policies to encourage and support them through this energy transition.

## **AR: Aggreko has noted that natural gas has the potential to replace diesel generators typically favoured in remote areas through innovations such as virtual pipelines. Are such advances applicable to Africa and could they help power remote projects and locations on the continent?**

**Aggreko:** Small-scale LNG technology still needs to be developed more so that the economics of building infrastructure can be improved. Many countries do not have LNG and the clusters of demand need to increase. We know energy is being consumed, but it is being generated by liquid fossil fuels that place a heavy burden on the environment. What is needed is an increase in demand for lower-carbon fuels and this will be driven by country-level policies.

If you look at countries outside of the United States, where gas exists as a commodity and where LNG has been easily accessible for several years already, there is still relatively limited LNG infrastructure.

Pipelines can be used, but these tend to only be economic where there are large populations and large users of gas such as cities or coastal areas. But when you get to things like electricity generation, which can be often miles inland, or when you get to mining, it is not economical to run pipelines. This requires virtual gas pipelines,

which is when the gas is transported by sea, road or rail, as well as the infrastructure to convert it from natural gas into a liquid and then regasification to restore it into its gaseous state.

## **AR: How can countries and companies reduce flaring and what advantages does this have?**

**Aggreko:** Not only does flare to power provide a cheaper and more stable energy source, but it also removes a future energy problem right off the table. For oil producers, flaring is going to start costing money in legislation and climate change regulation. However, they now can turn the problem on its head, to translate pollution into accessible power for governments, businesses, and citizens. And to shift reputational blame into a reputational advantage. This is further enhanced by the fact that they can charge for this service.

Currently, the gas situation on the continent is precarious and yet gas power is probably the most important part of the energy mix. It is significantly cleaner than coal and liquid fires, and it runs at a stable level.

Aggreko takes the gas that would normally be flared, puts it into a generator, and creates power. While the generators have their own emissions, they are lower and far less intrusive than flaring and therefore do not add to the pollution burden. If power companies embark on the flare to power journey, they can shift their balance sheet, change how they impact the environment, align the business with incoming climate regulation, and transform their reputation. It is an intelligent solution to a problem that has had a negative impact on the country and citizens, and it is one that any company can benefit from in a matter of weeks. ■

# A helping hand for utilities

After speaking at Africa Energy Forum 2022, Linda Munyengetwa, regional industry director of infrastructure Africa at the IFC, illustrates the key issues facing African utilities and what help is at hand.

**African Review (AR): What are some of the key challenges facing African utilities?**

**Linda Munyengetwa (LM):** Africa is currently facing several challenges as it continues its difficult recovery from the economic and social impacts of the pandemic, including increasing levels of food insecurity that is now being exacerbated by elevated global energy and food prices due to the war in Ukraine.

As a result, countries and utilities are suffering fiscal stress due to fossil fuel-based generation, forex stress and civil unrest due to power outages. Significant investments are required to meet growing electricity demand, but governments are heavily constrained amid rising debt and competing demands for funding to deliver a range of critical services. Government and development partner subsidies will not be sustainable in the long-term.

Currently, more than three-quarters of utilities in sub-Saharan Africa are not recovering their operating and debt-service costs. And many utilities suffer from high losses related to electricity transmission and distribution issues. In the Africa region, overall loss levels typically range between 15-35% compared to a global average of 10%.

**AR: What are some of the steps utilities could make to meet these?**

**LM:** Strengthening the regulatory environment – energy and electricity policy, planning and regulation – will help utilities to attract more financing to address limited, aging, or outdated infrastructure. Governments can adopt national electrification plans to develop renewable energy and transmission lines and scale up electricity services based on least-cost planning supported by geospatial analysis and accounting for fragility caused by growing insecurity and climate risks.

Regulatory frameworks that allow competitive selection of independent power producers (IPPs) will also enable the region to benefit from falling solar costs and developments in storage technology. Leveraging private sector participation, including through mini-grids, solar home systems, clean cooking, and productive uses of electricity, will help utilities meet demand.

By strengthening governance mechanisms, utilities can also improve their operational and

financial performance and foster regional trade with neighbouring countries, thereby reducing the burden on national budgets and allowing larger projects with economies of scale to be developed. Strong governance helps utilities to integrate renewable energy and strengthen the sector's resilience to climate change. Utilities could also leverage private sector participation to improve and strengthen their operations.

Lastly, utilities can put in place loss reduction programmes. Reducing losses improves sector cash flows directly through reduced generation purchases, and indirectly by attracting more IPP investment which helps lower the cost of generation. Part of this improved cash flow can then help lower end user tariffs which in turn helps reduce commercial losses further. In addition, the distribution utility can finance more of its own capital costs, thereby reducing the need for external subsidies.

**AR: How can the international community support African utilities?**

**LM:** The international community can support the development of public-private partnerships and offer advisory support to ensure procurement transparency, competitive sourcing of projects, clear benchmarking for bilaterally negotiated deals, and affordability analysis to promote the sustainability of procured investments.

Additional support can be provided to help utilities develop least cost generation plans, including through sustainable and renewable energy resources while also managing intermittency, and to develop multi-year tariff plans that are equitable, meet the cost of service of utilities and support the financial health of utilities in the long-term.

**AR: How can DFI financing help and what can be done to attract more of this to the continent?**

**LM:** DFIs can help finance power sector projects under an appropriate regulatory framework that encourages private participation. Many gains have been made in Africa's power generation sector but more needs to be done to meet growing demand and to ensure long-term sustainability. DFI financing can help utilities adopt commercially viable renewable energy and



Linda Munyengetwa, regional industry director of infrastructure Africa at the IFC.

finance power storage technologies and support municipalities in greening their energy mix.

**AR: What is the appetite for investment in renewables on the continent?**

**LM:** While access to electricity in sub-Saharan Africa is expanding, the region's population is expected to double from one billion people in 2018 to more than two billion in 2050, and the IMF forecasts that demand for electricity will increase by 3% annually.

The large amount of renewable energy resources available on the continent presents a unique opportunity to provide reliable and affordable access to electricity.

In 2020, 9% of all energy generated in Africa came from renewable sources, with a strong reliance (6.8%) on hydropower. From 2019 to 2020 alone, solar and wind capacity increased by 13% and 11%, respectively, while hydropower soared 25%. Total installed renewable energy capacity in Africa has grown by over 24GW since 2013. Forecasts to 2050 predict an extra 27.3 exajoules (EJ) of renewable energy compared to the current 1.8EJ.

A challenge with expanding renewable energy has been related to the intermittent nature of the supply. Technological advances in energy storage have mitigated supply fluctuation issues with renewable energy, although more investment is required in storage at a utility scale.

This contrasts with the comparatively inexpensive cost of building new fossil fuel plants which are expensive to run, and the high installation costs of renewable sources, which are inexpensive to operate. The high upfront cost of renewable energy necessitates greater capital expenditure.

Consequently, there is a clear role for IFC and other development partners to support renewable energy infrastructure projects including financing for the upfront costs. ■



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● ● ● ALTERNATORS MADE IN ITALY

# Empowering women in the energy sector

Anne Ezeh, communications director for GE Africa and chief diversity officer for GE Gas Power - Europe, Middle East & Africa region, describes the obstacles hindering women in the energy sector.

**African Review (AR): How can a diverse workforce benefit the energy sector?**

**Anne Ezeh (AE):** Diversity has been proven to contribute significantly to the success of organisations. A more representative workforce will enable companies to better drive forward the energy transition and ensure it benefits all communities.

Diversity is not only about striving for equality. Companies also benefit from a diverse range of opinions and perspectives. Diversity maximises talent-driven innovation, better ideas and boost productivity.

**AR: Why is there a disproportionate number of women working within the energy sector?**

**AE:** The percentage of women working in the energy sector and quite frankly in most of the STEM related fields is still a lingering issue even as there has been progress in increasing female participation over the years. The U.S. Census Bureau reports that women represented 27% of STEM workers in 2019, up from 8% in 1970, so while there is improvement, it is definitely slow and requires more focus and attention.

Several factors contribute to these numbers and this rate of progression. First, there is a question of cultural bias. Sexism and role distinction are all products of cultural beliefs and practices that hinders the progress of women. Girls are mostly involved in housework or 'feminine' activities whereas boys are left to explore and discover. Women often have little influence over resources and norms, restricting what jobs are considered appropriate for women. While this perception and behaviour is also changing, such stereotyping and misrepresentation of women deprive them of opportunities to use and explore their intelligence and creativity.

Second, the saying 'seeing is believing' is also true in this instance. Younger girls and women do not get to consistently see female role models in STEM fields and the success of women in the STEM world is rarely featured in mainstream media. On the rare occasion of these features, they are viewed as pioneers, outliers, 'doing the



Anne Ezeh is the communications director for GE Africa.

Image Credit: GE Africa

technical university in West Africa and the ratio of females to males in engineering studies is 10 to 1. It is evident that the gender gap in Africa still persists and concrete short-term actions but also longer-term strategies are needed to address it.

**AR: What is being done to address this on the African continent?**

**AE:** Across Africa, organisations are significantly more active and deliberate about diversity and inclusion. Women engineering professional associations are growing stronger and creating credible grooming, coaching and mentoring hubs for members.

For example, in 2021, GE created the Next Engineers programme to increase the diversity of young people in engineering and inspire the next generation of engineers. Next Engineers represents a

commitment of up to US\$100mn with a goal to reach more than 85,000 students. In Johannesburg, South Africa, the Next engineers programme will provide more than 3,500 students between the ages 13 to 18 over five years with hands on exposure to engineering concepts and careers, and ultimately award financial support to students pursuing engineering degrees.

In December 2021, GE also hosted a 'Girls in STEM' event in Ivory Coast to inspire careers and increase gender diversity in STEM. The aim of the Girls in STEM programme, is to help shape the perception of STEM careers and shift the gender gap to enable and encourage the next generation of women engineers and innovators.

While these programmes will definitely help close the participation gap for women in STEM, other factors like family decisions, financial considerations, workplace cultures and gender discrimination also need to be addressed to ensure a holistic solution that will shape the future of female careers in STEM.

With the current positive trends around public policy and organisational engagement as it pertains to female participation, I'm optimistic that there is a better future. Evolving social and workplace cultures, affirmative public policy and increasing women empowerment programmes will help improve this. ■

impossible' and this further perpetuates an unconscious disservice to the desire and need to normalise female participation in STEM by creating a perception that these jobs are difficult and women who successfully do them are anormal.

Third, the advent of new age millionaires and success stories in entertainment, sports, fashion and the ever-widening influence of the Internet have redefined success for the younger female generation. Today, careers in STEM are no longer viewed as fancy or on trend and hold little attraction for them.

