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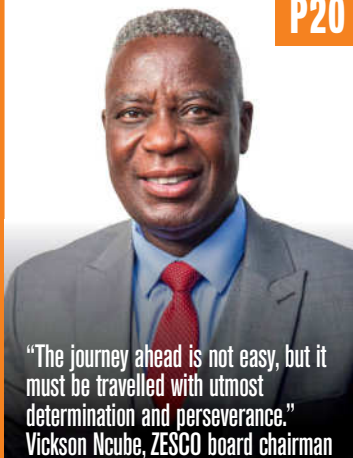
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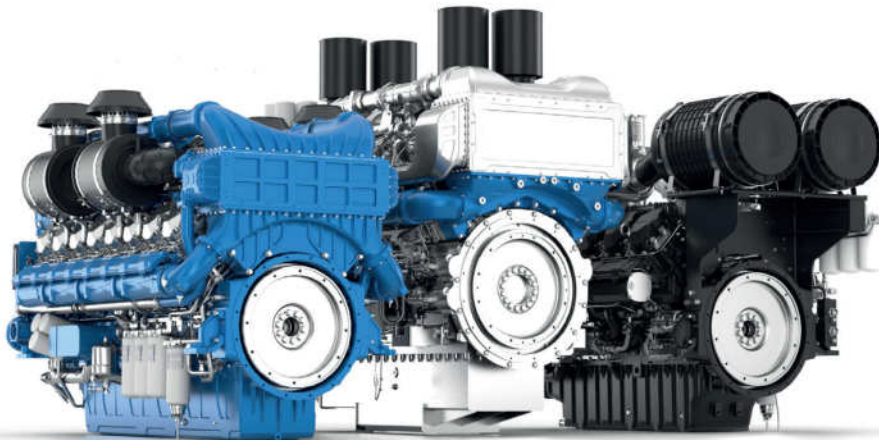
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"The journey ahead is not easy, but it must be travelled with utmost determination and perseverance."
Vickson Ncube, ZESCO board chairman



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Cover picture: Flyability's Elios 3 drone in action on a mining site

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board chairman

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Editor: Robert Daniels

Email: robert.daniels@alaincharles.com

Editorial and Design team: Prashanth AP, Fyna Ashwath, Miriam Brtkova, Praveen CP, Shivani Dhruv, Matthew Hayhoe, Leah Kelly, Rahul Puthenveedu, Madhuri Ramesh, Madhurima Sengupta, Louise Waters and Minhaj Zia

Publisher: Nick Fordham

Head of Sales: Vinay Nair

Email: vinay.nair@alaincharles.com

Magazine Manager: Jane Wellman

Tel: +44 207 834 7676 Fax: +44 207 973 0076

Email: jane.wellman@alaincharles.com

India **TANMAY MISHRA**
Tel: +91 98800 75908
Email: tanmay.mishra@alaincharles.com

Nigeria **BOLA OLOWO**
Tel: +234 80 34349299
Email: bola.olowo@alaincharles.com

UK **RICHARD ROZELAAR**
Tel: +44 20 7834 7676 Fax: +44 20 7973 0076
Email: richard.rozelaar@alaincharles.com

USA **MICHAEL TOMASHEFSKY**
Tel: +1 203 226 2882 Fax: +1 203 226 7447
Email: michael.tomashefsky@alaincharles.com

Head Office: Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place, London SW1W 0EX, United Kingdom
Tel: +44 (0)20 7834 7676, Fax: +44 (0)20 7973 0076

Middle East Regional Office: Alain Charles Middle East FZ-LLC, Office L2-112, Loft Office 2, Entrance B, PO Box 502207, Dubai Media City, UAE,
Tel: +971 4 448 9260, Fax: +971 4 448 9261

Production: Rinta Denil, Ranjith Ekambaram, Nelly Mendes and Infant Prakash
E-mail: production@alaincharles.com

Chairman: Derek Fordham

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Editor's Note

Welcome to the April issue of African Review, packed with analyses, insights and the latest news defining the continent's critical industries.

Accompanying the Genset Buyers' Guide (page 22) is our report on the wider market where energy shortfalls – such as the crisis in South Africa – are encouraging a thriving generator set market (page 28) and we hear from Vickson Ncube, board chairman of ZESCO, who provides his perspective on the journey ahead in light of the company's new Strategic Plan (page 20).

With South Africa also suffering from an acute rise in cargo crime, we speak to Thorsten Neumann, president & CEO of Transported Asset Protection Association EMEA, who considers how organisations can mitigate this emerging threat (page 16).

In construction, we cover the latest announcements shaping loaders on the continent (page 34), preview the upcoming MENA Construction 4.0 Forum (page 36) and examine how 3D printing could play a vital role in meeting housing demand (page 39).

Don't forget to check out our mining section as well, featuring expert insights from senior representatives of MAJOR (page 44), Beak Consultants (page 45), TOMRA Mining (page 46) and CRU (page 47).

By casting a light on the developments shaping the industries that matter most to you, African Review remains your faithful guide to the world of business – a role it has reprised for nearly 60 years. Be sure to visit our website as well for frontline updates and more cutting-edge content.

Robert Daniels, Editor

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Water

Jan-Willem Van Huyssteen, associate director – water systems, Africa at AECOM, describes why the water sector must contribute to reducing the power demand through energy optimisation technologies.

EGYPTAIR receives A321neo from Airbus

EGYPTAIR, the state-owned airline of Egypt, has taken the delivery of its first A321neo from Airbus, a pioneer of sustainable aerospace solutions, making it the first African operator of the aircraft.

The aircraft, which boasts 16 business class seats and 166 economy class seats, will increase the airline's single aisle capacity to the Middle East, Africa and Europe. It is on lease from AerCap and is powered by CFM engines.

As the largest-fuselage member of Airbus' single-aisle A320 family, the A321neo brings a 20% reduction in fuel consumption and emissions per seat compared with previous generation competing aircraft. This enables EGYPTAIR to benefit from enhanced efficiency and be able to deliver on its commitment to sustainability, whilst reducing operating costs. This modern aircraft joins EGYPTAIR's Airbus fleet of 12 A220s, eight A320neos, two A320neos, four A330-200, and four A330-300.

The delivery flight from Hamburg to Cairo was powered by 34% Sustainable Aviation Fuel (SAF) blend. SAF is a sustainably-produced aviation fuel made from feedstocks ranging from used fat, oil and grease to municipal and forestry waste.

Compared to fossil jet fuel, SAF has been demonstrated to result in an up to 80% reduction in CO₂ emissions across the entire SAF lifecycle. Therefore, it is considered as a key enabler to contribute to the decarbonisation of aviation.

Currently, all Airbus commercial aircraft are capable of flying with an up to 50% SAF blend mixed with kerosene and are targeted to be capable for 100% SAF use in flight by the end of this decade. Since March 2021, Airbus has successfully accomplished 100% SAF test flights on A319neo, A350 and A380 aircraft.



Image Credit: Airbus

The A321neo brings a 20% reduction in fuel consumption.

EU SUPPORTS MOROCCO'S GREEN TRANSITION

During an official visit to Morocco, EU neighbourhood and enlargement commissioner, Olivér Várhelyi, unveiled cooperation programmes worth EU€624mn (approximately US\$660mn) to support the country's transition to green energy.

The funding will also go towards enhancing cooperation on addressing irregular migration management and support Morocco's reform plans in key areas such as social protection, climate policy, reform of the public administration and the judiciary systems.

There are five programmes that make up the new assistance package including reinforcing social protection, addressing irregular migration, supporting the reform of the public administration, enhancing financial inclusion and supporting the green transition. Approximately US\$122mn is dedicated to the latter programme, nicknamed 'Terra Verde', which aims at supporting Morocco's agriculture and forestry strategies and improving decent employment, green entrepreneurship, and the social security coverage of workers.

Additional adopted programmes are dedicated to boosting the country efforts to 'green' its economy and energy sector; promote opportunities for students, graduates, researchers and teachers and enhance the role of Moroccan universities in the socio-economic development of the territories; support cultural and creative industries while boosting job creation for youth; and support Morocco's objective to strengthen the rule of law.

Morocco will also benefit from the trans-Mediterranean digital connectivity 'MEDUSA' project, a submarine cable system with 16 landing points interconnecting four North African countries (Morocco, Algeria, Tunisia, and Egypt) with five European countries (Portugal, Spain, France, Italy, and Cyprus).

BAHRI AND SUEZ CANAL AUTHORITY TO FORM JOINT VENTURE

Bahri, the national shipping company of the Kingdom of Saudi Arabia, has signed a non-binding renewable six-month agreement with the Suez Canal Authority, responsible for the canal facility's affairs, to create a new joint Egyptian shareholding company that will provide industry-leading maritime transportation services in the Egyptian market.

Under the terms of the MoU, the two parties will discuss the potential of owning, leasing, hiring, and operating ships to transport general goods to meet the demands of the local market.

Osama Rabie, chairman of the Suez Canal Authority, commented, "Our agreement with Bahri falls in line with our mission to maintain and enhance the Suez Canal for the benefit of operators and regional markets. We look forward to working in tandem with industry leaders to deliver effective, sustainable solutions that benefit the Suez Canal and the people it serves."

► BRIEFS

Training for renewable penetration in Morocco

Image Credit: RES4Africa



The training is addressed to 35 ONEE representatives.

RES4Africa, a foundation that works in support of Africa's just energy transition, has completed the first part of a Grids & Storage Lab training in partnership with Moroccan utility, ONEE.

The training programme focuses on the technical, regulatory, and financial aspects related to the rising penetration of renewable energy sources into the transmission and distribution grid.

Morocco was selected due to its leading role in energy transition efforts.

Netafim opens manufacturing plant

Image Credit: Netafim



The manufacturing plant has officially opened in the Kenitra region of Morocco.

Netafim, an Orbia business and leader in precision agriculture solutions, has opened its first manufacturing plant in North Africa to enhance the implementation of precision irrigation in Morocco and strengthen the country's agricultural sector. Netafim's irrigation technologies are designed towards maximising yields while conserving resources in arid climates. Investment in this new plant contributes to Orbia's goal of helping life through scaling smart and efficient solutions.

A LONG WAY TOGETHER



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Nokia and MTN to accelerate expansion of 5G in South Africa

Nokia has been selected by MTN South Africa (MTN SA) as one of its 5G Radio Access Network (RAN) equipment providers. Nokia will modernise the existing 2G, 3G, 4G radio network and expand MTN's 5G radio network across 2,800 sites in the central and eastern part of the country – driving digitalisation across the continent. MTN SA is part of MTN Group Limited, Africa's largest mobile network operator with operations in 17 countries serving 272 million subscribers.

Nokia will provide equipment from its next-generation, energy-efficient AirScale portfolio – powered by its latest generation of ReefShark chipsets including 5G AirScale baseband, massive MIMO active antennas and remote radio heads (RRH) covering all urban and rural scenarios. It will also provide its Self-Organising Networks (SON) solution for optimisation and network assurance, ensuring MTN's network continues to perform optimally. Nokia's solutions will enable a superior 5G experience for mobile users with high bandwidth, ultra-fast speeds, and low latency.

Nokia is also establishing a training programme to drive digitalisation in the country and across the African continent. Open to 5,000 applicants, the programme aligned with the Finnish National Agency of Education, will focus on product development as well as developing entrepreneurship.

Michele Gamberini, MTN SA's chief technology and information officer, said, "We need next-generation technologies, such as Nokia's AirScale portfolio to ensure that South Africa is a leader in the digital era across the African continent and globally. Our partnership with Nokia allows us to rapidly expand our 5G network so that our citizens and their businesses can leverage the digital economy and reap the benefits of a modern connected life."

Tommi Uitto, president of Mobile Networks at Nokia, said, "This significant contract with MTN strengthens our market position in South Africa and helps MTN deliver superior 5G experiences to its subscribers. Our industry-leading energy-efficient AirScale portfolio will improve the coverage and capacity of MTN's network performance while contributing to reduced carbon emissions. We look forward to a long-lasting and successful partnership with MTN."



Tommi Uitto, president of Mobile Networks, Nokia.

Image Credit: Nokia

DEBSWANA AND HUAWEI UNVEIL SMART DIAMOND MINE PROJECT

At MWC Barcelona 2023, Botswana's Debswana and Huawei jointly announced the world's first 5G-oriented smart diamond mine project. Debswana's head of information management, Molemisi Nelson Sechaba, said that the Huawei-enabled smart mine solution has been deployed at Debswana's Jwaneng open-pit diamond mine, and the project started operation in December 2021.

The previous solution had limited coverage, used public wireless frequencies and has less robust anti-interference capabilities. As a result, the mine's different types of data could not be transferred stably in real time. Sechaba said that it is important to deploy the eLTE solution to connect mining equipment more stably. The ability to transfer data in real time makes equipment like mining vehicles more efficient, increasing yield and reducing long-term OPEX.

Additionally, the solution helped improve safety. Real-time data collection, backhaul, and interaction make the system more sensitive and accurate to provide more reliable protection for staff and vehicles.

The Jwaneng mine is the world's first 5G-oriented smart diamond mine. This means the hardware equipment such as base stations used in the mine's digital transformation solution support network upgrades to 5G. Features of 5G such as high bandwidth and low latency can support the application of cutting-edge technologies like autonomous driving, enabling a more intelligent digital transformation of the mining industry in the future.

The company plans to also deploy the smart mining solution in its Orapa, Damtshaa, and Letlhakane mines in 2023.

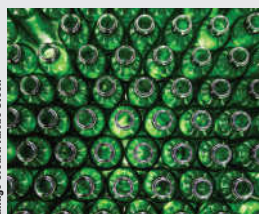
AIR LIQUIDE AND SASOL SIGN CONTRACTS FOR RENEWABLE ENERGY

Air Liquide and Sasol have signed two power purchase agreements (PPA) with TotalEnergies and its partner Mulilo for the long-term supply of a total capacity of 260MW of renewable power to Sasol's Secunda site, in South Africa, where Air Liquide operates the biggest oxygen production site in the world. This is the second set of PPAs signed by Air Liquide and Sasol, after the PPAs announced in January with Enel Green Power for a capacity of 220MW.

These PPAs represent a total of 480MW of the joint commitment by Air Liquide and Sasol to pursue the procurement of a total capacity of 900MW of renewable energy and will significantly contribute to the decarbonisation of the Secunda site. TotalEnergies and Mulilo will create one local majority owned wind project with a capacity of 140MW and one local majority owned solar project with a capacity of 120MW. These projects are scheduled to be operational in 2025.

BRIEFS

Ardagh Group announces refinancing of debt facilities



Debt maturities have been extended to 2028.

Ardagh Group SA has announced that its subsidiary, Ardagh Glass Packaging - Africa, has successfully completed the refinancing of the South African debt facilities assumed at the time of the Consol Glass acquisition in April 2022. Under the terms of the refinancing, maturities have been extended to 2028, from 2023. These facilities will support Ardagh Glass Packaging - Africa's investment programme for additional capacity and the construction of a third furnace.

Suid Cargo commences flights



The airline plans to transition to a scheduled carrier in 2024.

Suid Cargo, South Africa's newest cargo airline, will begin non-scheduled flights from its hub at OR Tambo International Airport in the second quarter of 2023. It will initially lease a Boeing 727-200 freighter from Astral Aviation, with plans to acquire additional freighters such as Embraer 190 Freighter and Airbus 320F or Boeing 737-800F in 2024. The airline expects to transition to a scheduled carrier in 2024 and to operate on the domestic network.



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Salt has the potential to be transformative mineral, says MIIF CEO

The Minerals Income and Investment Fund (MIIF) has revealed plans to support the development of the salt industry in Ghana with the Ada Songhor Lagoon as utmost priority.

The Ada Salt pans on the Songhor Lagoon have the potential to be the largest salt-producing area in sub-Saharan Africa. The CEO of MIIF, Edward Nana Yaw Koranteng, revealed that, “MIIF is far advanced with plans to invest in the Ada Songhor salt project towards developing it to be the largest in sub-Saharan Africa. Ultimately this investment seeks to ensure that Ghana benefits from the many uses of salt, especially as a core input to support the industrialisation agenda of the Government of Ghana.”

The Ada Songhor pans which sits on some 41,000 acres straddling at least 33 Ada Communities is larger in acreage than Walvis Bay of Namibia which is about 16,700 acres and is the largest in sub-Saharan Africa. According to officials of Electrochem Ghana Limited, the Ghanaian company developing the salt pans, the Songhor has the potential to produce more than 5mn mt at capacity with an estimated 650,000 mt of industrial salt in 2023 and circa 1.5mn mt over the next five years with a 99.99% purity.

Koranteng stressed, “Salt is an infinite resource with over 14,000 uses. At full potential and with such expansive usage, salt in Ghana has the potential to earn circa US\$500mn a year in foreign exchange with Nigeria and the sub-region as priority markets. Salt as a raw material covers the pharmaceuticals, food processing, oil and gas, food preservation, production of caustic soda, the textiles industry, mining, road maintenance, hospitals and hospitality sectors which all require high grade salt to support the manufacturing of inputs or processing. This is the reason why MIIF is excited about this opportunity for Ghana and is currently working on a broad based investment which would include a listing of the project on the Ghana Stock Exchange.”

The scale of the Ada Songhor salt project also presents opportunities for two export jetties to facilitate export and other lake transport opportunities, create massive employment in the producing areas and substantially revitalise the local economies.



The Ada Salt pans on the Songhor Lagoon have the potential to be the largest salt producing area in sub-Saharan Africa.

Image Credit: The Minerals Income and Investment Fund

BOOSTING ENVIRONMENTAL IMPACT FINANCING

The European Investment Bank (EIB) and the Green Climate Fund (GCF) have announced their collaboration in the Green and Resilience Debt Platform, a vehicle that aims to boost climate finance in Africa.

The platform contributes to the European Union’s Global Green Bond Initiative, which relies on a governance structure defined by the European Commission and European development finance institutions. It will be implemented in partnership with the United Nations Development Programme and United Nations Capital Development Fund.

The new platform will focus on climate resilience and blue bonds in Africa. It will provide technical assistance to partner countries, promote a climate-sensitive investment environment, create a pipeline of bankable green investments, and strengthen domestic and regional green debt ecosystems and financial institutions. It will also provide access to anchor investments in green bond issuances.

GCF will provide financing through its Project Preparation Facility window to support the design and establishment of the Green and Resilience Debt Platform. This support will initially focus on Cote d’Ivoire and Kenya, with the potential for additional countries to be added. GCF will examine the platform’s feasibility and impact in these countries in playing a unique role to align large financial flows with each country’s Nationally Determined Contribution and National Adaptation Plan.

A green, inclusive, and resilient economic development worldwide requires an unprecedented scale of investment, particularly in high-quality infrastructure, according to GCF Green bonds are widely recognised as part of the solution. Global experience has shown they are key in mobilising capital from private investors for investments with environmental impact.

MICT PARTNERS WITH EVTEC ENERGY TO BUILD SOLAR ENERGY PLANT

MICT has announced that its wholly owned subsidiary, Tingo Foods Plc (Tingo Foods), has entered into a partnership with Evtec Energy, who have committed to build a US\$150mn net zero carbon emission solar plant to provide a sustainable and low-cost energy source to power Tingo Foods’ multi-billion dollar food processing facility.

The state-of-the-art US\$1.6bn Tingo Foods processing facility in the Delta State of Nigeria is scheduled to be completed by the end of the first half of 2024. The new facility, expected to be the largest in Africa, is expected to multiply the food processing capacity and revenues of Tingo Foods, allowing it to expand its current product range of rice, pasta, noodles, and other staple foods into new product areas such as tea, coffee, cereals, chocolate, biscuits, cooking oils, non-dairy milks, carbonated drinks, and mineral water.

► BRIEFS

Kuehne+Nagel strengthens service in Africa



Image Credit: Kuehne+Nagel

Kuehne+Nagel will provide its customers in Africa with an even stronger service.

Kuehne+Nagel will provide its customers in Africa with an even stronger service after announcing that Alexandre Muratore has been appointed managing director of the newly established West Africa Cluster.

Operating out of Abidjan, Ivory Coast, Muratore will manage the new cluster, comprising Senegal, Nigeria, Ghana, Ivory Coast, Guinea, Burkina Faso, Gambia, Sierra Leone, Liberia, Togo, Benin, Mauritania, Guinea Bissau.

Burkina Faso unveils minigrids programme



Image Credit: UNDP

UNDP minigrids programme in Burkina Faso.

The Ministry of Energy, Mines and Quarries (MEMC), the United Nations Development Programme (UNDP) in Burkina Faso and the Global Environment Facility (GEF), have launched the Burkina Faso National Project of the Africa Minigrids Programme (AMP). The AMP is a new technical assistance initiative for solar minigrids, active in 21 African countries, and implemented at the regional level by UNDP in partnership with RMI and the African Development Bank.

Aptech Africa commissions off-grid solar systems for health centres in Sierra Leone

Aptech Africa has supplied, installed and commissioned off-grid solar systems across Sierra Leone in a project funded by USAID in partnership with Orange SL.

The systems are comprised of a 1.65kWp solar PV system with a 9.6kWh battery bank of 200Ah Soleil Power Lead Acid AGM deep cycle batteries at each of the 11 Community Health Centers (CHCs) within the country.

The facilities include: Kambia CHC, Port Loko Mana CHC, Port Loko Rogbere Junction CHC, Kamalo CHC, Tonkolili Mamasosanka CHC, Bontghe District CHC, Kono Yamandu CHC, Kono Jaiama CHC, Bonthe District CHC, and Kerene District CHC.

Victron Phoenix inverter/chargers of sizes 48V/800, 48v.1200, and 48V/1600 were used in the installations, chosen because of their maximum efficiency of 96% and their ability to operate up to 65°C. The reliable inverter brand was chosen due to its several protection measures and rugged design.

The systems were fitted with a Victron 150/35A MPPT charge controllers to maximise the power yield from the PV modules and minimise conversion losses at a maximum efficiency of 98%, and can operate up to 60°C.

Since installation, there have been multiple positive socio-economic and environmental impacts to arise from the initiative. For instance, according to Aptech, the entire population of each of these communities can benefit from these systems as they improve health services, hence improving the economical lives of the people as they are in better health to work longer hours.

Environmental benefits are also important, including climate change mitigation through using the renewable energy from the sun as it reduces the carbon footprint of each of the hospitals.



Image Credit: Adobe Stock

Aptech Africa has commissioned off-grid solar systems across Sierra Leone in a project funded by USAID.

AGREEMENT TO DIVERSIFY SENEGAL'S ENERGY MIX

African Export-Import Bank (Afreximbank) and Senegalese power company, Ndar Energies S.A., have signed a framework agreement to finance the development of a US\$456mn 250MW combined cycle gas turbine power plant and gas pipeline in Saint Louis, Senegal.

The framework agreement also appoints Afreximbank as the lead project developer and mandated lead arranger to take the lead in the provision of project preparatory services and in syndicating the debt raise.

Through the investment, Afreximbank is supporting power generation diversification, enhancing system resilience and contributing to lower electricity prices with a lower carbon footprint than the prevailing alternatives. The project is in line with Afreximbank's strategy to support the deployment of just energy transition solutions across Africa.

Wholly owned by indigenous Senegalese entrepreneurs, the project supports the diversification of Senegal's energy matrix and an increase in access to reliable and affordable power, a critical component of the country's long-term competitiveness and sustainable economic growth. By providing baseload power generation, it will also help displace the use of prohibitively priced heavy fuel oil and diesel-fired generation.

Kanayo Awani, executive vice-president, Intra-African Trade Bank at Afreximbank, said, "Afreximbank is once again proud to support the ambition of indigenous entrepreneurs to develop landmark trade-enabling infrastructure projects that will boost industrialisation and export development activities in our member countries. I am particularly pleased with the key role the Government of Senegal is playing in establishing an environment that is enabling local entrepreneurs to invest in critical sectors of the economy."

UNIVERSAL ENERGY FACILITY FINANCES SOLAR PROJECTS ACROSS NIGERIA

The Universal Energy Facility (UEF), a results-based financing facility managed by Sustainable Energy for All, has announced that it will provide grants to renewable energy companies who applied to have their projects financed as part of the facility's Stand-alone Solar for Productive Use programme in Nigeria.

These companies will now begin construction on their proposed solar projects, all of which are designed to connect businesses and services to a clean, affordable and reliable electricity source.

These projects will span most states in Nigeria and be completed within the next 12 months. Together, they will connect approximately 3,500 businesses, markets, shopping malls, cold-storage facilities, clinics, schools, and other productive uses of energy, which are uses that support economic activity and community infrastructure. The UEF estimates that approximately 5,400 tonnes of CO₂ equivalent per year will be saved once all of the proposed projects are implemented.

BRIEFS

African delegation calls for hydrogen support



Image Credit: WASCAL

Ministers called for the deepening of the relationship between Africa and Germany.

West and southern Africa Ministers have visited the German Bundestag as part of a ministerial meeting through the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) and the Southern Africa Science Service Centre on Climate Change and Adaptive Land Management (SASSCAL). The attendees explored the need for reinforcing the partnership between Germany and the two institutions in order to achieve a successful energy transition.

President Weah supports renewable project



Image Credit: Liberia Executive Mansion

President Weah issued executive order #116.

The President of the Republic of Liberia, George Weah has issued an executive order directing full governmental support to the implementation of the Mount Coffee Hydro Power Plant (MCHPP) Extension and Solar Project.

He stated, "Our international partners, the World Bank and the West African Power Pool, completed the full feasibility study for a MCHPP hydro extension of 44MW and a MCHPP solar project of 20MW."

Aterian provides updates on operations in Rwanda

Aterian Plc, an exploration and development company advancing its portfolio of African-focused critical and strategic metal assets, has provided an operational update on its work streams in the Republic of Rwanda.

22 zones of potentially mineralised pegmatite have been identified over the 'Southern Projects', confirming the presence of a swarm of rare-metal hosting targets for future exploration and evaluation.

Fieldwork over the HCK-1 zone indicates a strike length of c.2,500 m with widths up to 100 m, in places. A multi-method geophysical survey is currently underway in preparation for the preliminary scout drilling programme to commence in Q2 2023. Prospective HCK-1 targets include tantalum, niobium, tin, tungsten, and lithium.

Godfrey Kamanzi has joined as head of Aterian's Rwandan metal trading business. He has extensive experience in the Rwandan minerals sector where he previously worked with RCS, the RMB, and multiple mining companies managing tagging and traceability programmes. Partnership discussions have begun with several artisanal mining parties to improve artisanal mining productivity through mechanisation, and to provide material to the company's metal trading business.

1Villager.com, an online stakeholder management tool, has been engaged to support Whistleblower management, social license reporting, and stakeholder engagement, as part of the ongoing obligation by the company to ethical supply chain management as a member of the ITSCI Programme for Responsible Mineral Supply Chains compliance.

Charles Bray, chairman of Aterian, commented, "We are excited to have begun the geophysical survey work on the HCK project in Rwanda with initial fieldwork having confirmed the presence of 22 pegmatite zones across the Southern Projects. We will look to progress the project with bulk sampling for initial metallurgical test work and scout drilling on the HCK-1 prospect in the near term.

"Work is now well advanced building a metal trading business based in Rwanda and aligned to Rwanda's long-term mining sector objectives of improved mining and metal recovery efficiencies. Key hires have been made to lead the business and to ensure traceability compliance."



HCK and Dynasty joint ventures, collectively known as the 'Southern Projects'.

Image Credit: Aterian

CCBA TO SUPPORT PET BOTTLE COLLECTORS IN ADDIS ABABA

Plastic beverage bottle collectors in Addis Ababa will be getting a subsidy from Coca-Cola Beverages Africa (CCBA) aimed at boosting polyethylene terephthalate plastic (PET) bottle collection rates.

The pilot project, which will be implemented for one year in two phases, will support 30 collectors.

The subsidy will be given to the collectors based on their monthly performance and CCBA in Ethiopia plans to subsidise 1,000 Birr for every 1,000 kg PET collected, on the condition that they hit the minimum collection rate for the month set in the agreement.

"We are committed to investing in our planet and helping make the world's packaging problem a thing of the past. Together with The Coca-Cola Company, we have a global initiative called World Without Waste (WWW), which is a plan to collect and recycle 100% of the packaging we produce by 2030," said Daryl Wilson, CCBA in Ethiopia managing director, at the launch event.

The Addis Ababa Cleansing Agency general director, Eshetu Lema, commented, "Plastic bottle collection is one of the focus points for our agency. Beyond cleaning the city, the plastic bottle gives the collectors a sustainable income.

"We really admire the initiatives that CCBA have undertaken in Ethiopia, for example changing the green Sprite bottle to clear which makes it easier to recycle. Their initiatives are making a positive impact on PET collection rates, the collectors and the circular economy in general.

"Today's subsidy launch is another milestone in making Ethiopia clean and the support to the PET collection associations is meaningful. We commend this kind of assistance from the private sector, and we will continue to work with CCBA in Ethiopia," Lema added.

EWURA GRANTS CONSTRUCTION APPROVAL TO EACOP

The Energy and Water Utilities Regulatory Authority (EWURA) has granted construction approval to the East African Crude Oil Pipeline (EACOP) Ltd to construct the East African Crude Oil Pipeline that will run from Chongoleani Tanga, Tanzania, to Hoima in Uganda.

Issuance of the construction approval marks the conclusion of the processing of the application submitted to EWURA by EACOP on 30 June 2022. Tanzanian Minister for Energy, January Makamba, graced the handover event, which was held at Serena Hotel, Dar es Salaam. Also in attendance were regional commissioners from eight regions to which the pipeline will pass, members of the Parliamentary Energy Committee, members of EWURA board and management, officials from EACOP and other invited guests from the petroleum industry. EACOP can now formally start on the ground construction activities in Tanzania as part of the development of the 1,443 km, 24-inch diameter insulated and buried pipeline.

Image Credit: President of the Republic of Kenya

Kenya to develop LPG terminal

The Government of Kenya is keen on increasing the per capita consumption of Liquefied Petroleum Gas (LPG) at household level.

President William Ruto said this will be achieved through the development of a common user terminal for LPG at the Port of Mombasa.



The country aims to increase LPG consumption.

He noted that the Government will also implement the open tender system in the importation of LPG to achieve competitive and efficient pricing of the product.

NextSource completes mining project in Madagascar

NextSource Materials Inc has announced that construction of the processing plant and mining camp for the company's Molo Graphite Mine in Madagascar is now complete, and that the entire mining fleet is at site.



The Molo Mine processing plant.

President and CEO, Craig Scherba, commented, "We are now entering the final stages of development of Phase 1 and are fast approaching first production. We look forward to providing a more detailed update as we progress through commissioning."

Berbera Economic Zone launched in Somaliland

DP World and the Government of Somaliland have inaugurated the new Berbera Economic Zone (BEZ), which along with the Port of Berbera, is transforming the area into a major trade hub in the Horn of Africa.

The first phase of the BEZ was officially opened by Muse Bihi Abdi, President of Somaliland, and Sultan Ahmed Bin Sulayem, group chairman and CEO of DP World, at a special event. Other guests included representatives from DP World's investment partner in the port and zone, British International Investment (BII), the UK's Development Finance Institution (DFI) and impact investor.

The opening followed the inauguration of the new container terminal at Berbera Port in June 2021. DP World's vision for Berbera is to develop it into a trade hub, taking advantage of its strategic location along one of the busiest sea routes in the world and access to the vast hinterland in the region, including Ethiopia.

The BEZ is located just 15 km from the port along the Berbera to Wajaale road (Berbera Corridor) that connects to Addis Ababa in Ethiopia, which needs multiple sea gateways to meet its trade requirements. This integrated maritime, logistics and industrial hub will serve the Horn of Africa, a dynamic region with a population of more than 140 million people. It is based on the successful model of DP World's Jebel Ali Free Zone (Jafza) in Dubai. There will also be synergies between the two zones, where companies in Dubai can register for Berbera through the Jafza one-stop shop, while companies in Berbera can access Jafza's incubation centre facilities.

The zone is designed to create a business-friendly environment to attract investment and create jobs for Somaliland. It includes a competitive and conducive environment, enabled by a new Special Economic Zone Law, Special Economic Zone Companies Law, fiscal and non-fiscal incentives, along with a one-stop shop for all registration and licensing requirements, modern offices, warehousing and serviced land plots.

DP World has already signed an agreement with IFFCO, a major UAE-based food company, to develop a 300,000 square feet edible oil packing plant in the BEZ and a dozen more companies operating across various sectors have already registered.



Image Credit: DP World

BEZ is transforming the area into a major trade destination.

ROGERS KEEP EXPANDING OPERATIONS

Rogers Group has, over the years, expanded its reach beyond Mauritius, into the region and internationally. The most recent endeavour was carried out by Velogic, one of Rogers' subsidiaries in the logistics segment, through the acquisition of Rongai Workshop & Transport Ltd, a road transport company in Kenya.

Furthermore, Rogers Capital - Technology branch will be opening soon in Rwanda. This strategic presence will enable it to offer innovative solutions tailored to local needs. Rogers Aviation is also pursuing its local and international development, having secured the representation of Vistara. This Indian airline will serve Mauritius five times a week. This representation also extends to Vistara's domestic Indian market via Mumbai, with increased connectivity to international destinations such as the Maldives, Thailand, Singapore, and Colombo.

"With a presence in 14 countries, our strategy is to identify growth opportunities to strengthen our activities in those countries. The acquisition of Rongai Workshop & Transport Ltd in Kenya, the representation of Vistara, and the upcoming opening of a branch of Rogers Capital Technology in Rwanda are concrete examples of our commitment to positioning ourselves in these emerging high-growth markets by offering cutting-edge solutions meeting local and international needs," commented Philippe Espitalier-Noël, chief executive officer of the Rogers Group.

Founded in 1899, Rogers is a listed international services and investment company with expertise in five segments: Finance & Technology; Hospitality & Travel; Logistics; Malls; and Reals Estate & Agribusiness.

While the group is Mauritian-born, it has developed beyond the country into the wider region and internationally.

JEDDAH TO ENHANCE SAUDI'S MARITIME CONNECTIVITY

The Saudi Ports Authority (Mawani) has announced the addition of Jeddah Islamic Port to the East Africa - Red Sea and Red Sea shipping services by cargo operator MSC.

Jeddah's inclusion as a port of call illustrates its growing position in the global trade network while at the same time enhancing the Kingdom's maritime connectivity in line with the ambitions of the National Transport and Logistics Strategy (NTLS). Sailing in early March onboard four vessels with a 2,500-TEU capacity each, the weekly East Africa - Red Sea service will link Jeddah Islamic Port and King Abdullah Port to the trade hubs of Djibouti, Mombasa, and Dar Es Salaam with a transit time of two days, nine days, and twelve days respectively.

MSC will similarly run its bi-monthly Red Sea service from the ports of Jeddah and King Abdullah to Port Sudan with an estimated transit time of one day at a total capacity of 1,000 TEUs.

Magnis signs deal with Tesla



Image Credit: Adobe Stock
Magnis produces high purity graphite feedstock from its Nachu Graphite project in Tanzania.

Magnis Energy Technologies Ltd has entered into a binding offtake agreement with Tesla Inc for the supply of anode active materials (AAM) beginning in February 2025 with fixed pricing. Under the agreement Tesla will purchase a minimum of 17,500 tpa starting from February 2025 with a maximum of 35,000 tpa for a minimum three-year term at a fixed price. The agreement is conditional on Magnis securing a final location for its commercial AAM facility by 30 June 2023, producing AAM from a pilot plant by 31 March 2024.

Aaquaries collaborates with Tanzanian pharma company



Image Credit: Aaquaries Global Industries
Sameer Talim, managing director of Aaquaries.

Aaquaries Global Industries Limited has entered into a strategic and marketing arrangement with one of Tanzania's top pharmaceutical companies, Fitted Pharmaceuticals Limited. Aaquaries expects the collaboration to fetch revenues from the promising Tanzanian market. Sameer Talim, managing director of Aaquaries Global Industries Limited, said, "Tanzania's pharmaceutical expenditure fares well against comparable countries in sub-Saharan Africa."

Upcoming Events Calendar 2023

APRIL

17-21

HANNOVER MESSE

Hannover, Germany
<https://www.hannovermesse.de>

18-20

INTERMODAL AFRICA

Durban, South Africa
<http://www.transportevents.com/ForthcomingEvents/details.aspx?EventID=EVE191>

MAY

9-11

SECUREX WEST AFRICA

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

16-18

ENLIT AFRICA

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

23-25

OMC RAVENNA

Ravenna, Italy
<https://www.omc.it/en>

31-03 June

BUILDEXPO AFRICA

Nairobi, Kenya
www.expogr.com/buildexpokenya/

JUNE

6-8

SECUREX SOUTH AFRICA

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

6-8

PROPAK GHANA

Accra, Ghana
www.propakwestafrica.com/propak-ghana

6-8

NIGERIA BUILDEXPO

Lagos, Nigeria
www.nigeriabuildexpo.net

14-16

DRC MINING WEEK

Lubumbashi, DRC
<https://wearevuka.com/mining/drc-mining-week/>

20-23

AFRICA ENERGY FORUM

Nairobi, Kenya
<https://www.africa-energy-forum.com/>

27-28

AFRICA RAIL

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

27-29

THE BIG 5 CONSTRUCT SOUTHERN AFRICA

Johannesburg, South Africa
<https://www.thebig5constructsouthernafrica.com/>

Securex West Africa to build on success of 2022

Visitors are now able to register for the 11th edition of Securex West Africa which is opening in Lagos, Nigeria, from 9-11 May 2023.

After seeing a record number of attendees at the event in 2022, organisers are expecting to welcome more than 3,000 industry professionals this year, ready to discover the latest innovations and trends across the security, fire and safety industries.

This year's edition, held in The Landmark Centre, is sponsored by Halogen Group, Net Global Systems and ZKTeco Nigeria. In addition, organisers for the event are working alongside supporting partners and key industry organisations including ASIS Lagos Chapter, International Institute of Professional Security, Nigerian Institute for Industrial Security, Institute of Workplace and Facilities Management and OSHA Association, among others. The conference will incorporate Fireexpo West Africa, Facilities Management West Africa and Smart Cities West Africa as co-located events.

Securex West Africa will see a large number of leading international



Organisers are expecting to welcome more than 3,000 industry professionals this year.

companies such as Acronis International GmbH, Bristol Fire Engineering LLC, Nemtek and Telaar Inc. coming to display their equipment and services to business owners and buyers from across the West African region. Visitors can also expect to see a strong representation from local companies including Agwe Global Limited, Crown Safemasters NIG Ltd (FirePro), Jireh Technologies Limited and UnoTelos Nigeria. A delegation from the United Kingdom will also be returning for a second year.

Aside from learning from the exhibiting companies, attendees will have the opportunity to get involved in numerous activities and observe the various discussions and presentations making up the conference programme which will cover topics from post-election national security outlook to IT security.

To find out more information, visit the website at:
<https://www.securexwestafrica.com/>



Attendees will have the opportunity to engage with the various discussions and presentations making up the conference programme.

Image Credit: Afrocent Montgomery

Image Credit: Afrocent Montgomery

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

SEFA APPROVES GRANTS TO SET UP SUPER ENERGY SERVICE COMPANIES



Image Credit: AfDB

Super ESCOs are vehicles for channelling funds into public sector energy efficiency investments.

The African Development Bank's (AfDB) Sustainable Energy Fund for Africa (SEFA) has approved a technical assistance grant of US\$5mn to implement the Africa Super Energy Service Companies (ESCO) acceleration programme in Rwanda, Senegal and South Africa.

Super ESCOs are vehicles that channel funds into public sector energy efficiency investments such as hospitals, schools, and street lighting, paving the way for private investment. The acceleration programme will encourage private sector investments in energy efficiency by operationalising Super ESCOs, thus stimulating the transition toward more sustainable and greener economies.

The grant will support the training of a team to operate Super ESCOs and support private ESCOs in the three countries to develop their energy performance contract services. The funding will also underwrite the development of harmonised regional certification schemes for ESCOs and energy service professionals, including energy auditors, managers, and energy savings measurement and verification professionals.

Mohamed Chérif, AfDB Senegal country manager, commented, "Super ESCOs are an efficient tool that governments can draw on to leverage private sector resources to improve the energy efficiency of public facilities and other key energy-consuming sectors. I am pleased that Senegal will be one of the first countries to benefit from the Africa Super Energy Service Companies Acceleration Programme."

KPS INTRODUCES WORLD-FIRST PIPING SYSTEM



Image Credit: KPS

The new system has been delivered by KPS to make fuel transport safer and installation easier.

KPS, a global innovator in high density polyethylene (HDPE) piping, has delivered the world's first 6" double wall conductive HDPE piping system.

The new system has been designed to combine KPS piping's safety and installer-friendly qualities with a high flow rate of up to 2,500 litres per minute to meet demand from applications including depots, fuel distribution, ports, mining, rail, data centres and many more.

A conductive inner layer allows static electricity to safely dissipate into the earth, while a secondary pipe provides an extra layer of protection and enables interstitial monitoring.

Staffan Helleday, technical director at KPS, commented, "When fuel flows through a pipe, it creates friction which creates an electrical charge on the pipe wall. If the material is not conductive, the charges (free electrons) can't flow anywhere and consequently accumulate until a rapid discharge can occur: a spark.

"In 1997 we developed the world's first conductive HDPE piping to combine the lightweight, corrosion-free benefits of HDPE with the conductive safety of metal. A conductive inner layer allows static electricity to dissipate into the earth. Now, a number of countries require conductive piping to be used for filling stations, as well as a number of major oil companies, including BP, OMV, PetroChina, Q8, Aral, Total and Esso. As future fuels containing oxygen which generate more friction are increasingly used, conductive piping becomes ever more important."