**AR: How does Africa's energy sector compare to other regions in terms of gender diversity?**

**AE:** Africa's energy sector has grown over the years in terms of diversity but there is still room for growth as the participation gap still exists. According to SEI, the participation of women and girls in STEM in Africa, remains at the global average and persistent gender disparity continues to exclude women and girls in science from achieving their potential.

According to another recent UNESCO report 'Cracking the code: Girls' and women's education in STEM,' only 35% of STEM students in higher education globally are women, and differences are observed within STEM disciplines. I recently participated in a career outreach at a renowned

There are already a number of successful biogas projects on the continent.

Image Credit: Adobe Stock

# A serious resource being overlooked

After her recent appearance at Enlit Africa 2022, Gamuchirai Mutezo, CEO and founder, Madam Waste, expressed to *African Review* how biogas could seriously contribute to meeting Africa's energy needs but, so far, is not getting the attention it deserves.

**B**iogas is one of a number of energy solutions which could play a big role in weaning the world off of its reliance on fossil fuels. The renewable fuel is produced by the breakdown of organic matter and can be used to fuel vehicles, generate electricity and much more.

Despite its enormous potential – in power generation and the role it can play in waste management as well – according to Mutezo, it is not being given serious consideration.

Providing detail on the resource, Mutezo commented, “Biogas is an emerging energy source that presents a handful of both socio-economic and environmental benefits as well as techno-economic hurdles. There are far less biogas projects compared to energy sources such as solar, wind and natural gas. However, it is not to say there are no projects at all. There are quite a number of African countries with evidence of implementing biogas projects at different levels, namely: Senegal, Benin, Ghana, Ethiopia, Kenya, Uganda, South Africa, Zimbabwe and Zambia.

“Biogas can certainly complement energy mixes across many African cities. It enables organic waste diversion from land filling or open dumping to an activity that produces energy. Some end-users may not afford electricity or have access to the necessary infrastructure, yet biogas can be decentralised and used either in its gaseous state or converted into electric power. This approach induces circularity because waste material is not seen in its traditional view as ‘waste’, rather as a feedstock; one that energises and spurs environmental benignity.”

In order to implement such projects, Mutezo noted that requirements are multifaceted. She said, “One requires an understanding of end-users’ socio-economic patterns and feedstock generation. The quality, type, sourcing methods and quantity of feedstock are imperative for technology design. Various skills set are also required, ranging from technology design to construction, operation and maintenance. A good understanding of what biogas is and

how the technology operates assists those involved to enhance the technology’s lifespan. Sound financial planning is equally imperative in determining operational expenses and capital expenditure, most importantly: who will pay for the energy?”

## Potential on display

Yet for those considering this resource, this is not a case of stepping into the unknown, as there are a number of successful biogas projects that have been implemented on the continent which serve as a guide for those of the future.

Mutezo remarked, “One of the most referenced projects is the Bio2Watt 4.4MW plant based in Gauteng Province, South Africa. The project capitalised on animal manure and food waste from agro-processing activities and generates electric power which is utilised by a car manufacturing plant. Another project is the Safisana WtE plant located in Ashaiman, Greater Accra. The multi-purpose facility treats both wastewater and some MSW

collected from surrounding households and businesses within and around the area. It has a capacity of approximately 2,800 cu/m and generates approximately 2.2MW of electricity. Key benefits from both projects include: organic waste diversion and reduction in methane emissions; view waste as a resource rather than a worthless material; provide energy; and create jobs along the value chain, and more.

“There is an exciting space for greater consideration by all stakeholders and role players along the biogas value chain,” Mutezo continued. “Our cities are rapidly urbanising, population growth is proliferating and so are waste generation and energy demand. Biogas can assist to address all these through: supportive regulations, greater knowledge-sharing amongst stakeholders and role players, more consideration for tailored subsidies (understanding the financial risks that it presents which should not be a penultimate limitation) and ‘preaching the gospel of separation-at-source’ activities.” ■

# Building bridges across Africa

A series of flagship bridge projects are showcasing Africa's construction talents.

**A**s momentum builds on upgrading Africa's roads and highways infrastructure, some of the continent's top contractors are now showing the world what they are capable of with some landmark bridge projects.

Current projects include Nigeria's Opebi Link bridge, near Lagos, which is now underway, and being built by leading local developer, Julius Berger Nigeria Plc.

In South Africa's Eastern Cape province, the Msikaba bridge project is at a more advanced stage, led by the CME joint venture (CMEJV) partnership of Concor Construction and MECSA Construction.

Certainly the appetite for investment in Africa's roads and bridges seems to be in the ascendancy.

This is good news given the delay in getting some projects off the ground – Opebi Link, for instance, was first conceived of 20 years ago, but has taken two decades to break ground.

Separately, the US\$15.6bn Abidjan-Lagos Highway project attracted big interest at the Africa Investment Forum, on the margins of the African Development Bank's recent annual meetings – a reflection, perhaps, of a change in mood toward highways and infrastructure financing.

This public-private funded project will ultimately link Abidjan to Lagos, via Accra, Lomé, and Cotonou along the West African coast, a journey of 1,081 km.

The highway will start at Bingerville, in the eastern suburbs of Abidjan, and terminate at Mile 2 (Eric Moore) in Lagos and include three-lane highways, as well as bridges and eight border posts along the corridor.

The Opebi Link bridge project is a good test for Nigeria's construction



A bridge on the Enugu Bamenda road project.

industry to showcase its talents ahead of other major infrastructure roll outs.

Announcing the award in January 2022, Governor Babajide Sanwo-Olu of Lagos State challenged the contractor, Julius Berger, to deliver the project ahead of schedule – in 18 months instead of 20 months.

His remarks were spoken in the presence of Julius Berger's managing director, Dr Lars Richter, who will be confident his team can rise to the challenge.

The company has a strong track record, including current work on the 2nd River Niger bridge project in Onitsha, where the final concrete casting was completed recently to connect the last span of the bridge.

Another of its flagship contracts is the 35.7 km Bodo-Bonny Road project, which will be the first road to connect oil-rich Bonny Island to mainland Rivers State; it includes two major

bridges and nine smaller bridges.

This construction project – first conceived of 40 years ago – runs through some tough terrain, including a 7km low-lying marshy land with tidal movements, a real test of Julius Berger's technical skills and capabilities.

This road and bridge project is part-funded by local energy giant, Nigeria LNG Limited.

## Talents on display

Other contractors are also proving their mettle in Nigeria, with funding finding its way into more key projects such as the Enugu-Bamenda road corridor, which links the country with neighbouring Cameroon via a network of modern highways and bridges.

Like so many other roads and bridges programmes, the African Development Bank (AfDB) has been a key benefactor behind the

upgrade of this transport infrastructure.

In South Africa, meanwhile, the flagship Msikaba bridge project, designed by Danish firm Dissing+Weitling, is also now moving at pace.

The eye-catching 580 m cable-stayed steel deck bridge, near Lusikisiki, will be supported from a pair of 127 m-tall pylons spanning the Msikaba Gorge.

In its last update, Concor reported that the project, on the new N2 toll road between Port Edward and Umtata, achieved an engineering milestone after the legs of the bridge's south pylon were hydraulically jacked apart.

These two legs make up the first 20 m of the inverted Y-shaped pylon, says CMEJV project director Laurence Savage, and are built without any lateral support as free cantilevers.

"The jacking apart of the legs countered the bending moment at the bases of the cantilever legs," said Savage.

"In layman's terms, the jacking eradicated the effect of the legs bending towards each other; as engineers would see this, the legs are effectively vertical due to the jacking process."

Once completed, four lanes of vehicles and a pedestrian walkway on either side will pass beneath the legs at the start and end of the bridge deck.

The scheme forms part of the South African National Road Agency's N2 Wild Coast project and highlights ongoing efforts to upgrade the country's transport infrastructure.

However, a similar scheme, Mtentu bridge, which would be one of the highest bridges in Africa and among the longest in the world, has been halted amid tender irregularities. ■

“Certainly the appetite for investment in Africa's roads and bridges seems to be in the ascendancy.”



## ACCIONA operates hydrogen-powered crane

ACCIONA has achieved a milestone in the construction sector by operating a tower crane with a portable zero-emission electricity generator based on hydrogen. This is the first instance in the construction sector of the use of this kind of portable generator based on hydrogen with a power range (100kW) able to feed auxiliary equipment and site machinery, according to ACCIONA.

It took place during the construction of the new Norte III Penitentiary Complex in San Sebastián (Basque Country, northern Spain).

The development and validation of this first prototype of a 100kW portable electricity generator based on hydrogen is part of the demonstration phase of the 'Everywh2ere' innovation project, in which the company is participating together with another 12 European partners.

The project, financed by the European Commission through the FCH JU (Fuel Cell Hydrogen Joint Undertaken) initiative, consists of the development of portable generators that use hydrogen instead of oil-based products to generate energy, reducing CO<sub>2</sub> emissions and the noise and fumes created by current electricity generators.

ACCIONA's role in the project is mainly to head the validation of the technology for its use in construction, through the implementation and deployment of a series of pilot projects of prototype generators developed on some of the sites of its project portfolio, such as the one in this project in San Sebastián.



The ACCIONA hydrogen crane.

Image Credit: ACCIONA

## NIGERIA PREPARES LAND FOR AVIATION INFRASTRUCTURE

The Minister of Federal Capital Territory (FCT), Muhammed Musa Bello, has handed over the certificate of occupancy for 12,000 ha of land in Abuja to his Aviation counterpart, Senator Hadi Sirika, for the actualisation of aviation roadmap projects.

One of the key projects to be executed on the land is the second runway project for the Nnamdi Azikiwe International Airport, Abuja, which was awarded to the China Civil Engineering Construction Corporation Nigeria Limited.

A number of other projects will be executed as part of the aviation roadmap which will bring numerous reported benefits to Nigeria including: employment opportunities; enhanced transfer of technology; increase in foreign exchange earnings/increase in GDP contribution; backward integration of aircraft maintenance and repair facilities; improved ease of doing business in Nigeria; reduction in capital flight; increase in bilateral air services agreements with other countries; and more.

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# Bobcat backs African rebound

Bobcat continues to regard Africa as highly important in terms of potential; demonstrated through a reorganisation of its authorised dealer network on the continent earlier this year.

The changes in the network included new authorised dealers in Zimbabwe and Sudan (as well as an aim to make further announcements in Botswana, Namibia and Zambia) and a reactivation of existing dealers in Kenya, Tanzania and Uganda. *African Review* reached out to Bobcat and its new dealers to learn more about these developments.

## Broadening the footprint

To provide a perspective on the current business environment on the continent, Nicolas Dumont, district sales manager – Africa for Bobcat said, “As a whole, the compact industry in Africa has not yet returned to the level of 2019. At the end of 2021, the industry was still 12% under the pre-Covid demand. But if we consider the trend at country level, the reality is extremely different as this negative trend is mainly due to the collapsing of Algeria linked to the constant changes in the import regulations of construction equipment.

“Since 2019, the industry in Algeria shrank by 75% and this trend continues in 2022 as the industry collapsed by -64% YTD April compared to last year. When Algeria is excluded, the data shows that the industry in Africa has returned to its pre-Covid level and that it continues to grow by 6% for the period Jan-Apr against the same period last year. The most significant growth is in the mini-excavator segment which exceeded pre-Covid levels and is showing a YTD growth of 32%.”

This positive performance has re-affirmed the company's faith in the market. Dumont commented, “The continent is highly important in terms of the potential it represents in the coming decades. The compact industry is still rather marginal compared to heavy construction equipment and this is mostly because of the established mentality and the availability of cheap labour. But the potential growth is enormous as Africa will continue to develop.

“This growth is yet to come in many applications including industry, agriculture, construction, landscaping and road maintenance. However, regardless of the lower volumes in Africa compared other regions in EMEA, Bobcat believes it is strategically important to ensure the company is ready for growth. The first step is to increase Bobcat's footprint with a network of strong dealers with increased presence across the



Machinery Exchange is the new authorised dealer in Zimbabwe.

Image Credit: Machinery Exchange

continent and the second is to maximise our market share now to solidify our position as the market leader in the compact industry. This is why we are being so active in the dealer network – strengthening existing dealers in certain countries and appointing strong new dealers are the fundamentals to achieve our goals.”

Dumont continued by explaining that today major construction projects are usually located around major cities and, therefore, the compact industry is mostly concentrated in those areas. “However, in decades to come the remote cities and villages inside the country will also have their time. That means our dealers will also have to open new branches across the country to be able to provide service to these new locations. Today in most countries, our dealers have one main location in the capital city so they will also have to grow together with the industry. This capacity to grow is an important criterion in our dealer scouting process as we aim at growing together.

“In the past few years, we have launched new products such as our BHL and light compaction equipment and they are perfect add-ons for our existing customer base. We will soon be introducing in Africa a new line of ground maintenance equipment (zero turn mowers, compact tractors, small articulated loaders). This will open doors to a new customer base in landscaping and agriculture. There is already existing demand for such equipment in hotel resorts and golf courses but again, in a few decades, a landscaping industry will develop on

the continent and by introducing these products in Africa now, we want to already position ourselves as leader in this segment,” Dumont concluded.

At the other end of the announcement are the dealers – the boots on the ground of Bobcat's expansion who are operating in promising but uncertain times in a post-Covid market.

## Machinery Exchange

As the new authorised dealer in Zimbabwe, Machinery Exchange is aiming to be a market leader in the backhoe and skid-steer loader markets in the country. Antony Dube, national sales and rental manager at the company, commented, “The current business environment is still being adversely or indirectly affected by the overall effects of Covid on most global economies. Where shipping of units used to have a lead time of four weeks, delays of up to two months have been documented as China is still experiencing partial lockdowns, thus in turn, disrupting the overall shipping process globally.”

Despite the disruptions, Dube said that Bobcat's competitively priced and premium products and excellent aftersales support means business is still strong. Most notably, the Bobcat B730 Backhoe Loader and the Bobcat S450 Skid-Steer Loader have been particularly popular, the former of which representing the most important Bobcat product in Zimbabwe.

Dube explained that the success of this product was due to a number of distinctive characteristics such as:

- The price is very competitive
- It is a high quality and reliable product
- It is multifunctional and services most sectors in Zimbabwe such as agriculture, construction, earthmoving and mining
- It provides versatility for the user i.e., a B730 Backhoe Loader is capable of executing excavation and carrying of loads, whereas a frontend loader can only carry loads to and from job sites.

Dube concluded by touching on the new opportunities opened up with its relationship with Bobcat, “Being part of the Bobcat dealer network has enabled Machinery Exchange to take the extra step towards attaining market leader status within the above-mentioned product offerings, as it allows the company to tap into a wider choice of markets thus bringing in more business opportunities.”

### Albadri Power

In Sudan, Albadri Power Co. Ltd. was appointed Bobcat’s new authorised dealer which marked the occasion by showcasing its heavy investment into the aftersales service department and maintenance teams to ensure a high level of customer satisfaction.

Explaining his notably positive outlook on the current business environment in Sudan, Mohamed Elbadri, CEO of Albadri Power, remarked, “The Covid period was definitely a tough time for everyone but we have seen a 90% recovery from that crisis and the gap is narrowing all the time. One benefit we saw from the Covid pandemic was that it gave us a chance to explain to the Sudan Government and big institutions how to mechanise jobs and that we should not depend 100% on manpower. We were able to explain that they should find alternative solutions by using compact equipment for increased safety for workers, and to deliver work in less time and to higher quality levels.

“ With Albadri Power appointed as the exclusive Bobcat dealer in Sudan we are approaching the public sector in an aggressive way.”

**MOHAMED ELBADRI, CEO OF ALBADRI POWER**

“Sudan is one of the richest countries in the world in terms of resources. The main obstacles right now in Sudan are the political complications between the military and the public – once this is solved, then business will boom. Another of the arguments in favour of Sudan is that it can provide food security for all of the Arab world. So there are real prospects for the market to expand and at Albadri Power, our plan is to be ready to meet increased demand with a plentiful stock of Bobcat products and an excellent aftersales support set-up.”

In the country, Elbadri explained that the most popular Bobcat model is the S450 Skid-Steer Loader which has traditionally been absent from the public sector due to the absence of a Bobcat dealer. “Now with Albadri Power appointed as the exclusive Bobcat dealer in Sudan from the beginning of 2022, we are approaching the public sector in an aggressive way. It helps that all skid-steer loaders whatever the brand are known as Bobcats in Sudan.”

### Sodim TP

With headquarters in Libreville, Bobcat appointed Sodim TP as its new authorised dealer in Gabon at the end of 2020. After little more than one year in the role, Sodim TP succeeded in repositioning Bobcat as the market leader in compact equipment in the country, with a market share of more than 20% in 2021.

Julien Canh, director general of Sodim TP,

explained, “Sodim TP specialises in the sale of cars, trucks and civil engineering equipment. Our main clients operate in the mining sector (manganese mines in the east of the country) and the forestry sector. After two years of recession, these two sectors are growing strongly in 2022 and Sodim TP is taking advantage of this upturn. Nevertheless, this growth remains fragile and uncertain due to the global geopolitical context, the war in Ukraine and the health context linked to the still very present Covid crisis, as we have seen recently with the massive confinement in China.”

Like in Sudan, the S450 Skid Steer Loader has been the most popular for Bobcat product for Sodim TP. Canh said, “The S450 is a product that was not yet well developed in Gabon and Bobcat has come to market with a very successful product that has already proved itself worldwide. The main reasons for its success is that its dimensions allow it to work where conventional loaders cannot reach (this also allows it to be easily transported from one site to another). In addition, the wide range of attachments makes it a very versatile product especially for the economic actors of the construction industry who can use a single S450 machine for several applications.”

On his company’s experience as part of the network, Canh surmised, “Being part of the Bobcat dealer network completes the range of products offered by Sodim TP. Sodim TP, in its DNA, must be able to provide its customers with all types of machines they need to work. Thanks to Bobcat, this is now the case.

“For the future, we would like to increase the level of sales even for a small market in Gabon but we know that the potential exists – we will continue to make the brand better known through targeted marketing and sales actions.”

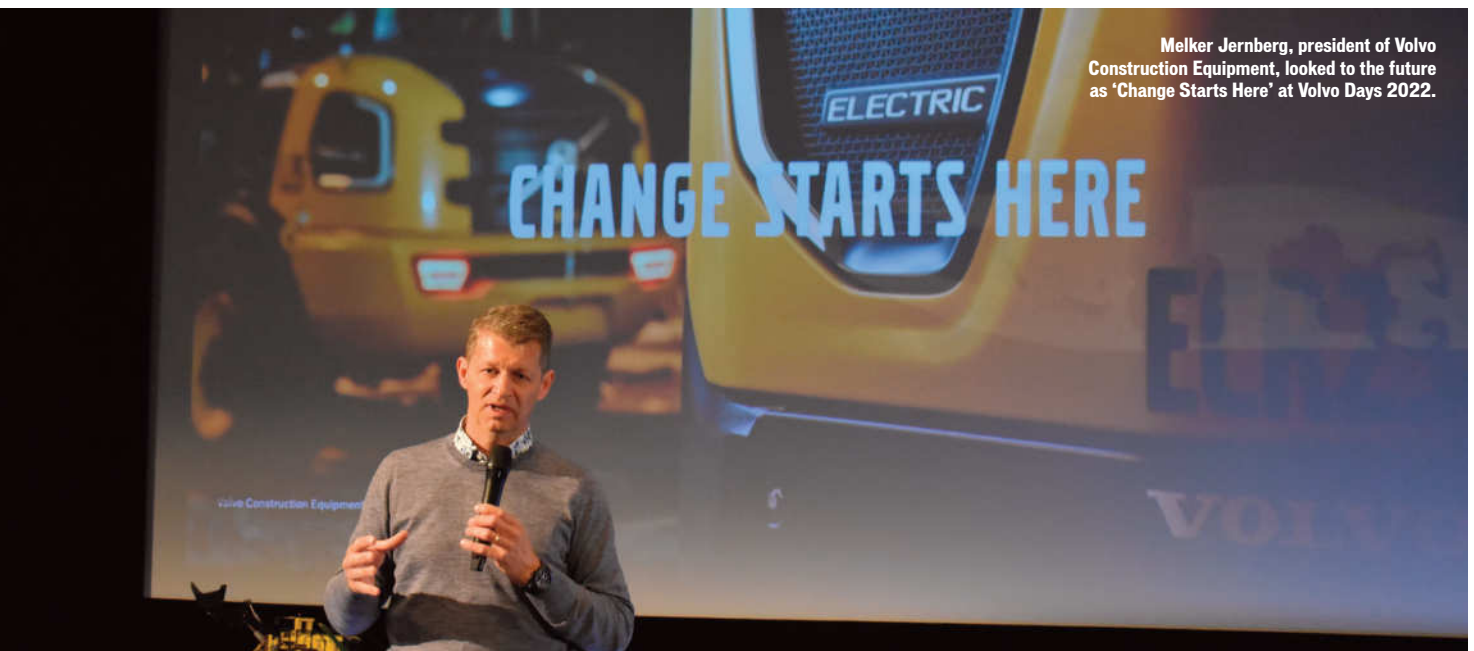
While the effects of Covid-19 did send the African market reeling, it has emerged defiant, albeit delicate, with a promising potential for the future. Bobcat displayed faith in the continent throughout the crises which led to a growth in its market share throughout 2020. The development of its network, alongside the releases of new products through its Next is Now programme, will no doubt ensure the company is well positioned to support this blossoming market in the coming years, and share in the rewards when they come forth. ■



Sodim TP was appointed as a new authorised dealer at the end of 2020.