DP WORLD AND CCCSA PARTNERSHIP TO HELP DIGITALISE AFRICAN TRADE



Image Credit: DP World

The partnership between DP World and CCCSA will help digitalise the trade sector with innovation technology, such as the SeaRates platform.

DP World has signed a cooperation agreement with the Caspian Containers Company SA (CCCSA) to help digitalise trade by using innovative technology to enable the booking and tracking of shipments across the Greater Caspian Region and parts of Africa.

Through the implementation of DP World's SeaRates, cargo owners will now be able to compare quotes from multiple providers and make informed decisions on the optimal route for their shipments. Serving as a 'digital freight forwarder', the SeaRates platform will enable CCCSA's customers to monitor the status and movement details of a container at any point during its journey.

The partnership will further strengthen the ties between the Greater Caspian region and African markets. The focus will be to attract customers for project cargo shipments in Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan and Afghanistan, as well as Mozambique, Democratic Republic of Congo, Nigeria, South Africa, Morocco, Tunisia, Ghana and Kenya.

Mike Bhaskaran, group chief technology officer, digital technology, DP World, said, "As a technology leader in the supply chain and logistics space, we are proud of the role that we can play when it comes to providing digital products for all stakeholders in the value chain and we look forward to building on the relationship we have with the Caspian Containers Company."

HITACHI AND FIRST QUANTUM MINERALS TO ADVANCE DEVELOPMENT OF SUSTAINABLE MINING SOLUTIONS



Image Credit: Hitachi Construction Machinery

The partnership is expected to facilitate significant investment in Zambia to deliver social and economic benefits.

Hitachi Construction Machinery and First Quantum Minerals have entered into a Letter of Intent (LOI) to advance the development of sustainable mining solutions at First Quantum's mining operations in Zambia.

A proof of concept will be implemented as part of the LOI. Hitachi Construction Machinery will supply the first of its full battery, rigid frame dump trucks fitted with an ABB battery, on-board charger and associated infrastructure by the end of FY2023 for technological feasibility trials. These will be conducted at First Quantum's Kansanshi copper-gold mine operations, including the S3 expansion projected for commissioning and first production expected in 2025.

Developed in collaboration with ABB, Hitachi Construction Machinery's battery dump truck utilises on-board energy storage and trolley systems to generate power.

Via a pantograph, the battery dump truck connects to overhead power lines, drawing power to allow the truck to run. At the same time, the generated energy is used to charge the battery system.

This is separate to the regenerated power from the retarder braking system which will generate a high level of charge during haul road descent.



Keeping up with the digital age

Paratus' data centre in Lusaka, Zambia.

Data centres are becoming indispensable for businesses operating in the fourth industrial revolution.

According to the World Bank, with Africa's share of the world population projected to become the largest by 2100, it is critical for the continent to increase the uptake of digital technologies to help drive employment growth each year and enable economic transformation.

As the continent continues to move steadily into the digital sphere, businesses will invariably generate more data from their operations which can be turned into a valuable asset to help provide actionable information for decision making. "To be or not to be data-centric is no longer debatable, it's just a question of when," remarked Gert Duvenhage, COO of Paratus Group, a pan-African telecommunications operator.

However, with this phenomenon comes a greater reliance on digital infrastructure and computer which, according to Duvenhage, can be challenging to stay on top of. "The reality is that there is a major downside when you start adding up the associated costs and risks. Operational and maintenance costs, back-up, protection, security against cyber breaches, network connectivity, etc. are all issues that need proper consideration.

"So, if you're using your office premises to house your computer equipment, you need air conditioning to keep the equipment cool, you need to safeguard the equipment against theft, fire, or any kind of damage, you need to maintain the equipment and you need to protect what it houses so that your data and your business' information is safe."

The data centre deluge

These demands of the digital age are accelerating the seemingly unstoppable rise of data centres on the continent; facilities that protect computer equipment and ensure that data and business information is safeguarded.

Recently, for example, Paratus Angola has announced that its data centres in Luanda have been awarded ISO 9001, ISO 27001, and PCI-DSS certifications; news that came soon after the Paratus facility in Lusaka, Zambia, received the same international approvals.

“Data centres are the key to unlocking more of your business potential.”

GERT DUVENHAGE, COO OF PARATUS GROUP

In Ghana, MDXi Appolonia, a subsidiary of MainOne (an Equinix company in Ghana) has received its Tier III Constructed Facility certification (TCCF) from the Uptime Institute. The facility features private data centre suites, enterprise-grade 24x7 multi-level security and video surveillance, precision cooling, safety and fire suppression systems with multiple redundancies built into the power, cooling and security infrastructure. It has maintained 100% uptime since launch, and is managed by highly trained engineers operating from an operations centre matching international standards.

Also recognising the African opportunity, Agility Logistics Parks, a

leading developer of industrial and logistics real estate, has launched tailored, master-planned data centre campus sites in Saudi Arabia, Kuwait, Egypt and Ghana, with more to come. The sites are being readied at ultra-modern ALP warehousing complexes in fast-growing markets and mega-cities that are looking to add hyperscale data centre capacity and resolve data latency, security and compliance challenges to speed their growth and improve competitiveness.

Of course, customers making use of these facilities need peace-of-

Once inside, there is physical security for each customer's servers and equipment in the form of locked caged cabinets on the data centre floor, each with unique keys.

On the virtual side, next-gen firewalls protect all incoming and outgoing traffic to every part of the network. This platform is fully resilient, as it is built with many servers all acting as one. This is called vSAN, which stands for Virtual Storage Area Network, and, because a vSAN has many servers, this makes the platform highly tolerant to any issues which may arise.

In addition to these security measures, the company combats data loss through its guaranteed power availability and resilience – it has two dedicated generators and separate utilities UPS to ensure electrical autonomy; highly-efficient and resilient cooling systems with constant positive pressure throughout the facility; state-of-the-art fire detection and suppression with environmentally safe, low-pressure suppression gas Novec; disaster recovery and conference facilities; dedicated onsite NOC operators and technicians to ensure consistent monitoring; and more.

Duvenhage concluded, "If you are not currently using a data centre or if you don't think you need one soon, then, to put it bluntly, your business could be at risk. You need to be able to cope with the demands that the digital age will impose upon your business because we have already entered the digital age. In essence, data centres are the key to unlocking more of your business potential." ■

Drone market flying high

Africa's drone market is reaching new heights as the benefits of this versatile equipment are shining through in multiple industries.

The expansion of Africa's drone market is an overt indicator of the rapid movement of technology in the modern world, and the continent's increasing capacity to keep abreast of such developments. While there is still a gulf in technological uptake between businesses operating from sub-Saharan African bases and much of the developed world, the barrier has become more penetrable.

In regard to drones, the continent's market is poised for a period of sustained growth. DO4 Africa, an association governed by Tactis and SMART Africa, has noted that "the drone or unmanned aerial vehicle (UAV) industry in Africa is taking off and is evolving into a massive enterprise." Growth in this sector is bolstered by the flexibility and versatility of the equipment which means the technology can be utilised for a range of applications across multiple industries.

One pioneer in this space is Zipline which claims to run the world's largest commercial autonomous delivery system and has masterminded multiple projects to serve the continent. Notably, Zipline Ghana has become a vital part of the country's medical supply chain, operating four distribution centres and serving 2,000 health facilities with routine medical supplies, emergency blood and essential medicines. In utilising its autonomous electric aircraft, the company distributed tens of thousands of masks and personal protective equipment to poll stations before the 2020 presidential election in Ghana's Eastern Region. The company reportedly took 15 hours to deliver the equipment as opposed to an estimated 48-72 hours using ground transportation (which would have delivered just



Drones are being utilised across many industries.

Image Credit: Flyability

50%). This feat was also reportedly achieved at 40% of the cost. In recent months, the company has continued its unabated rise by sealing a number of deals such as:

- A partnership with the Government of Rwanda which aims to complete nearly two million instant deliveries and fly more than 200 million autonomous kilometres in the country by 2029.
- A partnership with Nigeria's Bayelsa State Government to deliver essential medicines, blood and other medical commodities to health facilities in the state.
- An agreement with Kisumu County, Kenya, for the storage and delivery of Covid-19 vaccines, blood products and other medical commodities to health facilities across the county.

Drones in mining

Away from logistics, the market is also expanding in some of Africa's more robust industries.

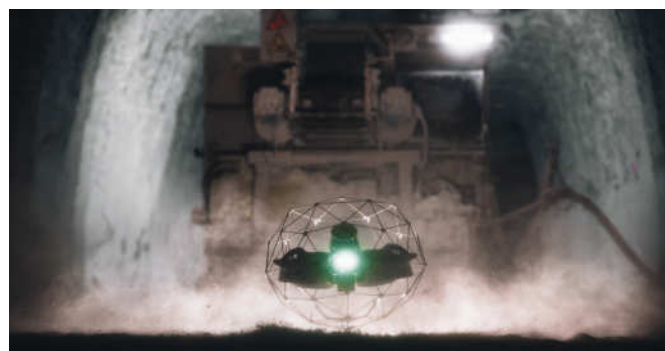
For many mining organisations, drones have become an invaluable tool for underground and surface operations alike, and are proving their worth for a number of tasks.

Flyability, a company dedicated to building solutions for the inspection and exploration of indoor, inaccessible, and confined spaces, which manned a booth at Investing in African Mining Indaba 2023, has outlined six key ways drones are being used in the industry. These include:

- Volumetric monitoring: drone photos can be compiled to create a 3D model to calculate the volume of stockpiles. They can also be used to track how much

material has been excavated from a site and approximate how much backfill would be needed to fill a stope.

- Identifying hazards: using UAVs, surveyors can reduce risk by removing humans from the inspection process. They can even be deployed underground to navigate hostile environments and identify blockages, hangups, fractures and more.
- Drilling and blast assessment: 3D models created from drone data can have multiple use cases. Before drilling and blasting begins, a model can be created as a historical record to analyse the after-effects of work and updated versions allow miners to make data-driven decisions for the future.
- Monitoring and planning: through quick deployment and inexpensive use Flyability has suggested drones are particularly effective for haulage and road design – determining where improvements can be made; equipment inspections – as a low-cost and safe tool to enable predictive maintenance; worksite security – providing an aerial view to protect the site and help with emergency responses; and environment monitoring – mitigating environmental impacts associated with mining.
- Mine development: sending drones (such as Flyability's Elios 3) instead of people into inaccessible or unsafe areas can help with accurate exploration operations while reducing cost and risk.
- Processing plant inspections: many sites are using drones to inspect machinery in processing plants, allowing for data to be collected without stopping the operations. ■



In hazardous areas, deploying drones instead of people lowers risk.

Image Credit: Flyability

Cracking down on cargo crime

Stamping out cargo theft is essential for maintaining profits and preserving reputation.



Cargo crime is on the rise in South Africa.

Image Credit: Adobe Stock

Cargo theft is one of the blights on the logistics industry which can occur during all stages of the movement of goods along the supply chain. All organisations concerned with the movement of goods, no matter what corner of the globe they operate with, must contend with the danger of losing their commodities and must take steps to minimise this as much as possible. Failing to do so can have multiple repercussions including lost revenue, higher prices further along the supply chain including for consumers, possible threats to employee safety, and a loss of reputation.

As a demonstration of how this is affecting the continent, according to the Transported Asset Protection Association (TAPA), in its latest *Cargo Crime 18-Month Report*, the TAPA EMEA Intelligence System recorded 2,670 cargo thefts in South Africa alone with the average value loss for all incidents sharing financial data at EU€348,344 (approx. US\$370,000).

This included 2,236 truck hijackings as well as

multiple attacks of freight facilities resulting in a profound loss of capital – the period shows a combined loss figure of EU€31.7mn (approx. US\$33mn) based on only 3.4% of recorded crimes sharing their actual financial losses – alongside

“ All products are at risk of being targeted by cargo thieves, including goods with low unit values because of the high volumes they travel in.”

THORSTEN NEUMANN, PRESIDENT & CEO OF TAPA EMEA

regular reports of losses of lives of police officers, security personnel and suspects.

Highlighting the types of losses business are facing, the association shared examples of some of the thefts reports to its indecent database of the last 18 months including:

- EU€5,994,652 (approx. US\$6.3mn) – clothing and footwear stolen from an Origin Facility in Durban;
- EU€5,458,860 (approx. US\$5.7) – cobalt hydroxide taken from a warehouse facility in Gauteng province;
- EU€4,745,897 (approx. US\$5mn) – theft of car parts in Eastern Cape;
- EU€2,250,000 (approx. US\$2.4mn) – trailers and goods stolen from an Origin Facility in Kempton Park, Gauteng province;
- EU€1,185,824 (approx. US\$1.3mn) – 1,540 cases of liquor stolen in a truck hijacking in Western Cape.

TAPA EMEA is on a mission to help manufacturers, shippers and freight and logistics service

providers in their battle against cargo theft. Recently, the organisation gathered members of the industry in Johannesburg on 7 March for a special conference focused on reducing rising cargo crime in South Africa. Here TAPA EMEA's leadership team was joined by senior representatives from South African Police Service, Business Leadership South Africa (BLSA), DHL Express, Rhenus Logistics, TITAN Aviation Group, TCG Digital Forensics, and the International Platinum Group Metals Association to consider the scale of the cargo crime scourge and offer advice on some of the solutions available to mitigate the risks.

One such step organisations can take is working with TAPA EMEA and its Facility Security Requirements (FSR) certification which is designed to protect high-value and theft-targeted products in facilities such as warehouse operations and distribution centres. The certification is renewed every three years to ensure its effectiveness against new and emerging threats and recently the organisation celebrated recording its 1,000th certification which was achieved by DHL Express at its Dubai South facility. Now, around 168 companies across 59 countries hold TAPA FSR certifications which are recognised as one of the most effective measures to countering rising levels of cargo crime.

African Review heard from Thorsten Neumann, president & CEO of TAPA EMEA, to find out more about the cargo crime dilemma on the continent and how companies can fight back.

African Review (AR): What are some of the most prominent emerging threats to supply chain security in the EMEA region and what are the levels of awareness around these?

Thorsten Neumann (TN): The big shift in recent years has been the move of criminal attacks away from facilities to over 85% of cargo thefts now involving losses from trucks and, more recently, smaller last mile delivery vehicles too. Trucks and drivers are clearly more vulnerable to an attack than a well-guarded, secure facility supported by the types of security technologies now used to

“ The key message is don't wait until you become a victim of a high value cargo loss.”

THORSTEN NEUMANN, PRESIDENT & CEO OF TAPA EMEA



Image Credit: TAPA EMEA

Thorsten Neumann is the president & CEO of TAPA EMEA.

protect premises. Trucks are especially at risk when they stop and park in unsecured locations.

However, that is not to say operators of facilities can be complacent because we still record a very high number of thefts from facilities in the EMEA region and these often tend to be very high value, six- or seven-figure losses of products.

We are placing a lot of focus on South Africa because of its very high number of recorded cargo thefts, most notably through truck hijackings. In our latest *18-month Cargo Crime Report* for the EMEA region, we recorded 2,670 cargo crimes in South Africa, one of 13 African nations reporting incidents to our TAPA EMEA Intelligence System. To put this into context, the second highest country was Nigeria with 24 incidents.

We believe there are far, far more cargo crimes occurring in Africa but we can only report incidents which are notified to us. We, therefore, ask anyone with information of a cargo crime to send us details to tisteam@tapaemea.org.

AR: Do you think cargo and supply chain security is taken seriously enough and why, in doing so, will it benefit organisations involved in this sector?

TN: It is easy to have a mindset that cargo crime is something that happens to other businesses and not your own but this is an extremely risky thought process. It's certainly true that companies with the best and most proactive responses to

cargo security risks, such as those adopting the TAPA EMEA supply chain security standards, are far less likely to suffer losses. But sometimes it takes an incident to happen before a company looks into the wider issue of cargo crime and the solutions available to prevent it. And, by then, they may have suffered a very significant financial loss, and irreparable damage to their customer relationship and brand reputation.

It is also entirely wrong to assume that it is only high-value luxury items and technology products which are targeted by cargo thieves. All products are at risk of being targeted by cargo thieves, including goods with low unit values because of the high volumes they travel in. A truckload of cheese, for example, might be worth several hundreds of thousands of euros. We see high incident rates for goods including food, drinks, clothing, footwear, cigarettes, car parts and tyres, cosmetics, furniture and household appliances, pharma products, metal, etc., as well as cash-in-transit.

AR: What are some of the key steps companies can take to address the emerging threats and how are you facilitating these actions?

TN: Companies need intelligence so they understand when, where and how cargo crimes are occurring, the types of M.O. used by cargo thieves, the products they are stealing, and the values of stolen goods. They also need to adopt the best security standards. TAPA EMEA gives its members access to this intelligence and our security standards, which have been created by the industry to protect facilities, trucking operations, and secure parking locations.

The key message is don't wait until you become a victim of a high value cargo loss. Be proactive because there are proven solutions available right now which will increase your supply chain resilience.

AR: With the 1,000th FSR certification now recorded, what are your new ambitions for the EMEA region going forward?

TN: We are very proud to have certified the 1,000th facility in the EMEA region for our Facility Security Requirements but this is also a big reminder that, in the vast majority of cases, facilities storing and handling very high values of goods do not have this TAPA accreditation.

We are achieving double-digit growth in certifications year-over-year but I would urge any manufacturers reading this to ask their freight and logistics service providers about the security levels and accreditations they have for their facilities and encourage them to connect their suppliers with TAPA EMEA. Again, don't wait until you become a victim. ■

Team Europe reinforces support for The Gambia Energy project

At the United Nations (UN) 5th Conference for Least Developed Countries (LDC5), the Republic of The Gambia, the European Union (EU) and the European Investment Bank (EIB) announced the signature of an approximate US\$25.7mn EU Global Gateway grant to be used alongside an US\$8.55mn EIB loan to support the implementation of a renewable energy on and off-grid generation, transmission and distribution programme across The Gambia.

This new grant agreement brings the overall financial backing to the project from the EIB and the EU to more than US\$106.8mn.

The statement of signature, relating to this grant agreement, was signed by Jutta Urpilainen, EU commissioner for International Partnerships; Seedy Keita, Minister of Finance and Economic Affairs of the Republic of the Gambia; and Thomas Östros, EIB vice president.

The project will transform electricity access in rural communities across the country and ensure that education and health services benefit from reliable and clean power. More than 1,000 schools and 100 health centres in rural parts of The Gambia that currently have limited electricity access are expected benefit from reliable energy supply through new connections to the national energy network and provision of off-grid solar and battery systems.

Once operational, The Gambia Renewable Energy project will increase energy supply in The Gambia by one fifth. In addition to increasing access to electricity in rural communities, it supports the construction of a new photovoltaic plant at Jambur near Banjul, and reinforcement of power transmission and distribution infrastructure.

“Investment in The Gambia’s energy infrastructure is essential to improve economic opportunities as well as better daily lives. The EIB welcomes in particular the additional Team Europe grant support in cooperation with Gambian, international and European partners. Together, this scheme will enable the Gambia to be the first country in Africa to provide renewable energy electrification for all public school and health facilities,” said Östros.



Image Credit: Adobe stock

The overall financial backing now stands at more than US\$106.8mn.

ITFC AND TUNISIA SIGN THREE TRADE FINANCING AGREEMENTS

The International Islamic Trade Finance Corporation (ITFC), member of the Islamic Development Bank (IsDB) Group, signed three trade financing agreements totalling US\$280mn in favour of the Republic of Tunisia to support energy security and revitalise the industrial sector, in addition to the agreement to support trade and exchange experiences between Tunisia and African countries, in cooperation with the technological pole of the pharmaceutical sector in Tunisia.

The agreements were signed during an official visit by Hani Salem Sonbol, CEO of ITFC, witnessed by Samir Saied, Tunisian Minister of Economy and Planning; in the presence of Neila Nouira Gongi, Tunisian Minister of Industry, Mines and Energy; and the CEOs of the Tunisian Electricity and Gas Company, the Tunisian Company for Refining Industries (STIR) and the Tunisian Chemical Complex (Groupe Chimique Tunisien).

The first financing agreement, for around US\$128mn, will be allocated to towards the import of natural gas for the benefit of the Tunisian Electricity and Gas Company. The second agreement, for US\$100mn, will be allocated to financing the import of crude oil and petroleum products for the benefit of the Tunisian Company for Refining Industries. The third financing agreement, for US\$50mn will be allocated to finance the import of raw materials for the benefit of the Groupe Chimique Tunisien.

In the same context, an MoU was signed between the Technological Pole Sidi Thabet and ITFC regarding cooperation in implementing training programmes and capacity building in the field of biotechnology applied in health and pharmaceutical industries included in the framework of the ‘Arab-Africa Trade Bridges (AATB) Programme’.