# Change Starts Here: Volvo Days 2022

*African Review* was invited to the first Volvo Days event in four years, as Volvo Construction Equipment took to its facility in Eskilstuna, Sweden, to showcase the best-in-class solutions in sustainability, electromobility and services. Matthew Hayhoe reports.



Melker Jernberg, president of Volvo Construction Equipment, looked to the future as 'Change Starts Here' at Volvo Days 2022.

Image Credit: Alain Charles Publishing

The ethos of 'Change Starts Here' permeated Volvo Days 2022, as the event returned to Volvo CE Eskilstuna.

Volvo Construction Equipment hosted the event to showcase its purpose-driven mission of industry transformation, with its sustainability, electromobility and services portfolio at the forefront as worldwide partners took to the event.

## Opening address

Melker Jernberg, the president of Volvo Construction Equipment, opened the first day of the event, explaining, "Volvo Days is the perfect opportunity to show how we are achieving our ambitions with ready-today sustainable power solutions. It is a proud moment for me to meet our customers and partners, together with passionate employees. Through close cooperation in the value chain, we can make this change happen."

In his opening address, Jernberg

continued, "It's important to demonstrate our transformation and what we're doing for the future of the company and the construction equipment industry."

Jernberg showcased key figures from the company's 2021 operations, with sales of 99,871 units sold across the year. 321 of the company's small compact e-mobility machines, which, despite contributing little to the overall sales, showed impressive performance year-on-year as the industry begins the long journey to e-mobility with an end goal of net-

zero operations.

While South America proved the biggest increase in sales for the first three months of the year (Q1), Africa and Oceania did see a 5% increase, testament to the steady return of large-scale construction projects on the continent. Sales across Africa and Oceania reached more than US\$122.6mn (approximately) for Q1.

## Machines of tomorrow paving the way

A centrepiece of the vehicle show, which preceded the opening address, was the A30G Articulated

Hauler. Beyond its payload capacity of 29,000 kg and maximum engine gross power of 265KW, the A30G was noted for its fossil-free steel construction. Ahead of its delivery to NCC on June 1, 2022, the machine was spotlighted for the innovative approach to reaching net-zero. Volvo CE emphasised the need to embed the net-zero approach throughout the value chain, including the raw materials used in its machinery. Future rollout of the fossil-free steel is currently depend on steel availability and changes required in manufacturing.

Another debut marking Volvo CE's transition to efficiency was the EC230, the company's largest electric excavator. While not available on market yet, the excavator was on show. Ahead of customer tests in South Korea and China, Volvo CE was keen to highlight an expected reduction in energy costs of 60-70% compared to the diesel-powered EC220, and a daily capacity of eight

“It's important to demonstrate our transformation and what we're doing for the future of the company and the construction equipment industry.”

MELKER JERNBERG, PRESIDENT, VOLVO CE

hours (provisional on a high-power charge during a lunch break).

Sister models in the electric equipment range include the L20 Electric Compact Wheel Loader, with a 1.8 ton payload and parallel-type linkage, permitting optimal lifting height and 100% parallel movements across six hours of active work per charge.

Debuting for the public at Volvo Days 2022 was the company's new demo and test track, where the battery-electric and autonomous transport solution TA15 hauler (part of the TARA autonomous vehicle range) is currently being tested and demonstrated.

Adriano Merigli, the head of sales for region international, said, "As a solutions-based company, we take this challenge seriously – driving real change today while securing a better world for tomorrow."

Nowhere was this clearer than with the TA15, which is run on a battery-electric drivetrain and uses GPS, Lidar, Radar and multiple sensors to manoeuvre without a cabin. The unit currently operates with a 15 tonne hauling capacity, and can be connected in series with models from the wider TARA autonomous transport concept for maximum loading and hauling

efficiency. The current model is being tested on both the Eskilstuna site and a limestone quarry as part of Volvo Autonomous Solutions' partnership with Holcim Switzerland.

### Services under the spotlight

Beyond the machines themselves, Jernberg noted the 14% service sales of the year's entire figures, showing a 20% year-on-year increase and reflecting the growing demand for Volvo's aftercare and complementary services.

"Services, as you know, are very important to our customers and the resilience of the business," added Jernberg.

Services shared the spotlight with the machine innovations, with Volvo CE noting their growing importance in the transition to net-zero.

Volvo CE is aiming to expand its supply from machine-only orders to



The TA15 testing site welcomed visitors for the first time, concurrent with its pilot test at one of Holcim Switzerland's limestone quarries.

site-optimal service solutions. Those on show at the event included the CO<sub>2</sub> reduction programme, which offers customers tailor-made plans to cut carbon emissions across sites. The tailored support programme avoids a one-size-fits-all approach,

and is fuelled by four pillars. Volvo CE gathers insights; analyses machine data and site studies; improves efficiency and reduces CO<sub>2</sub> emissions by implementing specific services (such as Eco Operator and Efficient Load Out, designed to make every load more efficient with 95-99% fill rates); and sustains the implemented changes with continuous monitoring and further ways to reduce emissions in the future.

Volvo Days 2022 embodied its ethos, showcasing how Volvo CE can lead the way for the industry's transition to net zero in the coming decades. ■

“ We take this challenge seriously – driving real change today while securing a better world for tomorrow.”

ADRIANO MERIGLI, HEAD OF SALES, REGION INTERNATIONAL



Volvo's expanding fleet of electric vehicles was a key component of 2022's Volvo Days.



The EC210D can utilise its heavy-duty boom and arm and longer undercarriage for more demanding jobs.

Image Credit: Volvo CE

# Excavation innovation: carrying the load

Volvo CE, Doosan and Liebherr are moving the earth in the excavator sector, with a selection of new releases hitting the market.

**W**ith a range of projects hitting the ground running across the continent, the need for versatile excavator solutions is ever-pressing. Volvo CE, Liebherr and Doosan are lifting the load of innovation with their latest solutions.

### Volvo's 20-30 t classes

Volvo CE offers a range of excavators in the 20-30 t classes, with a number of differences in specification. Udo Pfeiffer, product manager for GPE excavators at Volvo CE, explained, "In principle, all Volvo 20 t and 30 t class

excavators can complete mostly the same jobs, but with different production cycles, fuel consumption, productivity, and up-front prices."

For digging trenches and loading trucks, the lightweight EC200D is an attractive option – coupled with its status as the lowest priced model in the range.

The next step above, the EC210D, can utilise its heavy-duty boom and arm and longer undercarriage for more demanding jobs, and can utilise a hydraulic breaker to fill the gap to the EC220D.

Projects with time constraints

may suit the EC300D, which offers superior performances and faster cycle times, with the EC250D filling the gap between the previous and superior model.

### Liebherr at Svenska Maskinmässan 2022

Liebherr took to Svenska Maskinmässan at the beginning of June to showcase its A 913 Compact Litronic and A 916 Compact Litronic excavators. The former, with an operating weight between 13,900 kg and 16,000 kg, offers impressive road performance and high fuel

efficiency from its 95kW/129 hp engine. The excavator is optimal for space-sensitive sites, with high lift capacity coupled with manoeuvrability and flexibility.

The A 916 Compact is one of the larger models in the compact wheeled excavator range, with an operating weight between 16,000 kg and 18,300 kg, and a higher output engine of 110kW/150hp. The upgraded engine guarantees faster acceleration and higher terminal speeds while offering maximum handling volume and flexibility.

### Doosan's first 'smart' excavator

Doosan is treading new waters with its first 'smart' crawler excavator, designed to help operators work faster and more efficiently. The DX225LC-7X offers a number of innovative features as standard, including full electric hydraulic (FEH) technology. FEH sends an electric signal to the controller, and, as such, offers better precision and faster information.

Additional features include integrated 2D machine guidance, semi-automatic 2D machine control, weighing system, E-Fence wall and a laser receiver.

As projects continued to break ground across the continent, plenty of innovations await to carry the load. ■



Doosan has launched the new DX225LC-7X.

Image Credit: Doosan



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2020 Attendee Missy Scherber, T. Scherber Demolition & Excavating

## Hyva extends crane range with three new offerings

Hyva, a leading global provider of innovative and highly efficient transport solutions for a range of sectors including construction, has extended its HB crane range with three new models of mid-size hydraulic cranes with capacities of 10, 15 and 20tm.

These Core Line cranes deliver modern design and superior comfort, alongside Hyva's long established reputation for reliability and performance.

Improved structure is provided by the new modern design, alongside pre-assembly painting, new oil tanks, new stabiliser controls, load limit devices and a new user-friendly control station. A radio remote control version (HC-D4 electrohydraulic with Hetriconic or Scanreco) is also available.

The cranes support a range of accessories including winch, additional extra functions for attachments, oil cooler, working lights and an audible/visual warning device.

"This re-styling is both aesthetic and functional, positioning the Core Line alongside our EDGE Line in appearance and also raising the functionality and performance of Hyva's non-CE Cranes," explained Giuseppe Bevacqua, global product manager Cranes.

The HB102, HB152 and HB202 models are all rack and pinion without linkage. The cranes have between one and six extensions and the jib version is available for models HB152 with E3J2 and HB202 with E5J2.



Image Credit: Hyva

The cranes support a range of accessories.

## Nigeria Build Expo: at the heart of a flourishing industry

Returning for its sixth edition, Nigeria Build Expo puts visitors and exhibitors at the centre of one of Nigeria's strongest sectors.

Nigeria's construction industry is experiencing a welcome green spell spurred by impressive projects such as the Dangote Petroleum Refinery, Lekki Deep Sea Port and more as well as governmental encouragement such as the National Development Plan, designed to unlock the country's potential in all sectors of the economy. According to the International Trade Administration, the market is expected to grow by 3.2% annually between 2021 and 2025, a welcome and robust rebound after a decline in 2020.

Offering the chance to keep up to date with the latest developments in this blossoming sector is the Nigeria Build Expo arriving in Lagos from 5-7 July 2022. Experienced organisers ElanExpo, who manage more than 30 market-

leading B2B events every year, promises to put attendees at the heart of the industry.

At the conference, visitors will have the chance to see the latest products and new technologies shaping the West African construction sector; connect with suppliers, customers and business partners; book face-to-face appointments with key industry decision makers; and network with peers from across Nigeria and the world.

Ready to showcase their full capabilities is a host of exhibitors including the likes of Bayer Nigeria, Purechem Manufacturing, Aksu Doors, C. Woermann Nigeria, OA Plus International, Forero, and many more.

Another exhibitor gearing up for the conference is Geoplast, a leader in the production of plastic solutions for foundations, formwork, slabs, water drainage, etc. At the conference, Alessandro Gagliardi,

product manager at Geoplast, will be presenting on the company's recycled plastic formwork which is suitable for the construction of concrete columns, pillars, walls, plinths, and foundations directly on-site. The Geopanel, Geopanel Star, Geotub, and Geotub Panel are lightweight in comparison to wood panels and, due to the plastic material, allows the concrete not to stick.

According to the company, its formwork makes construction cheaper and faster because it does not require heavy machinery and complex training, is reusable and stackable to reduce transportation and worksite storage, and has environmental benefits as it is made from recycled plastic.

All of this will of course be on display in Lagos – just some of the solutions and innovations which will be showcased when Nigeria Build Expo comes to town.



Image Credit: ElanExpo

Attendees enjoying the chance to network at previous editions of the conference.



## GENIE BRINGS BACK THE Z-45/25J RT ARTICULATED BOOM LIFT

For more than 30 years, the Genie Z-45/25J RT has been a jobsite workhorse in the popular 16 m (51 ft) articulating boom class. In 2019, it was phased out in Europe and North America in conjunction with the launch of the Z-45 XC.

Now, in response to continued strong demand, Genie is bringing back the boom for customers in Europe, the Middle East, Africa and India – with a new 24 hp (18.5 kW) engine configuration, updated design language, and enhancements that improve maintenance and lower the total cost of ownership.

“The new Z-45/25J RT has all of the same features our customers have known and loved for more than 30 years, including a durable design and 99.99% reliability rate, based on three decades of data,” said Genie product manager Corrado Gentile. “At the same time,



Image Credit: Genie

**The 24 hp Z-45/25J RT further complements the Genie boom product lineup.**

we’ve introduced some enhancements and upgrades, including a new 24 hp engine that is clean and powerful, and offers best-in-class maintenance while lowering the machine’s carbon footprint.”

The new Z-45/25J RT features a DPF-free 24 hp Kubota engine that is Stage V/IIIA compliant,

eliminating the need for after-treatment, making the boom easier to maintain, and lowering engine maintenance costs. It delivers all the power needed to tackle rough terrain with 45% gradeability, 4WD, traction control, and active oscillating axle.

The new Z-45/25J RT delivers the benefits of Genie Lift Connect telematics technology, which provides equipment owners actionable data to maximise productivity and minimise downtime.

It has a maximum working height of 15.86 m and up-and-over clearance of 7.14 m. Zero tailswing, a 1.52 m jib with 135-degree vertical rotation, plus dual-parallelogram boom design for vertical wall tracking all contribute to flexible positioning in tight spaces.

The platform supports 227 kg through the full working range.

## Caterpillar launches new wheel loaders

Building on the success of the Cat M-Series Compact Wheel Loaders, Caterpillar has launched the new Next Generation Cat 906, 907, and 908 wheel loaders which boast a reengineered operator’s station, leveraging exclusive Cat technologies to improve operator experience and provide larger wheel loader model comfort on a smaller platform. Featuring the new Cat C2.8 engine, the upgraded drive and powertrain deliver faster roading speeds and drive train performance. The hydraulics and structures have gone through an overhaul, making these new models an optimal fit for many applications.

The sealed and pressurised cab improves the operator experience. Optimum visibility is achieved with larger standard side mirrors, parabolic lens electric and heated mirrors, and front and rear camera options. New single-piece front and rear windshields offer 60% better wiper coverage.

Seat-mounted controls improve operating ergonomics, while new in-cab-programmable kickouts with high-definition rotary sensors mounted to the loader arms better protect operators from unwanted shock and vibration. The heart of the new cab design is the Next Generation control monitor, which offers a range of real-time machine operating information. It allows the operator to configure hydrostatic transmission response, auto engine idle shutdown and a utility powertrain mode that provides operators with a more intuitive means of controlling ground and engine speed, ideal when working with hydromechanical attachments.

Specifically designed for Cat products, the new Cat C2.8 engine delivers the same 55.7-kW (74-hp) gross power as the previous engine with 13% more torque. The Cat C2.8 meets EU Stage V and U.S. EPA Tier 4 Final emission standards with alternative emissions packages available. Its shift-on-the-go transmission offers increased roading speeds of 40 km/h and larger fuel tank capacities of 30% for the 906 and 12% for the 907 and 908 deliver extended work cycles.



Image Credit: Caterpillar

The Cat 906 wheel loader.

## DOKA INTRODUCES UNIKIT

Doka has developed UniKit, a universal engineering kit for heavy loads for improved safety and efficiency in infrastructure construction.

The rentable system with modular standard components offers cost-effective shoring solutions, matching formwork and customised Doka services - all from a single source.

The modular shoring solution can be used for both small and large construction projects in the infrastructure sector and can be individually adapted to customer needs. The logically structured modular system grid allows for a wide range of different applications.

The UniKit system includes several versatile standard elements that can be optimally combined: the primary and secondary beam, the tower 480, and the truss 1250.

The coupleable UniKit primary and secondary beams are perfect all-rounders when it comes to high load capacity and safe load transfer on the construction site.

They are made with higher steel grades than other, similar products, which means that fewer beams are required - even for extremely high loads. This ensures higher access possibilities and shorter crane times. It also means that less space is needed on the construction site for pre-assembly or storing materials.

The UniKit tower 480 has a load capacity of 480kN/leg, and can handle even the most challenging shoring constructions in the infrastructure sector.

Additionally, spans of 15 to 21 metres can be easily achieved with the truss 1250. The components of the tower and the truss can be connected by a plug and play system.

## Safety footwear for women produced in South Africa

As women continue to make up a greater proportion of the workforce for key African sectors such as mining, limited offerings in specialised female safety footwear has become a key issue.

Many companies have dealt with this issue by providing their female staff with safety wear that is designed for males, but this provides inadequate protection and can be uncomfortable.

To address this challenge, Sisi Safety Wear has launched the Basi Metaguard boot, the first South African Metaguard safety boot for women which has been manufactured in South Africa.

Predahni Naidoo, brand manager of Sisi Safety Wear, said that the Metaguard protector is primarily designed to protect the bridge of the foot from falling rocks and other hazards which are prominent in the mining work environment. “With the growing number of women entering the mining sector specifically, it is important to develop a solution for women against these types of hazards that also occur in other industries.”

With stock available to the SADC region from February 2022, the Basi Metaguard dual density boot offers an SRC slip resistance rating, anti-static properties and steel toe cap that is SANS/ISO 20345 certified. Sisi Safety Wear is invested in providing solutions for women entering hazardous workplaces that are not only durable and reliable, but fitting to the female foot.

Naidoo added, “Furthermore, we are proud to announce that the launch of our Basi boot is associated with a CSI initiative whereby we have partnered with a South African Non-Profit Organisation (NPO) that works to keep girls and young women in school.”

This partnership is in line with Sisi Safety Wear’s commitment to uplift women and young girls in South African communities. Naidoo said, “The main objective of this programme is built around increasing retention in school, furthering economic opportunities, and decreasing incidences of HIV and teenage pregnancy. Our mantra is around safety first and education, so there is no better place to start than with education for young girls.”



Image Credit: Sisi Safety Wear

**Sisi Safety Wear has launched the Basi Metaguard boot which is manufactured in South Africa.**

## DMT UNVEILS DIGITAL TRANSFORMATION OFFICE

DMT Group, a global engineering and consultancy group, is launching a new Digital Transformation Office (DTO) to strengthen its support for small and medium sized mining businesses needing to introduce digitalisation across their people, operations, processes and sustainability obligations.

According to BCG’s Digital Acceleration Index (DAI), the metals and mining sector is around 30-40% less digitally mature than comparable industries – such as automotive or chemical. SME mining companies are increasingly required to meet the same compliance obligations around health and safety, ESG, and operational inefficiencies, as more financially secure mining majors, the accurate reporting of which is reliant on digital tools.

To bridge this ‘digital divide’, DMT is building on 280 years’ experience working across the mining sector and expanding its digital portfolio of consultancy and engineering services. DMT will support SME clients to design or implement a digital transformation roadmap, from exploration and operational phases, up to mine closure, rehabilitation and subsequent site use.

Digitalisation is leading to meaningful operational improvements across the mining sector, and enabling companies to maintain resilience amidst new challenges, and secure future competitiveness. DMT will provide full-service support through a four-step toolbox: Digital readiness assessment, roadmap creation, digital process engineering and implementation supervision. The four-step strategy provides a comprehensive analysis of a customer’s digital capabilities and priorities, and outlines a clear roadmap for implementation so that they can drive transparency and efficiency across their operations, reduce costs, and ultimately improve their operations.

## RAINBOW EXPLORES RARE OPPORTUNITY

Rainbow Rare Earths Ltd has entered into a memorandum of understanding (MoU) with a diversified chemicals group based in South Africa (the chemicals group) to investigate the opportunity of extracting rare earth elements from a nitro phosphate process stream at its phosphoric acid production plant near Johannesburg in South Africa.

Under the terms of the MoU, Rainbow will conduct a rare earths extraction pilot study with the chemicals group, which will involve initial grade test work on processing stream material. This will be followed by a technical programme to confirm a flowsheet using Rainbow’s knowledge and intellectual property (IP) gained from work carried out to date at the company’s Phalaborwa Rare Earths Project (Phalaborwa) in South Africa, including the licenced K-Technologies, Inc. (K-Tech) separation technology. Direct costs associated with the pilot study will be financed by the chemicals group.

## BRIEFS

### Anglo American inks sustainability loan with IFC

Image Credit: Abolis Stock



This sustainability-linked loan is IFC’s first in the mining sector.

Anglo American has signed a US\$100mn 10-year loan agreement with the International Finance Corporation (IFC) linked to the delivery of sustainability goals.

The specific goals are aimed at supporting community development in rural communities close to Anglo American’s mining operations across South Africa, including by promoting the creation of jobs as well as improving the quality of education for more than 73,000 students.

### DRC mining poised for new era of compliance

Image Credit: SRK Consulting



SRK’s Lubumbashi office was set up over a decade ago and is majority owned by Congolese professionals.