BB ENERGY INVESTS IN GASMETH ENERGY

BB Energy Group has invested in Gasmeth Energy Global, a company focused on the responsible extraction, processing, and distribution of methane gas from Rwanda’s Lake Kivu, one of the African Great Lakes. This naturally occurring gas will be separated from the lake waters and processed into compressed natural gas (CNG), a non-fossil biogas, to replace conventional fuels.

The CNG will substitute gasoline, diesel, and coal across the transport, industrial, and power generation sectors in Rwanda. It will also replace wood used for cooking and heating. The project will provide an abundant source of domestically-produced natural gas to transform Rwanda’s economy, breaking the dependence on fuel imports.

This investment in Gasmeth follows the October 2022 launch of BB Energy’s Improved Cookstove (ICS) initiative in Rwanda.

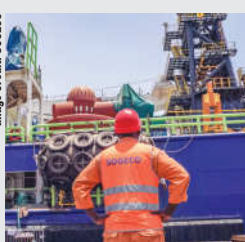
Image Credit: Adobe Stock



Delivery and commissioning are expected by 2024.

Red Rocket, an independent power producer, has placed a 373MW order for three wind parks to be located in Western Cape and Eastern Cape, South Africa. The scope includes the supply and installation of 64 V150-4.5MW wind turbines, 12 V163-4.5MW wind turbines and five V162-6.2MW Enventus wind turbines. “We are delighted to continue making a significant contribution to South Africa and the rest of the continent,” commented Red Rocket’s CEO, Matteo Brambilla.

Image Credit: SOGECO



SOGECO celebrated 450,000 hours of work without incident.

SOGECO celebrates one year of logistics success

SOGECO has celebrated the first year of operational execution of the Grand Tortue-Ahmeyin. This gas project located on the border between Mauritania and Senegal, which mobilises British Petroleum and McDermott, achieved 450,000 hours of work without incident on 4 February. Through the ports of Nouakchott and Ndiago, SOGECO has handled more than 270 calls for 150,000 tonnes of freight transported and more than 100,000 lifting operations.

BRIEFS

Vestas wins major wind order in South Africa

A new way of power in Africa

Africa, with growing needs for commercial and industrial power, urgently needs quick and more stable energy solutions, to strike a balance between growth, energy security and decarbonisation.

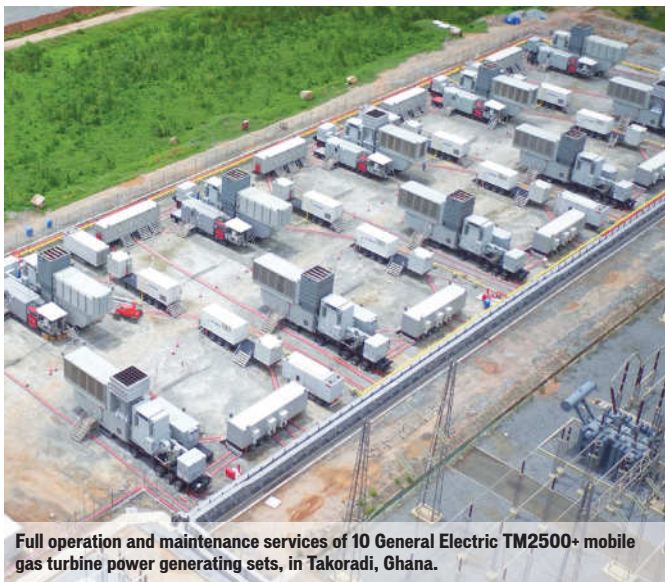


Image Credit: MYTILINEOS

Full operation and maintenance services of 10 General Electric TM2500+ mobile gas turbine power generating sets, in Takoradi, Ghana.



Image Credit: MYTILINEOS

Open cycle gas turbine power plant of 590,726MW in Hassi R'mel, Algeria.

A potential solution to Africa's energy dilemma lies in a combination of renewable energy sources as well as power plants that can substantially boost the grid when consumption is at a rise, or when renewable energy input is not sufficient due to adverse natural conditions.

Mobile Power Units (MPUs) technology can cover this fluctuating demand and address critical needs for power while securing urgent provision of reliable electricity in areas with lack of generation capacity and unreliable supply.

Mobile Power Units (MPUs) with gas turbines are revolutionising energy access in Africa. With their small size and easy mobility, they are providing reliable and clean energy to remote and rural areas that were previously unable to access traditional power grids. In addition, they are helping to reduce emissions by leveraging renewable energy sources. This can help to create a more sustainable future and reduce the continent's reliance

on fossil fuels. Having this technology, Africa is now on the brink of a new era of energy access.

A key figure of the new age

The Greek company MYTILINEOS – Energy & Metals, is a leading international contractor of specialised energy turnkey projects and is undertaking complete range of engineering, procurement and construction (EPC) activities through to project completion. In the MPU market, MYTILINEOS supplies customised, fast-track solutions based on the needs of the client.

The company has extensive references and a strong record of successfully delivering major power plant projects, often on very demanding fast-track project schedules, to support governments, local communities and industrial customers across several countries.

Especially in Africa, MYTILINEOS has the strategic focus of becoming a leading player. With more than 20 years of experience in MPUs, MYTILINEOS has a diverse history of

installing MPU sets in different localities, corresponding to diverse needs in an agile and efficient way. The first EPC and operation and maintenance activity of MYTILINEOS in the growing market of sub-Saharan Africa was part of the Government of Ghana's emergency plan to address the critical electricity supply shortages in the country.

In Takoradi, Ghana, MYTILINEOS delivered full operation and maintenance services of 10 General Electric TM2500+ mobile gas turbine power generating sets, including trailer mounted balance of plant equipment. Furthermore, in Algeria, MYTILINEOS installed and commissioned 38 mobile gas turbine power generating sets with a total output of 775MW, attained at local severe ambient conditions. The MPU sets were disassembled and re-assembled in at several different sites in a matter of weeks. What clients should be looking for in a MPU contractor is:

i) Project execution track record,

with a combination of excellent project management skills and a wide range of functional expertise, to fully leverage the plug and play functionalities of MPUs

ii) Flexibility and capacity: flexibility to respond quickly and effectively to unexpected events and capacity to execute multiple projects simultaneously

iii) Fast-track solutions: the need for MPUs is almost always an urgent one, so the client requires complete, specialised and cost-effective solutions which are fully customisable with options for permanent or temporary placement and

iv) Collaboration with full scope O&M organisations, for a seamless handover from construction to operations safely and efficiently.

MYTILINEOS, as one of the Top 10 EPC contractors for global energy projects, has the financial strength and market credibility to enhance its presence in the African market and to be Africa's number one partner for its reliable and clean power generation era. ■



Image Credit: ZESCO

A new dawn for Zambia

ZESCO has unveiled a Strategic Plan to revitalise the country's energy sector.

Like most countries across the continent, Zambia has experienced its fair share of energy-related issues.

In terms of access to electricity, in many ways the lifeblood of businesses operating in the country and a contributor to general wellbeing, rates have been steadily increasing in recent decades but have slowed since the outbreak of the pandemic – a trend largely reflected across sub-Saharan Africa.

At the start of 2023, alarm bells were also raised when water levels at the Kariba Dam dropped dramatically in light of changes in rainfall patterns. This resulted in reduced generation from the facility – which has an installed capacity of 1,080MW – ultimately threatening enhanced load shedding across the country.

While such stories make for concerning reading, state-owned utility ZESCO has sought to change the narrative around the country's relationship with energy. To do so, the power company, which produces around 80% of electricity consumed in Zambia, launched the Strategic Plan in February 2023.

The newly unveiled 10-year rolling plan targets the implementation of a refreshed core ideology and a US\$6bn project investment across the utility's value chain of generation, transmission, distribution and supply.

The initiative is guided by five objectives which include to:

- Achieve customer satisfaction and win customer confidence and loyalty;
- Be a financially sustainable organisation that balances the needs of its stakeholders;
- Expand the generation, transmission and distribution systems guided by an integrated resource plan;
- Have an effective maintenance regime for generation, transmission and distribution systems;
- Align human capital to business objectives.

At the launch ceremony, ZESCO managing director, Victor Mapani, called for a mindset shift and appealed to all employees to embrace the company's new core ideology which espouses integrity, teamwork and innovation among its corporate values. In embarking on this initiative, ZESCO is aiming to reorganise and transform into a commercially viable business with a sound reputation and enhanced

power generation portfolio, ultimately for the betterment of the country. Vickson Ncube, ZESCO board chairman, wrote in the company's Strategic Plan, "The journey ahead is not easy, but it must be travelled with utmost determination and perseverance."

Following this, Ncube spoke to *African Review* to share more about what this journey will look like.



Image Credit: ZESCO

Vickson Ncube is the board chairman of ZESCO.

African Review (AR): What is the current make-up of energy generation for Zambia, and how has ZESCO sought to end load shedding in the country despite a growth in energy demand?

Vickson Ncube (VN): Zambia has 3,644MW of installed electricity generation capacity, of which 86% is hydro based.

In the medium-term, ZESCO is focused on expanding its power generation mix by investing in renewable energy sources such as solar and wind. The target is to bring onboard a renewable energy mix composed of a minimum of 800MW Solar, 500MW wind and 500MW hydro power energy in the next 10 years.

The capacity and energy of all the projects combined when implemented should be adequate to ensure the reliable operation of the Zambian power system.

AR: What are ZESCO's main challenges right now and what are you doing to overcome these?

VN: There are a few which we have identified and are addressing including:

- Below cost electricity tariffs which have exacerbated the problem of tariff differential between the cost of buying electricity from IPPs and ZESCO's selling price, thereby negatively affecting the financial situation of the corporation.

“The journey ahead is not easy, but it must be travelled with utmost determination and perseverance.”

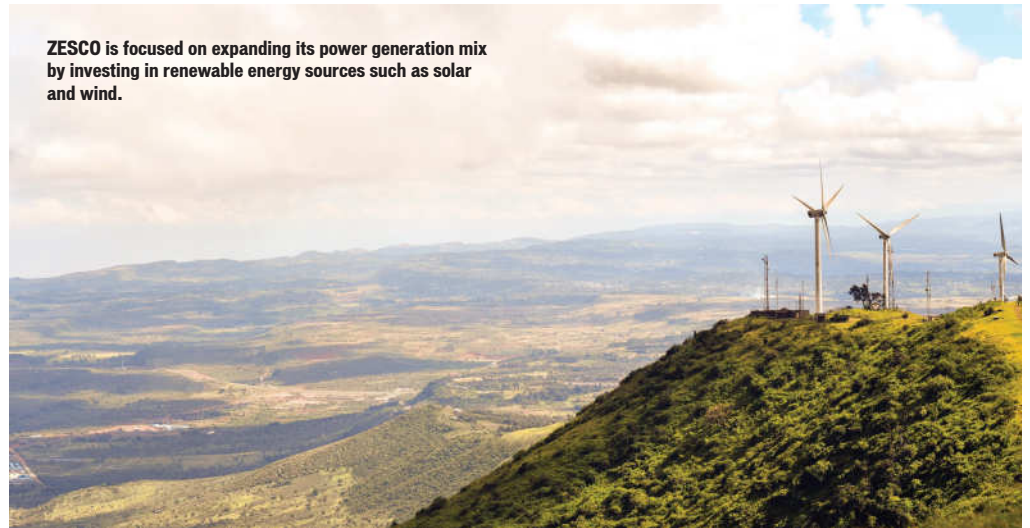
VICKSON NCUBE, ZESCO BOARD CHAIRMAN

ZESCO has applied to revise the electricity tariffs using the phased in approach and multi-year tariff framework. ZESCO has further engaged Independent Power Producers (IPPs) in renegotiating tariffs with notable success with Maamba Collieries Limited and Itzhi-Tezhi Power Corporation (ongoing and on course).

- High and unsustainable levels of debt to IPPs, lenders and other creditors (suppliers of goods and services). ZESCO is working towards restructuring long term Government guaranteed debt, conversion of some of its debt to equity and engaging the Government to honour their portion of the debt.
- High outstanding receivables from Government institutions and the mines. ZESCO is currently engaging the Government and mines for debt swaps and sustainable methods of liquidating these receivables.
- Hydrological challenges that have impacted generation capacity from hydropower plants over the years. ZESCO is currently working towards diversifying its generation capacity by investing in solar, wind and biomass.

AR: What are the renewable resources best suited for use in Zambia?

VN: Solar energy is the best-suited resource in Zambia. According to the World Bank Solar Resource Atlas, the seasonal variability for solar energy in Zambia is smaller compared to other countries further away from the equator. This qualifies Zambia as a country with high potential for PV power generation.



ZESCO is focused on expanding its power generation mix by investing in renewable energy sources such as solar and wind.

Wind resources can be exploited especially in the central, eastern, and northern part of the country. For most parts of the country, the hub heights of windmills need to be placed higher than those in the central, eastern, and northern parts of the country to achieve the same desirable output.

Some notable steps which have been undertaken include:

- Procurement of three plants rated 50MW in Luapula, Southern and Western provinces is in progress.
- Pre-feasibility studies for 500MW of solar under the ZESCO Masdar JDA have commenced.
- An expression of interest for feasibility studies to develop geothermal energy has been issued.

AR: How is ZESCO incorporating and encouraging the use of green energy within the country?

VN: In keeping with the strategic objective of expanded infrastructure and enhancing the national energy mix to achieve surplus and security

of supply, ZESCO intends to harness solar, wind, geothermal, and biomass energies. ZESCO is in partnership with Masdar from UAE to develop 2,000MW of renewable energy which will predominately be solar and wind energies.

ZESCO has initiated several procurements to either develop its own plants, as is the case for Luapula and Central provinces, or develop through joint ventures as well as outright purchase of electricity from IPPs.

Further, ZESCO is engaging stakeholders in the promotion of energy-efficient systems. This will be very important for the future of the country's energy sector as it will result in sustainable clean and green, climate-smart generation capacity.

AR: How has the country become a more attractive prospect for investment into the energy sector?

VN: Zambia has become an attractive destination for investment into the energy sector because of the good governance and policy

consistency of the current Government. This has translated into better independence for players in the energy sector that include ZESCO. The ZESCO corporate leadership team has developed a clear vision and path to restore ZESCO's financial health and contribute to the development of the ESI.

Notable outcomes of this include the overwhelming subscription on potential IPPs, and ZESCO's initiatives to complete construction of the Kafue Gorge Power station using its own generated resources.

AR: What has been done to increase electrification rates in the country?

VN: ZESCO has ramped up expansion and maintenance of its generation, transmission and distribution networks to increase electrification rates and ensure sustained supply of electricity. This will be achieved through diversification of the generation fleet by investing in solar, wind and biomass. ZESCO will also effectively and consistently implement its investment policy which aims to ringfence investments, ensure value for money and provide better coordination and clarity regarding Government pronouncement projects. ZESCO works with other stakeholders in the energy sector such as the Rural Electrification Authority and other institutions for support towards grid expansion and electrification. ■

ZESCO projects in the pipeline

PROJECTS	SIZE	STATUS
Luapula Solar PV	50MWac	Procurement stage
Western Solar PV	50MWac	Procurement stage
Southern Solar PV	50MWac	Procurement stage
ZESCO/MASDAR PJC Solar PV	500MWac – 10x50MWac each located at various sites across the country	MoU and JDA signed
Kalungwishi Hydropower Scheme (Kawambwa)	224MW	Engagement of developer
Zambia-Tanzania-Kenya Interconnector	Transmission line and substations	Procurement stage
Solwezi-Kolwezi Interconnector	Transmission line and substation	Inter-Government memorandum of understanding

Image Credit: ZESCO

Image Credit: Africa Stock

GENSET Buyers' Guide

Section One: Suppliers

Section Two: Agents & Subsidiaries in Africa

Please mention African Review when contacting your supplier

Section One: Listings by Suppliers

ABZ-Aggregate-Bau GmbH & Co. KG

Gutenbergstrasse 11
Henstedt-Ulzburg
24558
Germany
Tel: +49 4193 90360
Fax: +49 4193 93473
Web: www.abz-power.com
E-mail: info@abz-power.com

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Aggreko

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Web: www.aggreko.com
E-mail:
Sibongile.Thobakgale@aggreko.com

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Angola - Aggreko South Central Africa
Kenya - Aggreko Kenya
Nigeria - Aggreko Nigeria
Tanzania - Aggreko Tanzania

AJ Power Ltd.

1 Charlestown Drive
Craigavon
Northern Ireland
BT63 5GA
United Kingdom
Tel: +44 28 38361000
Fax: +44 28 38361010
Web: www.ajpower.net
E-mail: sales@ajpower.net

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Fax: +90 216 6815784
Web: www.aksa.com.tr
E-mail: aksa@aksa.com.tr

Aksa Power Generation manufactures gasoline, diesel, natural gas and marine generating sets range between 1 kVA to 3.125 kVA as well as lighting towers and generator hardware. The company has three manufacturing facilities in Türkiye, China, the USA and two trade centres in the Netherlands and the UAE and has become a leader and pioneer within the industry. Aksa Power Generation makes sales to 176 countries with its 24 global offices.

Agents:

Algeria - EURL AKSA Générateurs Algérie
Ghana - Aksa Power Generation
Kenya - Aksa Power Generation
South Africa - Aksa Power Generation
Sudan - Aksa Power Generation
UAE - Aksa Power Generation FZE

Ayerbe Industrial de Motores SA

c/ Oilamendi 8
Pol. Ind. Jundiz
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Spain
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Burton on Trent
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United Kingdom
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Fax: +44 1283 510103
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E-mail: sales@crestchic.co.uk

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Agents:
South Africa - Cummins South Africa Pty. Ltd

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5 Tunney Road
Elandsfontein, 1406
South Africa
Tel: +27 11 9230600
Fax: +27 11 9230611
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Gualtieri (RE)
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Green Power Generators offers:

- Generating sets with different engine types: Perkins, Cummins, Deutz, Volvo, John Deere, Iveco, Lombardini, Yanmar, Mitsubishi, Honda and Baudouin
- Generating sets with different alternator types: Mecc Alte, Stamford, Leroy Somer and Marelli
- Telecommunication power solutions
- Customised gensets
- Natural gas and LPG gensets
- Lighting towers
- Welding machines
- Irrigation systems (motorpumps)
- Certifications ISO:9001/2000 and ISO:14001/2004

Guascor Energy S.A.U



Barrio de Oikia, 44
20759 Zumaia (Gipuzkoa)
44-20759
Spain
Tel: +34943865200
Fax: +34943865210
Web: www.guascor-energy.com
E-mail: info@guascor-energy.com

Guascor Energy is a leading company with more than 55 years of experience in the

design and manufacture of diesel and gas internal combustion engines. The company offers products and services in distributed power generation. In addition, our offer is completed by a range of diesel engines for marine applications.

Agents:
Egypt - Innovative Energy Solutions (IES)
Morocco - Moroccan Marine Engine Services, S.A.R.L.
Nigeria - McGerald Energy Ltd.
Tunisia - Comptoir d'Equipments Maritimes (CEM)
Tunisia - Methania Industries

Hatz Diesel South Africa

52 Lake Road
Longmeadow North
Longmeadow Business Estate
Ext 7
Edenvale, Postnet Suite 22
Private Bag X10010
Edenvale
1610
Johannesburg, South Africa
Tel: +27 11 574-0900
Fax: +27 11 574-0939
Web: www.hatz.co.za
E-mail: engines@hatz.co.za

Hatz manufacturer a range of quality engines and generators to a high European standard. Specialising in both air cooled and watercooled units we can manufacture to your specific requirements and can support the product world wide throughout our extensive network.

Agents:
South Africa - Hatz South Africa

IREM S.p.A.

Via Abegg 75
Borgone (Torino)
10050
Italy
Tel: +39 011 9648211
Fax: +39 011 9648222
Web: www.irem.it
E-mail: irem@irem.it

IREM S.p.A. specialises in design and manufacturing on 1PH and 3PH electro-dynamic voltage regulators and line conditioners - in standards and customized versions - with power ratings from 1 to 4750kVA for indoor and outdoor installation. In business since 1947, IREM is a medium size company (staff 100 people) exporting all over the world. Company certification according to following standards: ISO9001 (since 1983), ISO14001 (since 2000), ISO 45001. Typical application fields: broadcast, telecommunications, industrial applications, electro-medical appliances, machine tools, manufacturing plants, banks and insurance companies, construction, oil and gas, mining, a.s.o.

Agents:
Kenya - Specialised Power Systems Ltd.
(Kenya) - IREM S.p.A

JCB Power Products

Hixon Airfield Industrial Estate
Hixon, Staffordshire
ST180PF
United Kingdom
Tel: +44 1889 272200
Web: www.jcb.com/en-gb/power-generation
E-mail: generator.sales@jcb.com

JCB specialises in supplying a range of reliable diesel generators from 8-2,750kVA. We are committed to selling the highest quality power solutions and focused on delivering outstanding service and support through our local distributors, to ensure your power stays switched-on!

Agents:

Angola - M.T.A – Maquinas e Tractores de Angola (JCB)
Botswana - BH Botswana (Pty) Ltd. (JCB)
Burkina Faso - HPA Burkina Faso
Djibouti - NALCO CONSTRUCTION & LOGISTICS
Ethiopia - Ethio-Nippon Technical Company S. Co. (JCB)
Ghana - ARG1 Africa
Mauritania - APS advanced Power Systems
Morocco - Hibapower
Sudan - APS advanced Power Systems

John Deere Power Systems

Orléans-Saran Unit
1, rue John Deere
Fleury Les Aubrais Cedex
45401, France
Tel: +33 2 38826119
Fax: +33 2 38846266
Web: www.johndeere.com
E-mail: jdengine@johndeere.com

John Deere Power systems develops, manufactures and markets diesel engines for a large variety of generator sets, compressors, industrial and agricultural applications. John Deere is one of the very few engine manufacturers that doesn't make gen-sets, this makes us unbiased partners with gen-set OEMs, offering them a robust power generation line-up from 30 to 500 kVA.

Agents:

Egypt - Orascom Trading Co. SAE
Nigeria - Stag Engineering (Nigeria) Ltd.
South Africa - POWERO2

Jubaili Bros

Jebel Ali Free Zone
United Arab Emirates
Tel: +971 4 8832023
Fax: +971 4 8832053
Web: www.JubailiBros.com
E-mail: jbdubai@jubailibros.com

Jubaili Bros with over 46 years of experience, is a leading provider of Energy Solutions in the Middle East, Africa and Asia. Jubaili Bros serves its customers by offering high quality diesel generating sets through 11 countries with 3 manufacturing plants and 30 branches & service centres that are dedicated to customer satisfaction.

Agents:

Ghana - Jubaili Bros (Ghana)
Nigeria - Jubaili Bros Engineering Ltd.
South Africa - Jubaili Bros Pty Ltd.
Uganda - Jubaili Bros (Uganda)

Kohler Power Systems EMEA

270 Rue De Kerervern
CS 92848
29228 BREST Cedex 2
France
Tel: +33 2 98414141
Fax: +33 2 98416307
Web: www.kohler-sdmo.com
E-mail: sdmo@sdmo.com

SDMO Industries is one of the world's leading generating sets manufacturers. A wide range of standard products from 1 kVA to several Megawatts through an efficient engineering department meets non-standard requirements. Present in over 150 countries through a dense network, SDMO Industries devotes its energy to supporting you in the successful completion of each of your projects world wide.

Agents:

Algeria - Kohler Power Systems Alger
Egypt - Kohler Power Systems Cairo
Togo - SDMO West Africa

Linz Electric S.p.A

Viale del Lavoro, 30
Arcole (VR)
37040
Italy
Tel: +39 045 7639201
Fax: +39 045 7639202
Web: www.linzelectric.com
E-mail: info@linzelectric.com

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Via Don E. Mazza 12
Gorle (BG)
24020
Italy
Tel: +39 035 4282111
Fax: +39 035 4282200
Web: www.lovatoelectric.com
E-mail: info@lovatoelectric.com

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MAN Energy Solutions SE

Stadtbach Str 1
Augsburg
86153
Germany
Tel: +49 821 3220
Fax: +49 821 322382
Web: www.man-es.com
E-mail: info@man-es.com

MAN Energy Solutions enables its customers to achieve sustainable value creation in the transition towards a carbon neutral future. Addressing tomorrow's challenges within the marine, energy and industrial sectors, we improve efficiency and performance at a systemic level. Leading the way in advanced engineering for more than 250 years, we provide a unique portfolio of technologies. Headquartered in Germany, MAN Energy Solutions employs some 14,000 people at over 120 sites globally. Our after-sales brand, MAN PrimeServ, offers a vast network of service centres to our customers all over the world.

Agents:

United Arab Emirates - MAN Energy Solutions
Middle East LLC

Mantrac Group

(B-17) Smart Village Km 28
Cairo Alexandria Desert Road
Giza
12577
Egypt
Tel: +20 2 35314000
Fax: +20 2 35370798
Web: www.mantracgroup.com
E-mail: hdeeb@mantracgroup.com

Mantrac Group is the authorized Caterpillar dealer, distributing and supporting Caterpillar construction machines, power systems and material-handling equipment in Egypt, Kenya, Tanzania, Uganda, Nigeria, Ghana, Sierra Leone,

Iraq and Siberia- Russia. With over 3000 employees and decades of experience as a Caterpillar dealer, we provide customers with comprehensive solutions backed by technical know-how, experience and in-depth knowledge of their local markets. We supply CAT diesel generators from 250 kVA up to 8000 kVA, olympian fully enclosed generators sets from 8 kVA - 220 kVA, automatic transfer switches, natural gas engines and gensets, CAT marine propulsion engines, marine gensets, power modules. More than a supplier of generator sets, we specialize in power plant turnkey installations and heat-recovery applications. Our extensive work scope includes engineering, design, testing, installation, on-site commissioning, and training as well as long term service and support.

Agents:

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Ghana - Mantrac Ghana Ltd. (Accra)
Kenya - Mantrac Kenya Ltd. (Nairobi)
Liberia - Mantrac Liberia

Nigeria - Mantrac Nigeria Ltd. (Lagos)
Sierra Leone - Mantrac Sierra Leone Ltd. (Freetown)
Tanzania - Mantrac Tanzania Ltd. (Dar Es Salaam)
Uganda - Mantrac Uganda Ltd. (Kampala)

Marelli Motori S.p.A.

Via Sabbionara, 1 - 36071
Arzignano (VI)
Italy
Tel: +39 0444 479711
Fax: +39 0444 479888
Web: www.marellimotori.com
E-mail: info@marellimotori.com

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Agents:

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MB Crusher

Via Astico 30/A - Fara Vicentino (VI)
Italy
Tel: +390445308148
Fax: +390445308179
Web: www.mbcruiser.com
E-mail: info@mbcrusher.com

Italian company MB Crusher manufactures attachments for excavator and loaders for the recovery and recycling of inert waste at low cost and with minimal environmental impact. MB Crusher units make it easy to complete the recycling cycle directly on site, simplifying the operations of crushing, screening and handling of materials.

Perkins Engines Company Limited

Frank Perkins Way
Peterborough
PE1 5FQ
United Kingdom
Tel: +44 1733 583000
Web: www.perkins.com
E-mail: info@perkins.com

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75 Speicher Drive
Accident
MD 21520
USA

Tel: +1 301 7468118
Fax: +1 301 8955570
Web: www.phenixtech.com
E-mail: info@phenixtech.com

PHENIX Technologies designs and manufactures high voltage, high current, high power electrical testing equipment for testing cables, circuit breakers, generators, GIS/switchgear, insulation materials, motors, reclosers, transformers, utility worker's rubber protective gear. PHENIX Technologies offers a wide range of testing solutions, 40+ years of experience, and is ISO9001 quality compliant.

SAB, Standard Aggregatebau

Evers GmbH & Co. KG
Oststrasse 11
22844 Norderstedt
Germany

Tel: +49(0)40/522501117
Fax: +49(0)40/522501144
Web: www.generatingset.com
E-mail: info@generatingset.com

Reputable German manufacturer of diesel-driven generating sets from 50 to 4000 kVA in stationary, transportable or mobile executions for standby, peak load or base load applications world-wide. Main competencies are the planning, designing, manufacturing, installation and servicing of global plant constructions under consideration of individual customer and project requirements.

Teksan Generator

Yenidogan Mah. Edebalı Cd.
No: 12 Sancaktepe
Istanbul
34791

Turkey
Tel: +90 444 8576/+90 216 3120550
Fax: +90 216 3126909
Web: www.teksan.com
E-mail: info@teksan.com

Teksan Generator, a leading Turkish engineering and technology company established in 1994, manufactures tailor-made uninterrupted power solutions that efficiently operate under the most challenging conditions for major international projects such as construction, telecommunication, data centers, shopping malls, hotels, residences, stadiums, mines, hospitals and industrial plants in more than 140 countries.

Agents:

Egypt - Mohammed El Taweel and Partners - Rich Uni

Mohamed Ahmed Ahmed El Tawil and Partners - RICH UNI

Kenya - Famiar Generating Systems Limited

Libya - BELHAJ INTERNATIONAL COMPANY

South Africa - M Squared Facilities

Management

Sudan - MTWA International Investment Co. Ltd.

Visa S.p.A.

Via Primo Maggio 55
Fontanelle (TV)
31043, Italy
Tel: +39 0422 5091
Fax: +39 0422 509350
Web: www.visa.it
E-mail: visa@visa.it

Visa SpA is one of the world's leading gensets suppliers, based in Italy, designing and manufacturing diesel generators, from 9 to 3000kVA, in standard or customized versions to meet your every need in a large variety of applications. With its network currently present in over 100 countries worldwide, it provides versatile, high-tech energy solutions, guaranteeing a highly operational flexibility and qualitative standards for which it has become a leader in the market for more than 60 years.

Volvo Penta

Gropegardsgatan
Gothenburg, 40508, Sweden
Tel: +46 31 235460
Fax: +46 31 508187
Web: www.volvopenta.com
E-mail: info.volvopenta@volvo.com

Volvo Penta is a global, independent supplier of engines and complete power systems for industrial and marine applications. The Volvo Penta industrial range includes combustion engines, electric drivelines and battery energy storage subsystems, designed for power generation and off-highway applications. The company's power

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Agents:

Algeria - SMT Algeria
Congo Brazzaville - SMT Congo (Brazzaville)

Congo Brazzaville - SMT Congo (Pointe Noire)

Congo DR - SMT RD Congo (Kinshasa)

Congo DR - SMT RD Congo (Lubumbashi)

Egypt - Orascom Trading Co.

Morocco - SMT Morocco

Nigeria - Marine and Land Logistics Ltd.

Nigeria - SMT Nigeria (Abuja)

Nigeria - SMT Nigeria (Lagos)

Nigeria - SMT Nigeria (Port Harcourt)

Zest WEG

13 Benbow Avenue
Epping Industrial 1
Cape Town
South Africa
Tel: +27 21 507 7200
Web: www.zestweg.com
E-mail: gensets@zestweg.com

Reliable prime, standby or continuous power diesel generators that guarantee optimum uptime of any operation are readily available from Zest WEG. Generator sets are available as standard off the shelf units or as custom built, application specific units ranging from 10kVA up to 3350kVA.

Agents:

Ghana - Zest WEG Ghana

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Algeria**Kohler Power Systems Alger**

5 rue Girardin, Alger, 16004
Tel: +213 (0) 21 68 12 12
Web: www.dz.sdmo.com
E-mail: marc.lesven@kohler.com

SMT Algeria

Dar El Beida
Nouvelle ville de Dar El Beida
Lot Bakalem, 16033
Tel: T: +231 7 70 25 00 00
E-mail: info.algerie@smt.network

Angola**M.T.A – Maquinas e Tractores de Angola (JCB)**

N 19 Bairro Patrice Lumumba
Rua Conego Mauel das Neves
Municipis, Luanda
Tel: + 244929052606
Web: www.mta-angola.com
E-mail: pedro.salbany@mtangola.com

Botswana**BH Botswana (Pty) Ltd. (JCB)**

Plot 695500, PO Box 396
Lejara Rd
Broadhurst Industri
Gaborone
Gauteng, 1460
Tel: +267 391 2811
Web: www.bh.co.bw
E-mail: garykeevil@bh.co.bw

Burkina Faso**HPA Burkina Faso**

Nationale No 1
route de Bobo-Dioulasso
agtouli-Boulmiougou
04 BP 578 Ouagadougou 04
Tel: +22664859539
Web: www.hpa.eu
E-mail: noel@hpa.eu

Congo Brazzaville**SMT Congo (Brazaville)**

Avenue Bayardelle
Brazaville
Tel: +242 5 7549538
Web: www.smt-congo.com
E-mail: info@smt-congo.com

SMT Congo (Pointe Noire)

113 rue Denis Ngomo
Pointe Noire
Tel: +242 5 7549538
Web: www.smt-congo.com
E-mail: info@smt-congo.com

Congo DR**SMT RD Congo (Kinshasa)**

Avenue du Militant
Kinshasa
4478
Tel: +243 820666964
Web: www.smt-rdc.com
E-mail: info@smt-rdc.com

SMT RD Congo (Lubumbashi)

Route de Likasi
2841
Tel: +243 815 656565
Web: www.smt-rdc.com
E-mail: info@smt-rdc.com

Djibouti**NALCO CONSTRUCTION & LOGISTICS**

Saline Ouest
Venise Road
P.O Box 6353,
Tel: +25377811101
Web: www.nalco-djib.com
E-mail: idyelmi@gmail.com

Egypt**Innovative Energy Solutions (IES)**

111 Taaweniat Smouha
Suit #13, Alexandria
Web: www.ies-egypt.net
E-mail: khaled@ies-egypt.net

Kohler Power Systems Cairo
22 Mohamed Saeed Al-Halawani
Airport Road
Maskaen Sheraton
Cairo
Tel: +20 2 22 67 12 78
Web: www.kohler-sdmo.com
E-mail:
ahmed.shouman@kohler.com

Mohamed Ahmed Ahmed El Tawil and Partners - RICH UNI
Plot 23
3rd Industrial Zone
6th of October
Giza
Tel: +20 115 543 2349
Fax: +202 25756383
E-mail: m.azmy@richuni.com

Orascom Trading Co.
160, 26th July St
Agouza
Giza
Cairo
1191
Tel: +20 1223949
Fax: +20 2 33034936/33034766
Web: www.orascom-trading.com
E-mail: ehab.george@orascom-trading.com

Ethiopia

Ethio-Nippon Technical Company S. Co. (JCB)
PO Box 2250
Kirkos Sub City
Addis Ababa
Tel: + 251 115 515554
Fax: +251 115 512055
Web: www.ethio-nippon.com
E-mail: addis.girma@ethio-nippon.com

Ghana

ARG1 Africa
C8/21 Off Tenbibian Street
Agbelemkpe
Accra
Tel: + 233244284422
Web: www.argafrica.com
E-mail: roni@argafrica.com

Jubaili Bros (Ghana)
Accra
Tel: +233 30 3940904
Fax: +233 30 3940904
Web: www.JubailiBros.com
E-mail:
jbgghana@jubailibros.com

Zest WEG Ghana
15 Third Close Street
Airport Residential Area
Accra
Tel: +233 30 2766490
Web: www.zestweg.com
E-mail: ghana@zestweg.com

Kenya

Famiar Generating Systems Limited
Road C, Off Enterprise Rd
Industrial Area
P.O Box: 31757 – 00600
Nairobi
Tel: +254 20 3588037
Web: www.famiar.co.ke
E-mail: ak@famiar.co.ke

Specialised Power Systems Ltd. (Kenya) - IREM S.p.A
PO Box 18435
Melili Road
Next to Marshall's Showroom
Off Mombasa Road
Nairobi
00500
Tel: +254 20
2077219/8019435/6/7
Fax: +254 20 3532986
Web: www.spsafrica.com
E-mail: info@spsafrica.com

Libya

BELHAJ INTERNATIONAL COMPANY
Coastal road Next the Engineer
College Misurata
Tel: +21891 322 6474
E-mail: t.a.belhaj@gmail.com

Mauritania

APS advanced Power Systems
Tel: + 249912335720
Web: www.apsgenerators.com
E-mail: ahmed.azim@apsgenerators.com

Morocco

GUASCOR ENERGY
Imane Center
rue Arrachid Mohamed et
rue de la plage
Etage 5, N2 Casablanca
20580
Web: www.2mes.ma
E-mail: sabri@sesamarine.ma

Hibapower
30, Industrial Area of Bir ram
Kenitra
Tel: +212668785240
Web: www.hibapower.com
E-mail: import@hibapower.com

SMT Morocco
Parc d'activités Oukacha 1
Entrepôts 35-36
Entrepôts 35-36, 20250
Tel: +212 522 66 17 36
E-mail:
info.maroc@smt.network

Nigeria

Jubaili Bros Engineering Ltd.
Jubaili Building, Plot 2
Ikosi Road
Oregon
Ikeja
Lagos State
Tel: +234 81 40111111
Web: www.JubailiBros.com
E-mail:
jb.ikeja@jubailibros.com

Marine and Land Logistics Ltd.
12d Osborne Road
Foreshore Estate II, Osborne
Ikoyi, Lagos
Tel: +234
8023219004/8063049869
Web: www.marineandland.com
E-mail:
info@marineandland.com

McGerald Energy Ltd.
29 Grace Anjous Drive
Lekki 1, Lagos
Web:
http://www.mcgeraldenergy.com
E-mail:
Gerald.otiji@mcgeraldenergy.com

SMT Nigeria (Abuja)
Plot 412, Opp. Julius Berger
IDU Industrial Estate
Abuja
Tel: +234 8023747678
Web: www.smt-nigeria.com
E-mail: info@smt-nigeria.com

SMT Nigeria (Lagos)
322 A Ikorodu Road
Lagos
Tel: +234 8023747678
Web: www.smt-nigeria.com
E-mail: info@smt-nigeria.com

SMT Nigeria (Port Harcourt)
200 Airport/Airforce Road
Eliozu, Port Harcourt
Tel: +234 8023747678
Web: www.smt-nigeria.com
E-mail: info@smt-nigeria.com

South Africa

Jubaili Bros Pty Ltd.
Boksburg
Tel: +27 11 1004878
Web: www.JubailiBros.com
E-mail: Jb.sa@jubailibros.com

M Squared Facilities Management
Unit 3, Midline Business Park
Corner le Roux and Richards Dr
Johannesburg
Gauteng
1685
Tel: +27 82 339 6471
Web: www.m2fm.co.za
E-mail: michael@m2fm.co.za

Sudan

APS advanced Power Systems
Al-Jazira St. No 55 building N
Khartoum
Tel: + 249912335720
Web: www.apsgenerators.com
E-mail:
ahmed.azim@apsgenerators.com

MTWA International Investment Co. Ltd.
80 Block 85 Al Siteen Street,
PO Box 7050
Khartoum
11123
Tel: +249 18 352 2920
Web: www.mtwa.sd
www.mtwa.sd
E-mail: mohamed.hamza@mtwaint.com

Togo

SDMO West Africa
Ensemble Immobilier Ramco - 7
Boulevard Du 24 Janvier
Quartier Assivito
LOME
01BP746
Tel: +228 22226365
Web: www.kohler-sdmo.com

Tunisia

Comptoir d'Equipments Maritimes (CEM)
Nouveau Port de peche
SFAX PORT SFAX
3065
E-mail: cem@hexabyte.com

Methania Industries
01 rue du Lin
Zone Industrielle Bir El
Kassaa
Ben Arous
2059
Web: www.methania.com
E-mail:
selim.kanzari@methania.com

Uganda

Jubaili Bros (Uganda)
Kampala
Tel: +256 77 8338477
Web: www.jubailibros.com
E-mail:
jb.uganda@jubailibros.com



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Genset market holding steady

Africa's diesel genset market is thriving, allowing manufacturers to position themselves for the future by stepping up research into alternative fuels such as hydrogen.



Cat generator sets at a plant operated by Wentworth Natural Resources supplying power for Mnazi Bay and the city of Mtwara, Tanzania.

Image Credit: Caterpillar, Inc.

Since the turn of the millennium, sub-Saharan Africa had recorded a steady increase in electrification rates which rose from 25.6% in 2000 to a high of 47% in 2019, according to data from the World Bank.

As a result of efforts to reduce the number of people without electricity, the approximately 611 million who lived without adequate access to power was reduced to around 571 million in 2019. In keeping here, the continent's total installed energy capacity increased to 260GW, providing people and businesses a greater sense of security around their energy needs.

While this was certainly heading in the right direction, Africa remained the continent most afflicted by energy poverty, and this trend was only made worse by the onset of the pandemic. As Covid-19 disrupted global business, brought extra caution around investment decisions and largely delayed projects coming online, progress stalled.

These difficulties have subsequently been

exacerbated by the outbreak of war in eastern Europe which has hurt consumers and businesses around the world – most acutely in the developing world. Since the outbreak of Covid-19 on the global stage in 2020, the number of people without access has increased for the first time since 2013 and sub-Saharan Africa's (SSA) share of the global population without access to electricity

rose to 77%.

Fundamentally, a lack of reliable access to energy is an impediment to businesses and individual wellbeing. Over the last year, this has been most keenly demonstrated in one of SSA's most developed countries, South Africa, which experienced as many as 200 days of loadshedding throughout 2022. While the Government has responded with numerous responses to remedy the situation – such as the National Energy Action Plan to improve the performance of existing power stations and add new generation capacity to the grid – Eskom recorded loadshedding at a record 7,000MW within February 2023 and President Cyril Ramaphosa officially declared a national state of disaster in regards to the energy crisis.