According to SRK Consulting DRC country manager, Susa Maleba, the mining landscape in the Democratic Republic of Congo (DRC) is buoyant, stimulating both exploration and mine expansions. At the same time, there is growing pressure on mining companies in the country to align operations with local regulations and global customer expectations. He noted that the changes in the DRC’s Mining Code were beginning to deliver positive results.

Mining is a power intensive industry

# The future of mining is in clean energy

Dinesh Buldoo, director: power at WSP in Africa, takes a closer look at the potential of hybrid energy solutions in mining.

**M**ining is a power-intensive industry and, because sites are often in remote areas, the potential shortfall of available grid power introduces further complexity into operations. This has resulted in mines relying on fossil-based fuel sources such as diesel or coal and supplementing those with massive on-site diesel generators. But to counteract the high cost and environmental impact of these traditional approaches, there is a rising interest in adopting hybrid energy solutions.

Mining companies across Africa are looking to invest in standalone or micro-grid hybrid power solutions that incorporate some form of alternative resource such as gas, or renewable energy options like solar or wind to address off-peak demand. These enable mines to address the risk associated with grid power interruptions or find a workable solution where grid power access is not available. They can also offset the unstable costs and risks associated with their reliance on and access to diesel.

At a time when the focus is on ESG (environment, social and governance), using hybrid power solutions can also see mines positively contribute to the carbon reduction of their operations.

## Powerful benefits

The benefits of adopting renewable energy resources in hybrid power generation solutions are clear. For one, it is a cleaner fuel source. Environmental pollution from solar or wind energy is far lower than technologies that rely on combustion of fossil fuels.

It is also more sustainable. As long as the sun

shines and the wind blows, the energy produced can be harnessed to send power across the grid. Simply put, renewable energy resources are cost effective. With constant developments and advances in the technology, the upfront capital investment to build a solar or wind farm is becoming increasingly affordable.

Renewable power plants can be deployed close to the source of demand through micro-generation. This also means that the renewable power plant will feed the mine with the power supply that it needs for its operations and at a locked-in price.

## On-site generation

Mining companies are under immense pressure to address climate risk by reducing greenhouse gasses and the impact of their operations on the environment. By adopting alternative power solutions, mining companies will not only be in a better position to secure their supply but, by integrating cleaner alternative energy sources, also support decarbonisation strategies and therein meet the mine's ESG commitments.

Admittedly, this adoption is still in the early days although it is gaining traction. For instance, in Chile, BHP, Anglo American, and Antofagasta Minerals have all asserted their plans to power their local operations from entirely renewable resources. Brazilian mining company Vale has committed to reach 100% of renewable self-generation by 2025 in Brazil and 100% of renewable electricity consumption globally by 2030.

Africa still has some way to go before the trend

becomes mainstream. However, mines across the continent only stand to benefit from micro-generation and using cleaner power. With more multinational operations rolling these out as part of their transition plans it is only a matter of time before mines in Africa starts embracing this as well.

Additionally, hydrogen used as energy storage can contribute to the resilience of major electricity systems. And clean hydrogen technologies can help domestic sectors to decarbonise. Heavy vehicles powered by hydrogen fuel cells could meet the increasing demand for zero emissions transport, with the advantage of long range, rapid refuelling, and moderate costs. Replacing natural gas with hydrogen could in many cases decarbonise direct combustion at less cost than can electrification.

One of the biggest business opportunities for renewable energy is certainly off-grid mines. This holds potential to reduce pressure on national and regional grids. Additionally, where mining sites are in very remote locations, renewables offer more cost-efficient solutions to establish independent power plants and micro-grids that can feed the mine with the power supply that it needs – as well as potentially supply power to communities and small industries in the surrounding areas.

Ultimately, mines can ill afford to continue with the energy status quo. They must embrace cleaner, alternative energy sooner rather than later if they are to ensure the longevity of operations within the current pressurised ESG environment. ■

# Sustaining power for mines

Nawa Mutumeno explores how countries and companies are meeting the mining industry's voracious demand for energy.

**I**vanhoe Mines recently announced that the Kamoakakula Mining Complex in the Democratic Republic of Congo (DRC) has set a new quarterly production record in the first quarter of 2022, with 55,602 tonnes of copper in concentrate produced. Kamoakakula Copper milled 1.08mn ore tonnes during the period at an average feedgrade of 5.91% copper.

In this time, Kamoakakula set a new daily production record with 25,126 tonnes milled and 1,202 tonnes of copper produced.

Management now expects that the early commissioning of the Phase 2 concentrator plant will enable Kamoakakula to reach the upper end of its 2022 copper production guidance of 290,000 to 340,000 tonnes.

Such impressive figures are attainable on the backdrop of reliable, sustainable power supplies to the mines, ensuring that their heavy machinery, equipment and plants are running smoothly.

Because of the huge amount of work required to produce metals, mining is one of the most energy-intensive industries in the world, and accounts for about 5% of global electricity consumption.

"The sheer magnitude of the work done is staggering. For example, Konkola Copper Mines' Konkola Deep mine on the Zambian Copperbelt runs electrically driven underground pump stations that pump 450mn litres of water to the surface every day – enough to fill 180 Olympic-size swimming pools," the Zambia Chamber of Mines states.

Also pushing the consumption of electricity in the mines is a move away from diesel-powered machinery to electrically powered ones, which are more efficient and more environmentally friendly.



Mining is one of the most energy-intensive industries in the world.

First Quantum Minerals high-tech US\$2.1bn Sentinel Mine in Zambia, uses the world's large rope-shovels which lift up to 120 tonnes of ore in a single scoop. This electrically powered machine is manufactured by mining-equipment supplier Caterpillar, and is one of three.

The rope shovel's average power requirements is 11,000 kW – by comparison, the power demand of an average household oven is 2.4 kW. Just one of these giant machinery consumes twice as much electricity in the course of a single day as the average home in the US consumes in an entire year.

"When considered as a portfolio that includes diesel, heavy fuel oil, grid electricity, gas, LNG and other sources, energy can represent up to 30% of a mining company's total operating costs," according to professional service firm Deloitte in its 2016 'Tracking the Trends' report.

Factors such as size, design, the grade of copper ore and technological sophistication dictate a mine's power consumption. These affect how much work – and hence, energy – goes into producing.

Geology matters too: underground mines on the Copperbelt such as Mopani and KCM, have to pump hundreds of millions of litres of water to the

surface every day. Keeping the electrically driven pump station running around the clock is the single largest element of their electricity bill.

## An industry issue?

In some countries, the industry typically represents a significant – and sometimes the largest – slice of national energy consumption. In Chile, the largest copper producer, mining accounts for more than 20% of total power consumption; in South Africa, the proportion is about 15%; in Australia, it is 9%; while in Zambia, it is more than 50% – reflecting the country's small installed energy base compared to that of more developed economies.

In countries like Zambia, it is easy to conclude that there could be fewer power outages if it was not for the mining industry's power consumption. However, this is well within global norms, suggesting the problem lays more within insufficient power supply.

"Zambia's mines cannot be any less energy-intensive than they already are, and are already running around 70% of their operating power requirements. Reducing power to the mines means reducing production, which negatively impacts employment, export

earnings, government tax revenue and economic growth," the Chamber states.

## Power on site

Access to reliable electricity is so important to mining companies that some of them have had to invest in their own power source. Swiss-based Glencore, which ran Mopani until recently, has invested US\$368mn into a 450MW hydroelectric plant in the DRC, where power availability is a critical problem.

The decision to build a power plant is factored into the original investment plan, and can easily double the project cost. In the DRC, the rich grade of copper – among the highest in the world – make the huge additional upfront power cost worth the investment.

Zambia's mines have never had to embark on building their own power stations, because the country already had an abundant source of competitively priced electricity at the time of privatisation in the late 1990s. Further, the country's copper mining industry is now experiencing declining grades of copper – usually at around 0.5%. Thus, independent power investment in the future is unrealistic. The mines power investments to date have been mainly to supplement the existing infrastructure, e.g. by building transmission lines to connect new mines to the grid.

FQM has built 600 km of powerlines at a cost of about US\$100mn, to bring power from the national grid to Sentinel Mine, in Kalumbila.

No matter how it is attained, sustained power supply is an essential stepping stone to the development of mines and will ultimately contribute to national development. ■

Image Credit: Adobe Stock

# No diamond left behind

New technologies around diamond recovery are ensuring that every precious stone is identified and recovered, allowing countries to get the full benefit of their resources.

**D**iamonds have long been a staple and even a foundation for many of the economies of the African continent. This potentially lucrative sector continues to hold significant potential for countries traditionally operating in this space such as Botswana, South Africa and the DRC as well as emerging nations such as Liberia.

As with all industries, in order to remain on the front foot it is essential for countries and companies to incorporate modern technology to exploit this mineral to its full potential. In order to understand this more, *African Review* spoke to Corné de Jager, diamond segment manager at TOMRA Mining – one of the world’s leading suppliers of X-Ray Transmission (XRT) diamond recovery technology with a proven track record.

Describing what advantages modern sorting diamond recovery solutions have over conventional methods, de Jager commented, “Diamond bearing ores, such as hard rock Kimberlite, Lamproite and Alluvial deposits, have their own specific processing challenges. Hard rock kimberlite ore requires careful crushing to liberate the diamonds without damaging and breaking them. This liberation process can be complex, energy and water intensive, with high transportation and operating costs. The high waste content means higher energy usage and costs in crushing, and increased risk of diamond breakage. TOMRA’s waste sorting COLOR-NIR technology can remove non-diamond

bearing waste material early in the process, making diluted kimberlite deposits more economic to process.

“Alluvial deposits are typically lower in grade with erratic frequencies, which make it a challenge to mine economically. TOMRA’s bulk capacity X-Ray Transmission (XRT) sorters can replace traditional methods such as Rotary Pans, Dense Media Separation (DMS), wet magnetic separation and XRL sorters very effectively. The technology offers extremely high concentration factors, allowing the production of hand sortable, ultra-high diamond by weight concentrates in as little as two stages compared to up to seven required by conventional methods. This reduction of processing stages simplifies the surrounding plant and infrastructure and reduces power and water consumption. This not only makes marginal ores more economically viable to process from both a capital and operating expenditure perspective, but also reduces the environmental impact of the overall process.

“In addition to handling large volumes within limited stages, the XRT sorters operate with high efficiencies and recovery rates. The XRT sorters offer 100% detection of all types of diamonds, irrespective of the diamond’s coating or luminescent profile, and TOMRA guarantees >98% recovery.