The situation is having a damaging effect on businesses and some of the country's key industries; data published by the national service Statistics South Africa found that in December 2022 mining production decreased by 3.5% year-

“The market around diesel generators took a brief downturn during the pandemic but has since mounted a quick recovery.”



Image Credit: Adobe Stock

Generator use is on the rise again amid patchy grids and often-erratic renewable solutions.

on-year. While the country has dominated headlines around this topic, as it is one of the continent’s most advanced nations, this is a familiar narrative playing out in many of its neighbours across SSA, highlighting the challenge for the African population to secure reliable electricity for personal and business purposes.

Filling the void

In the face of such issues, many companies and households are turning to a reliable fix, diesel generators.

The market around this reliable piece of equipment that has served the continent faithfully for decades took a brief downturn during the pandemic (reflecting a trend experienced in nearly every industry) but has since mounted a quick recovery. By the first quarter of 2022 imports of diesel generators had increased by 12% year-on-year and were only 3%

lower than the pre-crisis level, reflecting a sustained pick-up since the outbreak of Covid-19. At this time, most countries and industry sectors witnessed an increase in demand due to the general market recovery and rising need for electricity.

This pattern of growth has extended throughout 2022, with the latest statistics from PowerGen Pages indicating a continent-wide diesel genset market growth of 16% across 2022.

“ The African market should continue to grow in 2023 thanks to strong demand in electricity.”

This is contributing to a post-Covid growth that began in 2021 (18%). The African market should continue to grow in 2023 thanks to strong demand in electricity, but in a more moderate way (3%). Market growth is now hampered by longer lead times, and also uncertainty weighing on the economy.

Breaking this down further, generators >500kVA experienced particularly strong growth at +25%, although this must be taken in the context of <500kVA generators having a very strong increase in 2021 at +31% and continued growth throughout 2022. For >2000kVA generators, growth has particularly come from South Africa and Nigeria which has seen sales more than double. This has been particularly encouraged by the manufacturing, mining, oil & gas segments as well as data centres.

Imports from China continued their strong growth in 2022 (40%), following a year in 2021 when they had already increased by more than 30%. This growth is achieved in particular in the power units (375-2000kVA), thanks to the exports of international brands with production units in China. The current relative weakness of the Chinese domestic market is boosting exports, and the ongoing drop in maritime transport prices should support this growth.

While Nigeria still remains by far the most important market in Africa, the strongest growth has come from South Africa with more than 50% in 2022, due to the very severe disruptions to its grid in 2022 and thanks to the data centre segment which makes it the main African market today. On the other hand, the Algerian market is still not experiencing growth, and the recent regulations requiring generators to be assembled locally should slow down a return to strong growth.

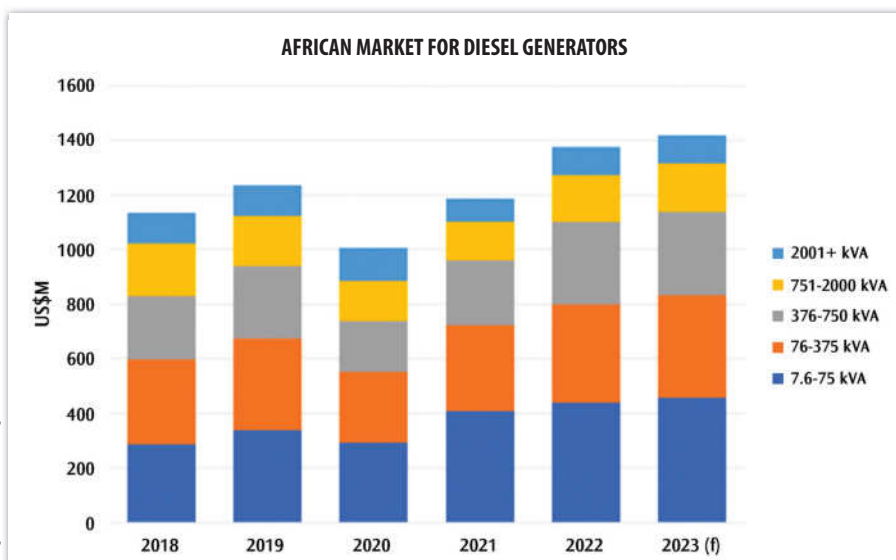


Image Credit: PowerGen Pages

Supplying the market

Maintaining the market is a variety of genset manufacturers and distributors. Among the ranks of those serving customers across the continent are the likes of Perkins, Aksa, Aggreko, Baudouin, Cummins, Volvo Penta, Zest Weg, Teksan Generator, Cantoni Motors, Caterpillar, Kohler Power Systems, Doosan Portable Power, AJ Power, and many more. Quietly, these companies are ensuring that the required equipment is arriving on location, wherever it is needed across the continent.

Such was the case when Genesal Energy was approached to provide emergency power for a power plant and ancillary services in Kenya. The company responded with a GEN330VI, tailor made to meet the powerhouse needs and effectively supplying backup power to the public facility located in a remote area. The company noted that maximum reliability was needed as the main, ancillary and security systems had to be able to keep running smoothly in the event of a power outage. This experience is another case of Genesal providing its generator sets – built to withstand the hardest orographic and climatic features – to a continent which it considers special to the business.

Elsewhere, HIMOINSA Southern Africa provided in rapid timelines a competitive, flexible, turnkey power solution to support a project being progressed by Renergen’s wholly-owned subsidiary Tetra4 in South Africa on the assumption that Eskom would not be able to provide the dedicated power supply required to supply the site for a minimum of eight months.

The HIMOINSA team installed and commissioned a fully-functioning power plant within three weeks of the site being ready as part of a solution which included eight, fully-synchronised generator sets. HIMOINSA noted that its generators with Yanmar and MTU Engines have a high fuel efficiency rating which allowed Renergen to reduce costs at the early stage of operations. The plant ran efficiently on a fully turnkey solution, including the necessary manpower and operational planning requirements for the contract term, and beyond, until the utility connection was successfully installed, and the temporary power plant decommissioned.

Staying ahead

While the diesel generator market remains on the rise, those involved in the industry are aware of the need to remain ahead of market trends and adapt to evolving consumer demands. At the current time, the high price of fossil fuel and the desire to reduce emissions is driving manufacturers to develop new solutions with



A GEN330VI was used to provide emergency power for a power plant in Kenya.

Image Credit: Genesal Energy

higher efficiency and less climate impact.

Volvo Penta, for instance, has extended its power generation engine range with the introduction of the D17 and the company was clear to put its fuel efficiency at the centre of the accompanying press release by explaining how the D17 offers up to 5% less fuel consumption per Kwh than the D16. Cummins, meanwhile, has announced that its QSK95 engine can be safely used with renewable diesel. The chosen Hydrogenated Vegetable Oil (HVO) can reduce carbon intensity by up to 90% compared to conventional diesel fuel and can be blended with diesel.

Another major focus has landed on hydrogen, a supposed fuel-of-the-future with a market teeming with possibilities. At the start of 2023, Rolls-Royce successfully conducted tests of a 12-cylinder gas variant of the mtu Series 4000 L64 engine running on 100% hydrogen fuel, which showed very good characteristics in terms of efficiency, performance, emissions and combustion.

Caterpillar, on the other hand, noted its diesel-fuel power solutions have enabled operation on various HVO fuel products for more than a decade, and has also moved into the hydrogen sphere. As early as 2021 the company announced it will begin offering gensets capable of operating on 100% hydrogen, including renewable green hydrogen.

While the diesel generator market is proving resilient for the time being and is projected to grow over the coming years as energy issues continue to grip the continent, the awareness that these market dynamics will not hold true forever is apparent. With this in mind, most organisations are embarking on developments within the spheres of alternative fuels and hydrogen, making use of these prosperous years to secure their long-term future. ■

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Volvo Penta powers up portfolio

Volvo Penta made the most of its participation at the Middle East Energy (MEE) exhibition, which ran in Dubai from 7-9 March 2023, with the release of four announcements around the event.

First among the announcements was that the company has extended its power generation engine range with the introduction of its most powerful model. The 17-litre Volvo Penta TWD1744GE industrial engine, which was on display in Dubai, offers up to 5% less fuel consumption per kWh than its lower-displacement D16 sibling, largely the result of recent evolutions in combustion technology such as the modernisation of the fuel-injection system with a common-rail design. Another important feature – which will also be made available to D16 models – is the option of a viscous fan to further reduce fuel consumption and noise emissions.

The highly fuel-efficient engine will help support both the current demands of industrial customers as well as their future business needs. The company's engineers developed a larger bore engine which thereby enabled the larger volume which paved the way for around a 10% increase in maximum standby power

over the TWD1645GE at 1800 rpm.

Looking ahead, the D17 – together with the rest of the power generation line-up – will evolve to enable customers to transition to significantly lower emissions utilising alternative fuels.

Volvo Penta closely followed the D17 news with the introduction of the 200 kVA D8 Stage II engine to its industrial genset product portfolio. The eight-litre engine boasts up to an 8% reduction in fuel consumption per kWh compared to the D7 model it replaces and is now available in four power nodes: 200, 253, 303 and 326 kVA at 1,500 rpm at prime power to meet different application configurations.

“The D8 is based on mature technology concepts that have undergone significant testing and real-world use throughout the Volvo Group,” commented Kristian Vekas, product manager at Volvo Penta. “It has been built with a high power to weight ratio, giving it excellent power density and a compact design



Volvo Penta has launched the D17 power generation engine.

Image Credit: Volvo Penta

for its power class. It has been designed for quick, easy and economical installation as well as ease of operation and maintenance.”

The D8 Stage II engine features high-tech diesel fuel injection and charging systems with low internal losses, contributing to excellent combustion and low fuel consumption. It has been built on the dependable in-line six-cylinder design and has been developed to produce smooth operation with low noise levels. The engine was also on display at the company's stand at MEE.

Expanding energy storage

Described as a strategic move to supplement its power generation business and tap into new segments, Volvo Penta has also launched a new offer – a high-performance subsystem based on the company's electromobility platform, optimised for OEMs' battery energy storage systems (BESS) applications.

The signature attribute here is a high-energy-density and high-power battery system which ensures quick and substantial charge and discharge in response to sudden demand. The systems are optimised to meet business and operational needs and is scalable up to hundreds of MWh in energy.

“Together with OEMs, our solution provides possibilities to store energy from and add resiliency to renewable solar or wind-powered sources, opening new business models that appeal to end customers on their road to net-zero emissions,” remarked Hannes Norrgren,

president of Volvo Penta industrial

Just days after making this announcement, the company unveiled a partnership with Utility Innovation Group (UIG) whereupon the two companies will collaborate to enhance power grid reliability and resiliency through battery energy storage and integration – maximising the use of grid renewable wind and solar power.

Aimed at US and international markets, Volvo Penta will work closely with UIG to adapt and integrate the subsystem into its modular nodes of scalable battery energy storage with the goal of ultimately designing a resilient and carbon-free grid.

“While Volvo Penta provides the subsystem to the battery energy storage, our partners have deep grid operability and application expertise,” explained Darren Tasker, vice president industrial, Volvo Penta North America. “Our cooperation enables a lean, start-up way of working that will help us both to scale up quickly, with UIG contributing its vast experience in the intricacies of deploying advanced power systems to specific segments.”

This remarkable period of activity is a testament to the company's determination to deliver on its aim of being the ‘most forward-thinking and customer-focused supplier of sustainable power solutions’ available and onlookers will be sure to keep a close eye on the company to see what else it has in store for the future. ■



Volvo Penta's modular and scalable subsystem will be integrated into manufacturers' BESS applications.

Bentley Systems opens nominations for 2023 Going Digital Awards in Infrastructure

Bentley Systems, an infrastructure engineering software company, has announced its call for nominations for the 2023 Going Digital Awards in Infrastructure. The awards, which are judged by independent juries of industry experts, recognise infrastructure projects for 'going digital' advancements in infrastructure.

The deadline for nominations is 8 May, 2023.

Users of Bentley software are invited to enter their projects in the Going Digital Awards in Infrastructure programme, irrespective of which phase the project is in.

The three finalists chosen for each awards category will win a trip to Singapore to attend the Year in Infrastructure and Going Digital Awards event, as guests of Bentley Systems. As part of the conference, the finalists will present their projects before the judges, industry thought leaders, and more than 100 media members. These projects recognise innovative advancements and measurable impacts in infrastructure and sustainability.

In addition to the juried awards, Bentley's founders will honour select projects representing organisations or individuals whose undertakings contribute notably to infrastructure advancement and/or environmental and social development goals.

Every project nominated for an award receives recognition across the global infrastructure community in the following ways:

- Having their infrastructure projects profiled in Bentley's Infrastructure Yearbook, which is distributed in print and digital formats to media, government, and industry influencers around the world;
- Enhancing their competitive edge by demonstrating to existing and potential clients the value the participants add to projects through their digital innovations;
- Increasing their exposure and coverage from global media and industry analysts.



The 2023 winners will be announced at the Year in Infrastructure and Going Digital Awards event in Singapore.

BOBCAT UNVEILS NEW MACHINES AT CONEXPO

Bobcat has taken innovation to the next level with the introduction of two, new concept machines unveiled during CONEXPO-CON/AGG 2023.

Following the 2022 release of the Bobcat T7X, the world's first all-electric compact track loader, Bobcat has now unveiled the world's first all-electric skid-steer loader, the Bobcat S7X. The company has also turned heads with the unveiling of its new concept track loader, the Bobcat RogueX. This next-generation concept machine explores the capabilities of electric power, autonomous operation and dual lift-arm geometry.

"At Bobcat, we are always pushing the boundaries to explore the next leading advancements that help our customers accomplish more and propel the industry forward," said Scott Park, Doosan Bobcat CEO and vice chairman.

"As an organisation, we are committed to innovating for our customers' needs first and foremost, so that they can become more efficient, more productive and more successful."

Like the T7X, the S7X is all electric, as it is powered by a 60.5-kWh, lithium-ion battery, features electric drive motors and utilises ball screw actuators for lift and tilt functions. It can operate for up to eight hours on a single charge depending on the application, giving most operators more than a full day's work when breaks and downtime are considered.

The Bobcat RogueX combines technologically advanced features to make it a unique conceptual machine. While most closely resembling a track loader, the machine is in a league of its own. As a research and development project, the machine was built as a proving ground to advance the Bobcat innovation roadmap, evaluate customer perceptions and test the limits of machine functionality.

SHOPRITE INVESTS IN LOGISTICS FACILITY

During a sod-turning ceremony, Nelson Mandela Bay Municipality Executive Mayor, Retief Odendaal, confirmed Shoprite Group's US\$81.4mn investment on the construction of a distribution logistics facility in Wells Estate which is scheduled to begin from April this year.

The facility aims to create around 800 temporary jobs during the construction phase, along with 1,300 full-time jobs when fully operational. The project is expected to be complete by the fourth quarter of 2024.

This investment is a partnership between Shoprite and Equites Property Fund, the only specialist logistics property fund listed on the JSE. Equites Property Fund CEO, Andrea Taverna-Turisa, expressed his excitement about launching their next venture in the Eastern Cape. Furthermore, Shoprite chief supply chain officer, Andrew Havinga, emphasised that the project was more than just an investment, which focused on uplifting lives and creating opportunities.

Image Credit: Stellantis



Stellantis is looking to expand its manufacturing footprint.

Stellantis has signed a memorandum of understanding (MoU) with the Industrial Development Corporation (IDC) and the Department of Trade, Industry and Competition (the dtic) to develop a manufacturing facility in South Africa. The plant is planned for setup in a South African Special Economic Zone (SEZ), with the aim of completion being 2025. The project cements the region's Dare Forward 2030 ambition to sell one million vehicles by 2030.

Image Credit: Hitachi



Remanufacturing a main pump.

Hitachi begins parts remanufacturing

Hitachi Construction Machinery Co., has embarked on the production of remanufactured parts for construction machinery, such as medium- to large-sized hydraulic excavators and medium-sized wheel loaders. The target will be expanded to construction machinery to strengthen its parts remanufacturing business in southern Africa, while also contributing to reduce environmental impact and realise circulating society through further reduction in CO₂ emissions and industrial waste.

BKT launches new season of Global Trends dedicated to OTR world



Image Credit: BKT

The new season of Global Trends will be released monthly from March 2023 to June 2023.

BKT Network, BKT's own Digital Platform, has presented the upcoming season of its Global Trends format – this time, completely immersing viewers in the off-the-road tyres (OTR) world.

Global Trends OTR has been designed to be more than merely a source of information. It is an innovative and engaging experience that combines the latest technologies with the real-life experiences of industry experts. The season aims to provide a more comprehensive view of the OTR industry, offering an in-depth analysis of the most important topics in the sector and providing insights into the latest trends and developments.

Global Trends OTR is committed to using innovative technology to create a new, more engaging format that elevates users as 'protagonists' of the industry. The immersive nature of this format will place the user front and centre of the episodes, aligning with BKT's people-centric approach to business. Subsequently, the latest season aims to make a ground-breaking impact on a global scale, with new initiatives that increase engagement, interactions, and strengthen the BKT community. Global Trends OTR strives to provide a captivating and informative experience for industry professionals, distributors, media and press, end users, and future generations alike.

The new season of Global Trends will be released monthly, from March 2023 to June 2023, and will consist of four episodes on some of the most pressing topics in the industry such as sustainability, technology, automation and robotics, and alternative energies.

MANITOWOC DEALERS SHARE BEST PRACTICES

Regional leaders from Manitowoc and its dealers from the Middle East, Africa, and CIS gathered in person to share best practices, discuss opportunities for growth, and review the outlook for the lifting segment at an event in Dubai, UAE.

One of the key focuses at the gathering was discussing opportunities for the three regions, and in particular, looking at how the host of customer support services from Manitowoc can help customers gain a competitive edge. Services such as online or live training, EnCORE crane refurbishment, and predictive maintenance can help companies get more uptime and service life from their cranes, delivering better profitability. In addition, there were presentations on the latest technologies from Manitowoc, which are designed to further boost productivity for end users. An awards ceremony was also held honouring the dealers who had achieved success in their regions.



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SCAN FOR MORE INFORMATION



A load off the mind

Keeping abreast of loader developments has proven challenging in recent times under a flood of announcements from manufacturers and distributors.



Image Credit: Cat

The Cat 950 Wheel Loader.

One of the most notable stories on the topic arrived at the end of last year, when Komatsu agreed to acquire GHH Group, a manufacturer of underground mining, tunnelling and special civil engineering equipment.

GHH offers a wide range of equipment focused on loaders and articulated dump trucks in the mid-seam mass mining, narrow vein and low-profile market segments, as well as offering aftermarket parts and service support. The acquisition will add GHH's factories and rebuild facilities to Komatsu's portfolio as well as its robust offerings and staff.

Peter Salditt, president and CEO, Komatsu Mining Corp, commented, "This acquisition represents a great opportunity for Komatsu to expand its offerings for underground mining equipment and accelerate new product development through synergies with Komatsu's existing team and product offerings. By adding GHH's factories and rebuild

facilities in key markets in Europe, South Africa, India and Chile, we also aim to strengthen production and service capabilities for our customers."

Cat chases improved efficiency

It is no surprise that Caterpillar, which never strays far from the spotlight owing to its consistent stream of new releases, has stolen headlines once again as it continues its goal of delivering premium performance for its customers.

In February, this ambition led the company to unveil the new Cat 950 and 962 Next Generation Wheel Loaders, featuring simple-to-use technologies that boost operator efficiencies and provide consistent bucket fill factors. The flexible loaders offer application-specific designs to excel in the toughest applications, service intervals are extended to lower maintenance costs by up to 35% and Cat has

reported they increase productivity up to 10% over previous models.

Powered by the Cat 7.1 engines – offering high power density with a combination of electronics, fuel and air systems – the machines can be run with diesel fuel blended with up to 100% biodiesel or 100% renewable diesel, hydrogenated vegetable oil (HVO) and gas-to-liquid (GTL) fuels.

Among the standard technologies available to the wheel loaders are Cat Payload with Assist to display data in real time to improve productivity and loading efficiency; Autodig to improve fill factors and loading times; and Auto Set Tires which promote proper loading technique to reduce tyre slip and wear. Product Link is also available to connect the machine to the office, providing access to production and essential machine health information. Optional technologies available include Cat Advanced Payload with Assist – including Tip

Off Assist – and Cat Productivity.

Higher fill factors and better material retention are ensured through the Cat Performance Series Buckets which balance bucket shape against the loader's linkage. Meanwhile, the Cat Fusion Quick Coupler offers easy tool changes without the operator leaving the cab.

The loaders come with all the comfort aspects to be expected of machines from the manufacturer including sound suppression, seals and viscous cab mounting to decrease noise levels and feedback alongside increased legroom, adjustable seat controls, the HMU steering wheel, an optional seat-mounted electrohydraulic joystick, and a new in-cab dashboard alongside high-resolution touch displays. Operators will also appreciate the rear-vision camera to enhance visibility, which is already boosted by floor-to-ceiling windshield, large mirrors with integrated spot mirrors, and

optional multiview vision, Cat Detect radar technology and available lighting system enhancements.