“In summary, TOMRA’s modern diamond recovery solution reduces complexity and costs, and maximises efficiency and recovery. By



Corné de Jager, diamond segment manager at TOMRA Mining.

Image Credit: TOMRA Mining

implementing modern methods there is potential for previously deemed non-profitable projects and marginal deposits to be economically viable.”

## Completing the set

The TOMRA COM XRT 300 /FR sorter completes TOMRA’s partnered diamond recovery ecosystem so that the company offers a full solution to sort particles in bulk concentration from +4-100mm and to sort +2-32mm particles in a final recovery, sort house or small capacity exploration application.

“Coupled with all the benefits of cloud computing brought by TOMRA Insight, the COM XRT 300 /FR is the last piece within our recovery process to produce an ultra-high diamond by weight concentrate with an exceptionally low yield,” de Jager remarked. “It is possible to replace multiple sorting stages with a single TOMRA COM XRT 300 /FR sorter all the way down to hand sorting. This means less human error, simplified security requirements and lower security risks.

“The first COM XRT 300 /FR sorter was installed at Letseng Mine in Lesotho, in May 2021. Our customer confirmed that the sorter performed well, with consistent recovery and according to their expectations. The product speaks for itself and we encourage anyone interested in the technology to book a product demonstration at our Test Centers in Johannesburg or Wedel (Hamburg). They can also visit our booth at the Electra Mining Exhibition in Johannesburg from 5-9 September 2022.”

## Changing mentality

While the mining industry has a reputation of being sluggish when it comes to realisation and implementation of new technology, de Jager was optimistic that this was changing. The diamond segment manager said, “There is still large potential and opportunities to adopt these technologies. New technology needs time to permeate into the industry and to become the norm. Major players are embracing it and smaller operations are increasingly showing interest. Awareness is critical and we are actively engaged in updating mining operations on the benefits that modern sorting solutions can offer, which is ultimately to lower costs and increase revenue with reduced environmental impacts.” ■



Image Credit: TOMRA Mining

The TOMRA COM XRT 300 /FR sorter completes TOMRA’s partnered diamond recovery ecosystem.

# Rewarding times ahead

Key executives from Caracal Gold and Firering Strategic Minerals provide detail on their ongoing projects and express their faith in the future of Africa’s mining sector.

At the recently concluded Investing in African Mining Indaba 2022, the positivity surrounding Africa’s mining industry was palpable and, while this was no doubt buoyed by the return to live and in-person for the event, there was a strong feeling that the future of the industry is promising.

This optimism perhaps burned most bright in the eyes of the junior mining companies who are breaking new ground on projects across the continent. To get a glimpse from their perspectives, and understand the opportunities and challenges facing such companies in this post-Covid world, *African Review* spoke to key executives from Caracal Gold and Firering Strategic Minerals at the event in Cape Town.

“I am excited for the future of the mining industry. We are certainly coming into a good time.”

**ROBBIE MCCRAE,  
CEO OF CARACAL GOLD**

## Caracal Gold

Discussing the current operating environment for mining companies in Africa, Robbie McCrae, CEO of Caracal Gold, expressed that it was an encouraging time, especially with the ending of Covid-19 restrictions. This has meant, of course,



First gold has been produced at Kilimapesa ahead of schedule.

Image Credit: Caracal Gold

the return of conferences such as Mining Indaba, which provided McCrae the welcome chance to network with investors, suppliers, shareholders, solution providers and more.

The decline of Covid-19, McCrae continued, has delivered a matrix of benefits for the East African gold miner. “From regulatory bodies through to junior mining companies, it is clear that everyone just wants to get on with it. Easier travel is a big plus and, operationally, it makes our lives a lot easier. Since our listing in September 2021, the Caracal management team has not been able to get to London and speak to our investors but now we have it booked meetings in for June. Now we are able to meet brokers, investors, funders face-to-face, which is, I must admit, really exciting. It’s the way we did things in the past and there is clear merit to it.

“I am excited for the future of the mining industry, the exploration sector and ourselves.

The minerals industry is booming, battery metals are through the roof, base metals are doing very well, the gold price is good. We are certainly coming into a good time.”

More specifically, McCrae is very optimistic about Africa’s mining industry – seeing a lot of potential, especially in East Africa.

“We have seen tremendous opportunities emerge in the region. South Sudan’s potential probably matches the DRC’s 20 years ago and, in the DRC itself, there are some great projects which are emerging. In the case of the former, I think we will see some big companies end up there soon, they may need some smaller companies to get on the ground and pioneer it first, but they will be there.”

## Emerging Kenya

For his company, McCrae added that they need to “walk before they can run” and while they are eyeing opportunities in Tanzania, their continued focus is on Kenya, which the CEO believes holds significant potential. Since Mining Indaba, Caracal announced it is edging closer to finalising the acquisition of the Nyakafuru Project located in the Lake Victoria Gold Fields, northern Tanzania, which, once complete will double its total resource base to 1.3Moz and extend its asset portfolio into an exciting new gold jurisdiction. This marks a key plank of its overall strategy; to become a significant gold producer in East Africa.

“Kenya’s mining industry is nowhere near as advanced as Tanzania for instance – the gold fields are probably around 20 years behind – but



Caracal’s Kilimapesa Mine in Narok Country, Kenya.

Image Credit: Caracal Gold

this is an opportunity for us. We are one of the first movers on the goldfields in the country, alongside Shanta Gold who have done a lot of drilling and are putting out some fantastic results. Our two companies are helping to put Kenya on the map and our neighbours, Red Rock Resources, are also bullish about their projects in the country.

“Personally, I see a bright future for Kenya’s mining industry. The Government is encouraging it as they realise it is a growing industry, they have been supportive, and the Kenyan economy is stoutly growing alongside it. They have good mining laws in place and its a booming economy with highly skilled people – all of which translates into an exciting future industry there.”

Caracal Gold’s faith in the country is demonstrated by locating its head office in Nairobi and its forthcoming listing on the Nairobi Securities Exchange – making it the first gold and related minerals company to do so. This is a move, McCrae noted, that will give Kenyans the chance to invest in the company and participate in its future growth.

### Kilimapesa development

Nonetheless, Caracal is still maintaining a laser focus on its flagship Kilimapesa Mine in Narok Country, Kenya, which currently boasts more than 650,000 ounces of resource. This is a producing mine, which the company has been aggressively exploring since acquiring it last year.

“Our primary target is the Kilimapesa Hill, which makes up the bulk of the resource. We have already drilled 82 RC holes, we have got 28 more to go and then the programme in the Hill is done. We’ve already completed six diamond holes; we have another eight to go and then the diamond project is done. We intend to grow the Kilimapesa resource substantially from what it is now and also increase confidence for the overall site.”

“After this we are going to explore some of the regional targets, which I believe, are going to be substantially higher grade than the Hill. Whether they are going to be as big, I don’t know, and we won’t know until we test them but these targets have been mined for a long time so have huge potential. We have planned more than 20,000 metres of drilling between now and the end of the year and the information that comes from this will let these regional targets take shape.”

On the processing side, the company has recently piloted a heap leach operation to treat lower grade ore, with first gold produced ahead of schedule. After successful results were achieved, the company then approved the expansion of the plant including additional pads.

McCrae remarked, “There is a lot on our plate in terms of development. There is the drilling, the heap leach extension, the milling plant expansion, and the optimisation of our tailings retreatment plant. We have achieved so much over the last seven months and there are a lot of highlights and work coming up. It is a very exciting time and I think it is going to be a very rewarding time over the next six months.”

### Firering Strategic Minerals

Firering Strategic Minerals is developing an exploration and near-term production portfolio of strategic metals including Lithium, Nickel and Columbite-Tantalites in the Côte d’Ivoire with the ultimate goal of becoming a significant global and ethically sourced supplier.

Neil Herbert, director of Firering, explained that he first joined the company because he understood the significant potential of Côte d’Ivoire’s mining industry, especially with regard to lithium. In his role as executive chairman of AIM-listed Atlantic Lithium, he has worked across gold and lithium assets in both Côte d’Ivoire and

“ I am expecting the lithium price to stay high for longer and the current prices are just phenomenal.”

NEIL HERBERT, DIRECTOR OF  
FIRERING STRATEGIC MINERALS

elsewhere and that, in the case of the former, the Government is very supportive.

“It is a pleasure to work with them as they are great at getting projects moving. The country has been stable for many years, it is highly rated in terms of new mining operators entering the sector and there are a lot of majors going in there now. Despite this, a lot of the country remains unexplored and so it is a great jurisdiction to be working in.”

In addition to this, there are also the added benefits that the minerals produced in the West African nation are not ‘conflict minerals’ – resources extracted in a conflict zone and used to fund the fighting – and that the resource itself, which the company is looking to exploit at its flagship Atex Lithium-Coltan Project in northern Côte d’Ivoire, is of impressive quality.

“The recent drilling tested the softer rock above the pegmatites, which is harder rock and contains lithium. The processing options for the coltan appear straightforward and attractive.”

These findings have emerged from an auger drilling programme recently completed at Atex, which identified areas of interest related to potential lithium-cesium-tantalum (LCT) pegmatite mineralisation to the southwest of Spodumene Hill and some narrower zones to the northeast.

“We’ve seen spodumene occurrences on the Hill of up to nearly 5%, which is very good. Basically, everywhere that we drilled we hit pegmatite and in places we have some very broad widths up to 100 metres, which is attractive from a mining perspective. In addition, what we see in terms of geochemistry is all very positive. What we have seen so far exceeds expectations and mineralisation remains open in three directions.

“Now the next step at Atex is diamond drilling, to be carried out by FOREMI, who are an experienced driller and a good outfit, which will be able to tell us if the sort of lithium mineralisation we have is consistent with the work historically done on spodumene Hill. If you look at most lithium deposits in Africa there are a

Image Credit: Firering Strategic Minerals



Geological mapping being performed at the Atex Project.

variety of lithium bearing minerals and the most desirable for battery producers is spodumene. At Ewoyaa, which is the Atlantic Lithium's project, it is all spodumene, which is basically the most desirable product you can get. Hopefully, Atex will be similar and through the drilling we are going to find out."

### Côte d'Ivoire's gain

Positive results from diamond drilling will not just be a welcome sight for Firering, but indeed the Côte d'Ivoire nation as whole.

"We are the most advanced lithium project in the country, others are mostly rebuild prospects at this moment in time. Advancing this lithium mine in the West African country would provide a diversification of the mineral base at a time when most governments are very interested in entering into the electric vehicle space (EV)."

Indeed, EV battery metals were a hot topic of discussion at Mining Indaba which ran with the theme 'Evolution of African Mining: Investing in the Energy Transition, ESG and the Economies'. With increasing pressure on governments and businesses across the globe to do more for the environment and invest in renewables, the importance of battery storage is ever increasing,

creating a potentially lucrative market for associated minerals.