Volvo expands electric range

For Volvo Construction Equipment (Volvo CE), the focus is clearly on the future of the company within the transforming operating environment and, in light of widespread ambitions to mitigate carbon impact, this is driving a pivot to electric machinery.

Putting its money where its mouth is, the company made tangible progress in this aim at the beginning of 2023 when it made a US\$6.3mn investment into the production of electric wheel loaders from its plant in Arvika, Sweden.

The factory specialises in the production of medium and large wheel loaders and the new funds will allow it to expand its facilities with a new, approximately 1,500 sq m building, allowing for the phased introduction of new electric wheel loaders. Volvo CE has described this as a significant moment for the company and its determination to be completely fossil free by 2040 – part of its commitment is an ambition for 35% of its machines sold to be electric by 2030.

“It is more than 40 years since we

last invested in a new building and what better reason now than to invest in our future, our planet and the next generation. We know that this is not only important to our customers and stakeholders, who rightly have high expectations on us, but it is also close to our hearts to be part of something bigger in building our future,” commented site manager, Mikael Liljestrand.

One month later, Volvo CE swiftly followed up this news by announcing the development of a solution to convert the L120 wheel loader to electric. In response to market appetite for more sustainable solutions in the mid-size range, the company has made available the 20-ton L120H Electric Conversion for selected customers in Europe during 2023. Developed in conjunction with partners – Parker Hannifin and converted by Volvo’s own CE Engineering Solutions – the electric conversion model will deliver the same performance with the upside of doing so emission free. Depending on market demand, it brings the possibility to convert existing customers’ L120H wheel loaders to electric in the future.

Carl Slotte, head of sales region Europe at Volvo CE, remarked, “Change starts here. Our

commitment to partnership allows us to take a leading position in transforming our industry, with electric solutions that are built to fulfil market demand and tailored to suit the changing needs of our customers. Working together, we are scaling up our portfolio of electric machines, extending the versatility of our range and transforming our industry towards a carbon neutral future.”

CASE celebrates success

On a slightly smaller-scale, CASE Construction has been building its reputation in Mauritius where local dealer, Axess, has delivered two units of the latest generation of CASE 921F XR wheel loader to Kolos Cement.

The machines only entered the Mauritian market at the end of 2022 and clearly are already finding favour with the customers there which Case attributes to their three defining qualities of productivity, reliability and profitability.

For Kolos Cement, the specially configured units will be used for the handling of raw materials between the different storage ahrs, in ships and also in the cement manufacturer’s warehouse located in the port area, Port Louis.

“CASE brand equipment enjoys a

very good reputation in the Mauritian market. Today, thanks to the quality of these machines and the expertise developed by our teams, the brand is positioned as a real challenger. It is no coincidence that Kolos, a company with which we have been working for several years now, has chosen to renew its trust in us. For us, this is a guarantee of quality and a recognition of our efforts to continuously improve our after-sales services. This bodes very well for 2023,” said Jean-Marc Espitalier-Noël, business unit manager at Axess Heavy Machinery.

Case Wheel Loader F-Series stands out for its efficiency. Its 6.7-litre, 6-cylinder engine has been designed to combine fuel efficiency, reliability and, above all, power. Equipped with common rail multiple injection, the engine is mounted at the rear of the machine, which optimises weight distribution and increases payload. CASE’s optimal cubic cooling system offers high reliability. Installed between the cabin and the engine, away from the dust of the rear wheels, it is composed of five radiators placed in the shape of a cube. This ensures that each radiator receives only fresh air, thus keeping the coolant at a constant temperature.

The operator also benefits from optimal working conditions produced by the engine placement and injection system which reduces the vibration level; a reinforced cabin with rollover protection; large glass surfaces and streamlined hood engine to improve visibility; and a mechanical seat with a high backrest and adjustable lumbar support.

Andy Thomas, operations manager at Kolos, concluded, “The loader we had before, also from the CASE brand, worked in difficult conditions and met all our expectations. We are convinced that the new, better equipped machines will be even more efficient. With the support of Axess, which we have enjoyed for several years, and a quality after-sales service, we have no doubt that we will further improve the efficiency of our operations.” ■



The latest generation of CASE 921F XR wheel loader entered the Mauritian market at the end of 2022.

Image Credit: CASE Construction

MENA Construction 4.0 Forum to highlight technologies revolutionising the industry

The Forum will be held from 24-25 May 2023 in Dubai, UAE, bringing together more than 150 delegates.

The MENA Construction 4.0 Forum will highlight the urgency to digitalise project delivery to improve efficiencies and meet global sustainability goals. Construction projects worth US\$223bn are being developed in the Middle East with developers facing increasing pressure to adopt greener measures while optimising productivity. Through a blend of panel sessions, presentations, workshops and meeting opportunities, the Forum will highlight business-critical issues crucial for the future of construction delivery in the region and bring together leading developers, contractors and consultants.

The speaker lineup includes industry experts, policy makers and solution vendors including a keynote address from Ali Hussain Sajwani, managing director – operations & technology, DAMAC; Eng Abdulrahman Oman Ali Alkholy, senior principal engineer, Ministry of Energy & Infrastructure; Mohammad Aldawood, associate director – Building Information Technology, Red Sea Global; Dr P R Jagannathan, senior general manager – sustainability, Sobha Realty; Mohamed Ahmed Elattar, director – planning & cost control, Dubai Holding Real Estate; Mateusz



Image Credit: Adobe Stock

The event will highlight the opportunities presented by the digital revolution.

Lukasiewicz, digital projects manager, KEO International Consultants; and many more. The conference agenda covers five exclusive sessions:

- **Industrial Revolution 4.0:** Evaluate the transition to Industrial Revolution 4.0 characterised by technologies such as digital twins, metaverse, VR, AI, and more
- **Evolution in the Digital World of Construction:** Analyse the

evolution towards smart cities, smart buildings, etc.

- **Effective and Efficient Project Delivery:** Improve collaboration to optimise project delivery
- **Selecting Optimal Technology for AEC projects:** Learn from experts on choosing and applying potential digital technologies more effectively
- **Sustainable Construction Technologies:** Effective waste

management, intelligent mobility, storm water management, energy-efficient construction materials and processes, and renewable energy.

Vinay T, head of sales at Alain Charles Publishing, the event organiser, commented, “We put in more than 100 hours of research considering the current scale of disruption and innovation in the industry and concluded that it has become essential to bring together industry professionals to learn, share best practices, and discuss the future of construction and technology in the region.

“Our agenda is developed to highlight new technologies and trends that are revolutionising the industry, and we are thrilled to assist this exchange of ideas so that the AEC industry can benefit from the opportunities presented by the digital revolution.” ■

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VINAY T, HEAD OF SALES, ALAIN CHARLES PUBLISHING



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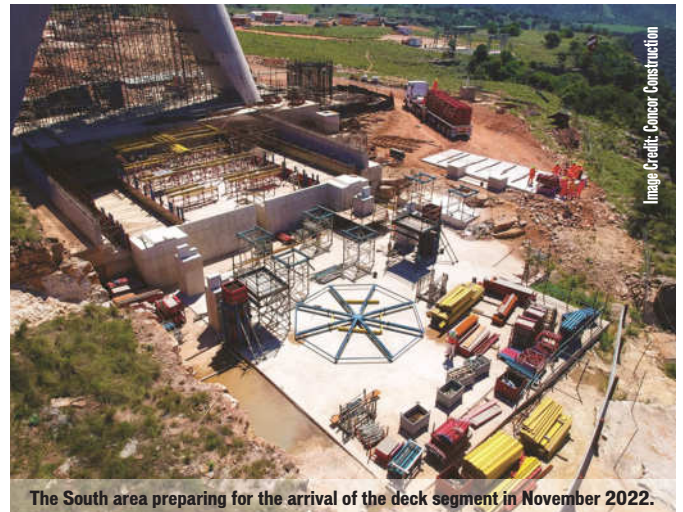
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Msikaba Bridge construction moves forward

Preparations for the next stage of the Msikaba Bridge construction are underway in South Africa after steady progress in 2022.



View of the South pylon across the Msikaba Gorge to the North pylon.



The South area preparing for the arrival of the deck segment in November 2022.

The 580 m long cable-stayed bridge, located in the Eastern Cape, South Africa, will span the Msikaba River gorge when fully completed and is part of the South African National Roads Agency Limited's (SANRAL) N2 Wild Coast project.

It will consist of two 290 m 'halves' which will meet over the gorge, both of which are supported by 17 pairs of cables attached to 127

m high concrete pylons. The pylons are back-stayed into anchor blocks by 34 pairs of cables – 17 on each side.

Started in earnest in 2019, the project is being undertaken by CME JV, a partnership between Concor and MECSA, and, according to the former, construction is advancing steadily with completion expected in the last quarter of 2024.

At this time, the bridge's four anchor blocks are at a very

advanced stage of construction and more than 50% of the concrete for its 127 m pylons has been poured. Project focus has now turned to the construction of the circular pylon spires and the composite steel and concrete bridge deck.

To deliver the project, CME JV has forged close ties with local communities to ensure that the benefits stemming from construction are localised to the

greatest extent possible, according to Concor's Laurence Savage, project director. CME JV has recruited about 70% of its workforce locally and has identified a host of around 40 local SMMEs who have been appointed as sub-contractors and suppliers.

The joint venture has also noted that the project is maintaining an impeccable safety record, clocking up three million lost injury-free hours by 21 October. ■



The steel fixing on the bifurcation lift progressing in October 2022.



Preparation for the deck segments.

South Africa has an estimated urban housing backlog of more than 2.4 million.

A modern answer to the housing crisis

With the current housing crisis across Africa, 3D-printed houses could be the solution to meeting demand. Minhaj Zia reports.

As the world faces a growing population, challenges regarding housing are inevitable. Estimates show that there will be a significant housing shortage by 2030 owing to the increased population, difficulties in acquiring building permits, and environmental standards.

Africa is no exception to the housing crisis, as countries like Kenya already face an estimated deficiency of two million houses. To get around this, countries around the continent have taken up the use of 3D-printed housing. While traditional methods of building houses could take several months, a 3D-printed house can take as little as a day or, in some cases, even less.

Holcim, a company which specialises in sustainable building solutions, announced recently the completion of one of the largest projects in 3D-printed affordable housing through 14Trees, a joint venture company. The project saw the 3D printing of 10 housing units in Kenya's Mvule Gardens using

Holcim's proprietary 3D printing ink, TectorPrint.

François Perrot, managing director of 14Trees, commented, "With 3D printing, you can solve two problems at once. You can build faster and with better cost efficiency, which will help make affordable housing a reality for the majority. In addition, you can build with less materials, which preserves the resources of the planet for future generations."

In fact, the project's dedication to sustainability has secured it an EDGE Advanced sustainable design certification for IFC, making it the first time a 3D-printed housing project has achieved the certification. The requirement of

less materials aided in lowering carbon emissions by up to 70%, with the necessity of reinforced concrete or steel frames being completely eliminated. Clever design features also played a key role in lowering the carbon impact, including the use of timber to replace the typical steel roof structure, and the design of large roof overhangs in the front and back to help regulate indoor temperature by providing shade.

Similarly, the University of Johannesburg (UJ) unveiled its 3D construction printing project earlier this year to address the social housing backlog in South Africa. The university's printing machine, valued at approximately US\$330,394,

demonstrated its capability by printing a model of a Reconstruction and Development Programme (RDP) house in only eight hours.

Professor Tshilidzi Marwala, outgoing vice chancellor and principal at UJ, said, "We actually have a housing crisis that cannot only be dealt with by using traditional ways of construction – it's going to be a mix and 3D printing will be part of that mix."

"We are 3D printing houses using concrete, and the outcome is stronger than traditional housing and can sustain fire better than traditional housing. I think it should be put into the political economy of our construction," as reported by *ITWeb*.

It is currently estimated that South Africa has an urban housing backlog surpassing 2.4 million houses, similar to that of Kenya. With several families across the continent still living in informal housing, optimising the process in which homes are built through reducing time, costs and carbon impact certainly appears to be the way forward. ■

“ We actually have a housing crisis that cannot only be dealt with by using traditional ways of construction.”

TSHILIDZI MARWALA, OUTGOING VICE CHANCELLOR AND PRINCIPAL AT UJ

On the fast track

Multiple project developments in the start of 2023 are highlighting the wide-spread determination to develop the continent's rail infrastructure.

In one of the most impressive rail development undertakings in northern Africa, Egypt is well underway in its initiative to construct a 2,000 km high-speed rail to link key cities throughout the country. The project has major companies on board including Orascom Construction, The Arab Contractors and Siemens Mobility who, last year, signed a contract with the Egyptian National Authority for Tunnels to create the sixth largest high-speed rail system in the world, creating up to 40,000 local jobs in the process.

Now contributing to the development of the high-speed network in the country is NGE, with its subsidiary TSO, who have signed a contract to build 330 km of line. After previously proving its worth in multiple projects in the country, NGE will contribute its expertise, human and material resources to Orascom and Arab Contractors. Works will start in early 2023 and will require the mobilisation of up to 500 people on site.

Full steam ahead in the West

In West Africa, developments in Nigeria have dominated headlines, most notably due to announcements made by China Civil Engineering Construction Corporation (CCECC). First, the Abuja Terminal Project and Phase 1 of Abuja Urban Railway of Nigeria, constructed by CCECC, were selected by the China Association of Construction Enterprise Management for the first batch of National Quality Engineering Awards for 2022-2023.

The Abuja Terminal Project connected the terminal building with the Nigerian railway and the first phase of the project consisted of a modern passenger and cargo terminal as well as related supporting projects. Meanwhile the Abuja Urban Railway Phase 1 Project is helping to build a three-dimensional transportation network of the mainland railroad, urban light rail, urban airline and urban bus in the capital, contributing to the goal of making Abuja a hub for

the whole of the country and wider region.

A few borders along, British Steel has won its largest ever order for rail sleepers as it helps Guinea upgrade its existing freight lines. The contract with the Guinea Bauxite Company will see the company deliver 20,000 tonnes of its 436 profile steel sleepers – all of which are 100% recyclable and notably durable – over the next year as the country progresses in its target of increasing bauxite export capacity. To deliver on the project, the UK manufacturer has partnered with Trackwork, which processes the rolled sleeper into its finished form, and Pandrol, which is providing the railway fastenings to secure the sleepers.

Eastern development

On the other side of the continent, Kenya Railways has commenced the early works construction of Phase 1 of The Nairobi Railway City. The project will see the redevelopment of the Nairobi Central Railway Station and its surrounding areas into a multi-modal, transit oriented, urban development named 'The Nairobi Railway City', which will become the nerve centre for the Nairobi Multimodal Transport System.

The scope of Phase 1 covers the construction of a pedestrian footbridge across the Nairobi Railway Yard, a new Nairobi Central Railway Station, a public square and a structural steel locomotive shed at the Makadara Yard as well as the relocation of the existing shed at Nairobi Yard.

Phase 1 of the Abuja Urban Railway Project was progressed by CCECC.

Elsewhere, the Tanzania-Zambia Railway Authority (TAZARA) has acquired a 200 ton well-wagon which will be used for transporting out of gauge or abnormal loads such as turbines and other components for the Julius Nyerere Hydro Power Plant from Dar es Salaam to Fuga Station. The wagon was purchased – at a cost of US\$1mn – when TAZARA realised its current fleet could not cope with expected components being built and will assist in the key role of transporting cargo to the site location.

“As TANESCO, we are now fully assured that all the wide and heavy cargo will reach Fuga for onward delivery to the project site as planned,” said Deogratius Hondi, procurement specialist for the Julius Nyerere Hydro Power Project.

All aboard in DRC

Finally, another story which has caught the headlines is the joint development agreement signed between Trans Connexion Congo (TCC) and Africa Finance Corporation (AFC) to develop a mass transit system covering a linear route of 300 km of railroad in Kinshasa, DRC. The project, which will receive an initial US\$3mn investment from AFC, is being undertaken as a result of severe congestion on Kinshasa's rail systems. By refurbishing and expanding the existing rail network, the project will contribute to meeting the daily transport demand that the current system fails to meet and ultimately encourage economic productivity. ■



TAZARA's new wagon has been tested with a load of around 190 tons.

CASE CONSTRUCTION DELIVERS NEW JOYSTICK LEVERS FOR C-SERIES GRADERS

CASE is launching the new joystick levers for the 836C and 856C motorgraders. The new joystick control delivers improved moldboard control, along with a range of steering upgrades which are an addition to the already great features of the grader.

The electro-hydraulic joystick control delivers a new level of moldboard control to the operator. These joysticks are built into multi-adjustable armrests on each side of the operator's seat and equipped with multiple roller switches and push buttons, to control the working hydraulic and steering functions. The redesigned side console now contains additional switches that allows adjustments to the system as per the operator's needs.

Furthermore, the new Joystick Steering allows the operator to steer the machine using the left-hand side joystick. All steering commands, including turning the front wheels, moving the frame articulation and setting the wheel lean are available through the joystick. The new RTC function allows the operator to return all steering commands back to the centred position, by just pushing the dedicated button. This allows the operator to control the machine without having to take their hands off the joystick levers, reducing effort and increasing productivity.

In addition to this, the CASE C-Series graders are powered by the latest 6.7 litre six-cylinder FPT diesel engines using hi-e- SCR2 technology



Image Credit: CASE Construction

New electro-hydraulic joystick levers for the c-series graders.

featuring a maintenance-free Diesel Oxidation Catalyst (DOC) and Selective Catalytic Reduction (SCRoF) exhaust after-treatment system to comply with the European Stage V emissions standard. This combined system helps to create a compact engine compartment with exhaust temperatures in normal operation on average 200°C below that of a traditional particulate filter.

SCHNEIDER ELECTRIC ANNOUNCES ENHANCED INTEGRATION IN ECOSTRUXURE

Schneider Electric, a leader in the digital transformation of energy management and automation, has announced its enhanced solutions to increase building sustainability.

Included are new integration capabilities in EcoStruxure Building Operation 2023, EcoStruxure Connected Room Solutions, and EcoStruxure Power Monitoring Expert, which will help simplify and speed-up access to data that is essential to manage energy use, help reduce carbon emissions, and enhance building

value. Schneider Electric is the only company to integrate non-critical power within its building management system (BMS), and now PowerLogic power metre and energy data is more easily accessible in EcoStruxure Building Operation.

Moreover, the newly released EcoStruxure Building Operation 2023 enables access to the largest volume of building data of any BMS provider, making global enterprise and large-scale site expansions easier and more flexible.

In addition to this, EcoStruxure Connected Rooms Solutions is now enhanced with new extension products for room ventilation system insight and control. The new SpaceLogic RP-V for variable air volume (VAV) controller works with the SpaceLogic Insight-Sensor and Building Operation to precisely control room environments based on anonymous real-time people count occupancy information to ensure that energy is used only where and when it is needed.

HAMM PREMIERES NEW INNOVATIONS

Hamm presented a packed programme at CONEXPO/CON-AGG 2023, running from 14-18 March, including several world premieres as well as innovative further developments.

The spectrum of innovations ranged from electrified tandem rollers, compactors, pneumatic-tire rollers and pivot-steered tandem rollers, right through to the Smart Doc compaction app for self-monitoring and documentation. Particular focus was placed on the electric tandem rollers in the HD CompactLine series, which is used across the world. With the HC

series, Hamm is bringing together all compactors with an operating weight of 11-25 t on a single platform. The engine power levels are between 85 and 160 kW, with their emissions complying with the respective regional requirements. In contrast to the predecessor models, Hamm has further improved the driving comfort, and has increased the traction and gradeability.

Various digital tools are available for all HC CompactLine models, in particular the Smart Doc app which supports GNSS-based self-monitoring and documentation. This free app shows in real-time how the compaction develops, and links the machine data to GNSS position data. It also creates clear compaction results in PDF format that are suitable for self-monitoring as well as for documentation with respect to clients. Moreover, no separate monitor is required to operate the app since it works simply through standard Android smartphones or tablets.

The HD+ 120i VIO-2 HF articulated tandem roller is also new. Hamm is therefore opening up new possibilities, since it is equipped with two completely maintenance-free VIO drums. Both drums can work with vibration or with oscillation; this can be switched from the driver's seat. Furthermore, Hamm has developed a special automatic vibration system for this machine.



Image Credit: Hamm

The Smart Doc app from Hamm makes it easy to create compaction reports for self-monitoring and documentation.

Marula expands graphite interests in Tanzania

Marula Mining, an African focused mining and development company, has entered into a binding heads of agreement with Tanzanian mining company, Takela Mining Tanzania Limited (Takela), to secure a 75% interest in 10 granted graphite licences that make up the Nyorinyori Graphite Project, located in the Simanjiro District, in the Manyara Region of Tanzania.