"The cost of fuel has gone through the roof whereas the high price of lithium, in reality, does not make an enormous difference to the cost of the car, which means the EV formula will survive, pushing the attraction of EVs forward. In the future a lot of people may turn away from petrol cars because they may devalue faster than EVs as the market for petrol cars declines and EVs grows. On the demand side, a lot of analysts are suggesting there will be fixed rate of growth but I really believe they are underestimating the speed of growth in demand for EVs and minerals required such as lithium.

Regarding Atlantic Lithium, he said, "Half of our off-take is going to our partner Piedmont Lithium and the other half is currently available. Many battery producers have approached us to secure the remaining off-take.

"So, I am expecting the lithium price to stay high for longer and the current prices are just phenomenal. The other day it was more than US\$5,000/t but many companies are still modelling their mines at US\$1,200/t.

"This is going to result in some big, quick



Lithium pegmatite from the Atex Project.

Image Credit: Firering Strategic Minerals

paybacks on new projects put into production. Ultimately, this is going to be great for Africa and will help to soothe concerns around risk as the investment returns will be easy to see."

Herbert's faith in the market is demonstrated by the fact that as well as director, he is also an investor in Firering, and was noticeably excited about Atex's prospects. In concluding, partly drawing from the conversations he had at the conference, he noted, "In the past if you looked at the economics for lithium projects in Africa, they were less desirable as lithium prices were too low, especially for those further from the coast that faced high transport costs. But with the current prices, just about everything works. For us now, if the results from drilling are good, nothing will stop us taking it to production." ■

## BIOFUEL TRIAL TO REDUCE CARBON EMISSIONS

Luossavaara-Kiirunavaara AB (LKAB), an international mining and minerals group, is currently undertaking an ongoing research project with the aim of developing an underground blasting technology.

It is being conducted in collaboration with Orica, an explosives and application-orientated company, and centres around wireless in-hole primers for a safer and more efficient mine.

Unlike conventional underground blasting, where the pattern of multiple blast charges is linked together with, among other things, pentrite, so-called detonating cord, with wireless there is no wire network and no detonator cord.

"Developing this technology has many advantages. Above all, safety, since technicians are exposed to less risk during priming, that is to say, the preparatory work of hooking up all the wire network and detonation cords," said Michal Grynienko, engineer at LKAB.

A further improvement is the possibility of detonating more blast holes. In other words, blast holes that have been damaged or are unstable can be fired more successfully. Blasting can be initiated from a distance, even from surface level, far away from the blasting area.

## ABB launches next-generation mine hoist control system drawing on 130 years of expertise

ABB has announced the launch of ABB Ability NGX Hoist Control, a global control system enabling mining companies to achieve maximum performance and safety of hoist operations. Building on ABB's reliable and proven past generations of hoist control systems, it brings new levels of reliability, flexibility and ease of use to smaller companies on greenfield projects or upgrades.

It can also help larger companies reduce costs and improve efficiencies through standardisation of control systems.

ABB Ability NGX Hoist Control is adaptable to any type of hoist and can be used in upgrade projects replacing



Image Credit: ABB

**New ABB Ability NGX Hoist Control can adapt to any hoist and replace older and third-party systems.**

third-party control systems. The NGX Hoist Operating Station was designed with the latest ergonomic and human factors engineering guidelines

and is based on the latest human machine interface (HMI) insights, offering the most modern and intuitive operator interface.



# Gaining ground on the water challenge

After her recent attendance at IFAT 2022, Julia Braune, managing director of German Water Partnership (GWP), discusses the progress being made in Africa's quest for universal access to clean water and sanitation.

**African Review (AR): Could you explain why access to water and sanitation is so important?**

**Julia Braune (JB):** In addition to the central human needs for access to clean drinking water and sanitation, the availability and management of water is crucial for industrial development, food production and the development of prosperity in a country. Neither drought nor flooding allow sufficient food production – uncontrolled flooding and heavy rain can also cause major damage to the infrastructure and thus paralyse economic life and lead to high financial losses.

Against this background, it is of enormous importance for the economic development and prosperity of a country to practice sustainable water resource management.

**AR: Is Africa gaining ground in universal access to clean water and sanitation?**

**JB:** I believe that the necessary attention to the issue of water is growing. Events such as the World Water Forum, which took place in Dakar, Senegal this year, address the challenges the African continent is facing and enable necessary



The GAPWAS team at IFAT 2022.

exchange between international experts and stakeholders in the African water sector.

Furthermore, numerous initiatives aim to improve the situation in Africa. As one small contribution, I also count the AGTIWAS project of the African Water Association (AfWA), which is supported by German Water Partnership e.V., and which aims to set up a training academy for specialists in water and wastewater management.

**AR: What are the most important factors for Africa's progression?**

**JB:** I consider information and training as well as transnational cooperation on the continent and cooperation with strong international partners to be the key to a long-term and sustainable improvement in the situation in Africa's water sector. The foundations

must be laid for self-responsible implementation of comprehensive water resource management.

I also see the promotion of innovations for the water sector by supporting African companies in this sector as an important building block – locally developed solutions for individual challenges are the greatest guarantee for sustainable success and acceptance.

**AR: What are some of the success stories from the GWP?**

**JB:** With the African Water Association we have found a partner through whom we can exchange ideas with many different African countries and those responsible for water supply and wastewater disposal there. As a result, we have already gained a deeper understanding of the challenges in the individual countries and there has been a lively exchange of knowledge.

We were able to organise numerous technical trainings and round tables on topics such as 'leak detection', 'storm water management' and 'energy efficiency'. One recent result is the start of the AGTIWAS project and, hopefully along with it soon, the existence of an African Water and Sanitation Academy (AWASA).

**AR: What were some of your key takeaways from the IFAT conference?**

**JB:** I was particularly impressed by the great interest and the many participants from different African countries at IFAT. Not only was our African partner AfWA, represented by executive director Sylvain Usher from Abidjan, Cote d'Ivoire, there, but also delegations from Zambia, South Africa and Nigeria visited.

On the exhibitors' side I saw many decentralised solutions for water treatment and seawater desalination, e.g. using solar energy. This shows that, in addition to energy-intensive and therefore cost-intensive solutions, 'off-grid' and regenerative energies and thus technologies suitable for many African countries and their rural areas are also playing an increasingly important role. ■

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# How the construction industry can outperform itself

Kenny Ingram, vice president, engineering, construction & infrastructure from IFS, explores three key opportunities that are now possible with modern software inside the construction industry.

With many central governments firmly setting their recovery plans on infrastructure projects, there is a huge opportunity for the entire construction industry to meet demands and stimulate a global bounce back. To do this, though, construction companies will need to focus beyond the here and now, turning their attention to what matters most – their customers and ensuring their long-term future.

## Delivering services and maintenance

An increasing number of asset owners are seeking to outsource service and maintenance contracts for their assets putting contractors who focus on the entire asset lifecycle at a significant advantage.

A survey of construction customers by IFS shows that 25% now include service, maintenance, and facilities management as part of their offering, and this is expected to increase to 50% by 2025.

These contracts are usually awarded to asset management specialists, however given the contract value for service and maintenance can typically be 120-200% greater than value of the actual construction contract alone; if it is also secured by the same contractor this can not only increase their revenue margins but also provide a more predictable and reliable revenue stream.

This trend is more commonly called Asset Lifecycle Servitisation: The New Business Revenue Model For The Construction Sector. It is an opportunity for constructors and manufacturers to gain visibility into their future performance and as such significantly grow their business, so it's no coincidence a recent report by McKinsey estimates



Modern software and technology can help construction companies optimise their way of working.

that construction sector disrupters could share the industries US\$265bn annual profit pool.

However, winning these coveted service and maintenance contracts and delivering the full asset lifecycle, requires construction companies to become more customer centric and change their outlook. This starts with a desire to increase build quality and remain focused on delivering the final asset on time and most importantly on budget.

The operating model also makes construction companies design the asset from a total asset lifecycle cost and performance perspective – changing their mindset to think more about what outcome the asset delivers.

## Modern methods of construction

With practices like offsite and modular construction continuing to become a method of choice due to their ability to reduce construction time and improve quality, it makes sense that this trend will continue to be a differentiating factor for many.

Construction companies must think about standardisation of materials and components. They must consider logistics, shipping and storage requirements when designing the asset to make sure it is

practical, low cost and eco friendly and, as part of this, respect best practice material and inventory management principles. Finally, constructors need to have a more structured approach to managing and executing construction work packages for erection, installation and construction tasks moving towards a final assembly mindset.

A long-term outlook will eventually result in 80% of the work being done offsite and 20% onsite so the winners will be the companies who can optimise this new way of working. Approximately 85% of all construction projects are predicted to use modern methods of construction in some capacity by the end of 2022.

## Integrated project planning

In an industry which faces constant disruptions and unpredictable environments, planning has never been so important. This has become hugely apparent throughout 2021 where ongoing challenges around the diminishing labour pool combined with the equally troubling situation of raw material price increases and lengthening material supply lead times added to an uneasy lack of predictability.

Unfortunately, these challenges do not look like they'll be easing

Image Credit: Adobe Stock

anytime soon. It is therefore crucial that engineering and construction companies develop a more integrated planning process that starts from the project inception.

The resource shortage challenges are making it a necessity to think more about a 'Just in Case' strategy to make sure projects can be delivered on time. The result is that planning excellence is now a 'must have' rather than a 'nice to have'.

Many project plans today are too high level, with resource requirements not included or not containing accurate dependency logic and potential risks going unflagged. This is described as the 'pretty picture' approach – a Gantt chart on the wall that depicts project deliverables. Ultimately, the reality is that each department currently has their own departmental plans, often managed in Excel.

The implication of these plans not being in sync with the master project plan can cause inevitable resource shortages, can lead to plant and rental equipment sitting idle incurring unnecessary costs or, worst of all, projects halting all together. This cannot continue. The new world needs a single master project plan with one version of the truth that integrates with all sub-plans. Only then will different departments all be in sync.

4D BIM scheduling tools also need to be integrated and together provide the capability to generate time phased resource requirements and provide active availability monitoring, not just produce a Gantt chart with a timeline.

For most companies this transition requires a shift in mindset, processes and business systems and a move to a more integrated world. ■



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Done doesn't do out of contact,  
out of date or outdated anything.

Done does digital, smart and secure.

Done always does it better.

So when Done rolls up its sleeves  
and gets down to business,  
it's as good as done.

**So. *What are we doing today?***

**#BusinessDoneBetter**



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