The signing of the agreement with Takela further strengthens the company's position both in graphite in Tanzania, and in the battery metals sector, with Marula holding project interests in lithium, graphite, copper, niobium, tantalum and rare earths metals.

The agreement with Takela is in addition to the 49% commercial interest the company secured in the Kinusi copper mining project located in Tanzania through Takela, as previously announced in October 2022.

Jason Brewer, Marula Mining PLC CEO, said, "Once again, and in line with our strategy, I am delighted to share that with this agreement, Marula has further expanded its footprint in the battery metal sector. Tanzania is a jurisdiction we are becoming familiar with and the team at Takela is one that we are comfortable working with and who have already demonstrated an ability at identifying high-value and near-term mining opportunities.



Image Credit: Marula Mining

The Nyorinyori Graphite Project is located in the Manyara Region of Tanzania.

"Our decision to expand our interest in the graphite sector, is attributable to both the opportunities we see in Tanzania and the positive outlook for the sector and demand for graphite which makes it an essential component in many green energy technologies, including electric vehicle batteries and hydrogen fuel cells. We intend to continue to position ourselves strategically in Tanzania and broader afield in East Africa."

The announcement also follows Marula securing a 73% commercial interest in the Bagamoyo Graphite Project in Tanzania in November 2022. The company entered into an agreement with Kusini Gateway Industrial Park Limited to secure the interest in the project which extends over an area of approx. 180 hectares and comprises 22 granted graphite mining licenses.



Image Credit: Marula Mining

Marula is strengthening its position in the battery metals sector.

LIEBHERR RESERVES MINING TRUCKS FOR ADAMUS



Image Credit: Nguvu Mining

The signing of the supply contracts in Nguvu's offices.

Liebherr has agreed to supply Adamus Resources with 13 Liebherr T 236 mining trucks for its operation at Nzema Gold Mine in Ghana's Western Region.

The fleet of 100-ton payload T 236 Mining Trucks, currently being manufactured, will arrive and be put into operation at the Nzema Gold Mine beginning June 2023.

Liebherr-Ghana Ltd, as Liebherr's mixed sales company responsible for sales and technical support of mining equipment, mobile and crawler cranes, and ship to shore cranes will provide complete support for the assembly, commissioning, and efficient operation of the T 236 trucks.

The Nzema Gold Mine aims to produce 120,000 gold ounces annually and the T 236 trucks will assist in achieving this goal by hauling Overburden and Ore Oxide.

The T 236s' high take-off torque and electric drive system provide increased traction and flexibility, making them a valuable asset for Nguvu Mining.

Angela List, CEO of Nguvu Mining commented, "Nguvu is excited to renew its business with Liebherr who are providing us with a strong addition to our extensive mobile equipment fleet with state-of-the-art trucks at very attractive terms."

► BRIEFS

Metalcorp makes first bauxite shipment from Guinea



Image Credit: Metalcorp Group

SBG bauxite is of a high quality.

Metalcorp Group S.A. has announced that after several years of investment and preparation, the first commercial shipment of bauxite with a total amount of 160,000 tonnes has taken place. The bauxite is produced by Metalcorp's subsidiary Société des Bauxites de Guinée (SBG) at its own mine located in Garafiri in Guinea and exported with infrastructure designed for this purpose. The bauxite is destined for an end-user in China.

Completion of pilot coke plant at Lubu Project



Image Credit: Contango Holdings Plc

Stacked coking ovens 'cooking' the coal at 900-1,100°C.

Contango Holdings Plc, a natural resource development company, has revealed that construction of a small-scale coke battery has been completed at the Lubu Coal Project in Zimbabwe (Lubu). The pilot coke plant has been constructed to provide on-site capability to manufacture coke from washed coking coal produced at Lubu for testing by future offtake partners and for the company's internal studies and quality control.

Epiroc to deliver equipment for DRC mine

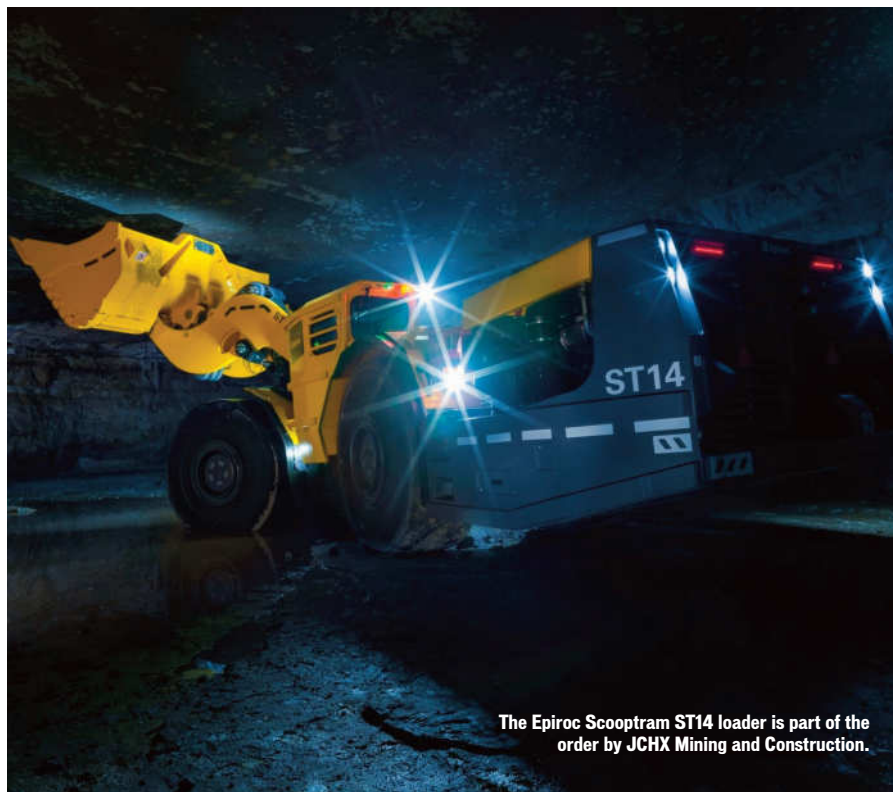


Image Credit: Epiroc

The Epiroc Scooptram ST14 loader is part of the order by JCHX Mining and Construction.

JCHX Mining and Construction Ltd., a mining contractor, has put in a large order with Epiroc, a leading productivity and sustainability partner for the mining and infrastructure industries, for equipment to be used at an underground mine in the Democratic Republic of the Congo.

JCHX has ordered several Epiroc loaders, mine trucks and drill rigs (including service support) for use at the Kipushi zinc, copper, germanium and silver mine in the Haut-Katanga province in southern DRC. The mine is owned by Kipushi Corporation, a joint venture between Ivanhoe Mines of Canada and Gécamines, and will be powered by clean, renewable hydro-electricity.

The mine was shut in 1994 but, last year, construction to re-open the site began, with late 2024 set as the target to start production.

“JCHX has been a customer of Epiroc for many

years, both in Africa and Europe, and we are pleased to continue delivering innovative solutions that will help to optimize operations at Kipushi,” said Sami Niiranen, president of Epiroc’s underground division.

JCHX International division president, Youcheng Wang, added, “From the group headquarters to the front-line team, Epiroc sets the highest priority on this equipment order, also when it comes to on-site technical support.”

The ordered equipment includes Scooptram ST14 loaders, Minetruck MT42 haul trucks, and Simba production drill rigs. The Scooptram and Minetruck machines will be equipped with Epiroc’s telematics system Certiq, which enables intelligent monitoring of machine performance and productivity in real-time, and Epiroc’s Rig Control System, which makes them ready for automation and remote control.

BLACK ROCK SECURES RAIL TRANSPORT FROM MAHENGE

Black Rock Mining, a Tanzanian graphite developer, has signed a non-binding memorandum of understanding (MoU) with the Tanzania Zambia Railway Authority (TAZARA) for the transportation of graphite products from the Mahenge Graphite Project.

The agreement was signed between TAZARA and Faru Graphite, a subsidiary of Black Rock, and lays the groundwork for a binding agreement to transport graphite produced at Mahenge to the port of Dar es Salaam via an existing railway siding and rail lines.



Image Credit: Adobe Stock

The agreement includes track rights as well as freight haulage.

As part of the key terms of the MoU, TAZARA will transport 89,000 metric tons of graphite produced from Module One, increasing to 344,000 metric tons in full production from Module Four. The company will also provide secure storage facilities.

John de Vries, Black Rock CEO, said, “Direct access to rail will give Black Rock a tremendous advantage when it comes to running a lower cost and sustainable operation. Having rail on our doorstep clearly demonstrates this unique competitive advantage that ultimately enables Black Rock to access key customer destinations from the deep-water port of Dar es Salaam.

“This rail infrastructure is already in place, and with the recent MoU with Tanzania Electric Supply Company Limited (TANESCO) for grid power, Black Rock continues to focus on establishing the building blocks required as part of our long-term plan to deliver a world-class, sustainable and responsible graphite operation at Mahenge.”

BRIEFS

Ivanhoe registers progress in DRC

Image Credit: Ivanhoe Mines



Kamo-Kakula’s concentrate storage and dispatch warehouse has been expanded to accommodate the larger production capacity.

Ivanhoe Mines has announced that the debottlenecking of the Kamo-Kakula Copper Complex’s Phase 1 and 2 concentrators has been completed ahead of schedule. The ongoing final installation and commissioning of a fourth Larox filter press is the final step in the overall debottlenecking programme. The programme is designed to increase the nameplate ore processing capacity by 22% from 7.6 to 9.2 million tonnes of ore per annum.

Normet acquires Remion

Image Credit: Adobe Stock



Remion designs and implements industrial Internet service solutions in order to increase the efficiency of the use of machinery and equipment.

Normet, a technology company offering improvement to underground construction and mining processes, has acquired Remion, a specialist in innovative business- and process-enhancing industrial Internet solutions which employs a team of 28 professionals.

“We see Remion as a critical enabler for our digitalisation strategy going forward,” commented Riku Helander, senior vice president, Services Business Line, at Normet.

Making the right screen media selection

Lars Bräunling, MAJOR director of product technology, explores aspects to examine when considering high-vibration screen media.



Image Credit: MAJOR

There is no shortage of options for different kinds of screen media available today. From woven wire to polyurethane and perforated plate, operators can equip their screen box with a variety of different types of media. High-vibration screen media has grown in popularity as a way to improve efficiency and virtually eliminate issues like blinding, pegging and clogging. Here are a few things to consider when deciding whether this type of media is right for a specific operation:

Cost

Traditional screen media options, such as woven wire, offer a lower up-front cost. Price alone has historically made woven wire a more popular option. Many mining and aggregates operations are realising, however, that investing in a more advanced option like high-vibration media, actually saves money in the long-term. This can be achieved through longer wear life, reduced downtime for cleaning and changeouts, increased efficiency and

capacity or extended uptime. Often it is a combination of several of these effects.

Wear life

High-vibration screen media and other specialised designs tend to offer a much longer wear life than traditional options like woven wire. Woven wire and some types of self-cleaning media have cross wires that are subject to high-wear spots, leading to a shorter wear life. Alternatively, high-vibration screen media uses highly engineered wires held together with polyurethane strips, eliminating the need for cross wires. The design extends wear life by as much as five times longer than traditional screen media, while also optimising open area.

Blinding, pegging and clogging

Issues like blinding, pegging and clogging hamper an operation's profitability potential. While some screen media is tapered to try to mitigate these problems, their design often limits the extent to

which they can resolve severe issues. The independent wires in FLEX-MAT cause high frequency vibrations from hook to hook that magnify those produced by the screen box. This virtually eliminates pegging, blinding and clogging, and reduces risk of material contamination.

Better screening performance often depends on open area — a factor limited with traditional screen media. High-vibration screen media offers as much as 30% more open area than woven wire, and 50% more than polyurethane or rubber panels, enabling more material to be sized accurately in less time.

Efficiency

Screen machines are a vital contributor to a plant's productivity when they are operating efficiently. However, poor screening creates challenging bottlenecks that hold back the entire operation and reduce production volume. Certain screen media options actually amplify the screening process to offer unparalleled efficiency.

High-vibration screen media, for example, operates at an intense frequency — up to 8,000 to 10,000 cycles per minute. That is 13 times the vibration frequency of a standard screen box. This enhanced vibration accelerates the material stratification process, sending fines to the screen surface quicker and maximising contact with the screen surface to improve throughput and eliminate carryover. So not only is material moving through the plant faster, you also end up with a cleaner product with less risk of material contamination.

Finding the right fit

When it comes to screen media selection, there is a lot to choose from, but more and more aggregate and mining operations are finding that high-vibration screen can take their production to the next level.

Reach out to your local MAJOR dealer to learn more about FLEX-MAT high-vibration screen media and where it might fit in your operation. ■

Unlocking the power of data

Often touted as the ‘bedrock’ of mining, data is an integral part of any operation, and fresh advances in this field are allowing mining companies and countries to get a better understanding of their resource landscape and helping to advance projects safely and efficiently.

The appreciation of data and the value of geographical information systems (GIS) to interpret it is certainly gaining speed on the continent but, according to Dr William Zylberman, geologist and project manager for African projects at Beak Consultants, there is still work to be done. “Data in general on the continent is a really important asset for private actors, companies and governments. However, we have spoken with so many different people and have realised that there are some real issues around data management. At Beak, we propose solutions to help address this.”

At Mining Indaba, the company was keen to discuss its software suite, developed for that purpose: advangeo, a product family that incorporates the experiences of many years of geo-scientific and geo-economic software development. Included in the advangeo software solutions are advangeo 2D/3D Prediction Software, Field Cap, Geodata Database, 3D Database, GIS, Online Web Portals and eCommerce.

“We have implemented our solutions in several countries in Africa such as Tanzania, Mozambique, Namibia, DRC, Nigeria, Burkina Faso and we have currently a new project in Mali. Our software allows you to have a database application for all kinds of geoscientific data that can be integrated in one place for easy data management and visualisation, because all of them are linked with your GIS. So, you have in the application a window for spatial visualisation of

geological maps, polygons, etc., alongside different optional modules such as geophysical modules, drill core modules and more. It’s all customisable to your needs thanks to our software development team.”

Beak in Mozambique

Providing greater insight into how such software can be utilised, Beak has recently successfully concluded a project in Mozambique, which was finalised in October 2022.

In the country, the advangeo products were used during the digitalisation process of the geological documentation centre at the Departamento de Gestão de Informação Geológica-Mineira (DEGIG), on behalf of the Ministry of Mineral Resources and Energy (MIREME), in the frame of the Mining and Gas Technical Assistance Project (MAGTAP) project.

The implemented customised software solution in Maputo provides for library and documentation management and digital data capture, as well as a public web-GIS using Esri ArcGIS environment.

The modular application, built to host the geoscientific data, is a novel system which combines the information stored according to its metadata and, by joining content and context data for decision making, allows for visualisation on a 2D map of the country. The ministry can make use of this system to clearly know what exists and where they should invest their

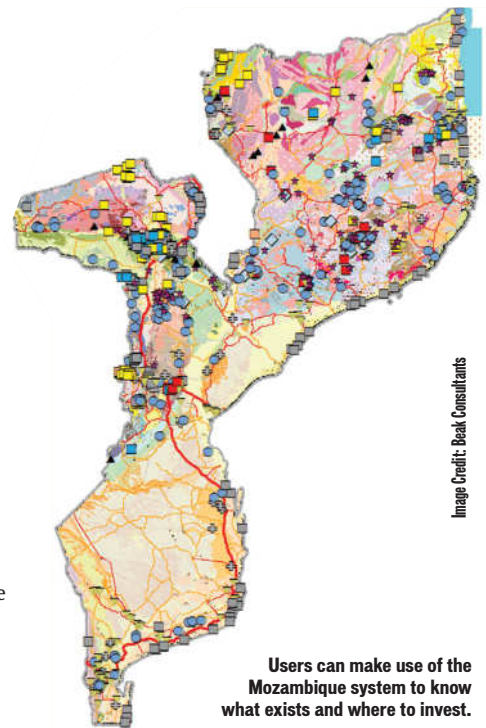


Image Credit: Beak Consultants

Users can make use of the Mozambique system to know what exists and where to invest.

resources for the development of the country.

Any type of data can be stored in this database and be readily available for any worker inside the ministry. Beak provided training for the local workers to assimilate the software into their day-to-day activities and nurture/add incoming information as well as correcting existing data. The company noted that this is the base of any trustworthy mineral information system that allows for proper decision making to further build on the available data coverage and understanding. Outside of this main implementation, a full set of hardware was formatted to bring efficient working capabilities from digitalisation of physical data to the creation of finalised maps for the public.

Once relevant data has been uploaded and undergone quality control, it is then brought to the front-end website, available for external interested parties. This process greatly reduces the time required for external users (such as investors) to access certain information, such as a geological map, and generally modernises the data exchange and communication between ministry and external parties in a transparent and direct way.

Ultimately, Beak’s work in Mozambique has increased the value and attractiveness of the country for exploration companies and for investors; serving as an excellent demonstration of the influence GIS and proper data utilisation can have within Africa’s mining sector and beyond. ■

The Mozambique web portal can be viewed at: <https://mis.mireme.gov.mz/mis/>

Ministry of Mineral Resources and Energy
National Directorate of Geology
Mineral Information System and Library

The modular application built to host the geoscientific data.

Geology	Economic geology	Documentation center	GIS
Geological maps 1:250 k	Mineral occurrences	Published literature	GIS
Geological maps 1:1000 k	Mines	Unpublished literature	Database administration
Field work data	Library	Geophysical datasets	User administration
Meta sites	Landings	Geochemical datasets	Logging tables
Observation points		Other spatial data	User interface translation
Hard material samples			User interface translation
Analytical certificates			Change password
Analytical results			

a customized advangeo™ product, designed and developed by beak

Image Credit: Beak Consultants

Reaping the rewards from enhanced recovery

Kai Bartram, global sales director at TOMRA Mining, explains how the company is pioneering a revolution in diamond recovery and sorting systems for the benefit of Africa's mines.



Kai Bartram is the global sales director at TOMRA Mining.

TOMRA Mining is on a mission to reduce costs and raise efficiencies at sorting houses across southern Africa, where the company is well-established in countries such as South Africa, Mozambique, Tanzania, Angola, and Namibia. Driven by client demand for finer material sorting at acceptable expenditure, the company is constantly working to enhance their solutions which, in the most recent demonstration of this pursuit, has led to the delivery of the COM XRT 300 /FR final recovery diamond sorter.

This recovery solution – which reportedly has the potential to revolutionise diamond flowsheets – was the talk of the company's booth at Investing in African Mining Indaba. At the side of the stand, Bartram, who recently re-joined TOMRA in October 2021, spoke to African Review and explained how sales of the machine, after a slow start which is common in the mining industry for new technologies, are now starting to accelerate.

“Based on XRT, we can identify any type of diamond - there is not a

single type we do not see – and we guarantee a recovery rate of 98% down to two millimetres. Due to the higher resolution of our sensors and high-performance air ejector valves you can achieve high capacity at high efficiency with very low yield.”

The solution, Bartram continued, offers the chance to reduce the amount of hand sorting involved in diamond recovery as it offers comparable results. “Every time a worker has to touch the material, it is a risk. So, with our technology, we can automate the process which is big thing for small mines especially. I would add, though, that this does not mean the processing plant needs to change dramatically and where we have implemented the machine in previous locations a lot of employees still remain. While they do less sorting diamonds, they actually get more involved with diamond classification.”

The COM XRT 300 /FR, was just the flagship of the range of innovations the company was showcasing at Mining Indaba. For example, the company has

introduced the COM Tertiary XRT for pre-concentration of metal ores. The mechanical setup is specialised for this material and is equipped with high performing, low energy consumption and precise air ejection valves. The proprietary image processing ensures a unique recovery rate and, like the 300 /FR, it does so with low energy consumption.

“The introduction of our new valve set also represents a dramatic change. With this, in our solutions we are able to reduce up to 70-80% of compressed air usage. We have always been able to sort finer material, but at high costs, but with this advancement we can help cut costs for our customers and this has really peaked interest.”

Digital services

The implementation of new technology (around automation and digitalisation especially) was a key theme at this year's Mining Indaba and TOMRA is leaning into this trend through the TOMRA Insight cloud-based platform.

“This system gives plant managers, mine managers, CEO's – whoever –

statistics about their machines, accessible on the cloud. We can set up the system with defined reports tailored to the user, on the timelines they want and provide all the information they require.

“This offers remarkable advantages. For instance, the data, especially the analytical statistics such as belt occupancy and valve data, can help plant managers see in advance if small things go wrong inside the machine, which may have an effect on efficiency and productivity. This provides the opportunity to identify and fix the issue, before it becomes a real problem. Automatic daily/weekly reports dramatically reduce the time spent on data collection. The next step we are in the process of implementing is Particle Size Distribution and Smart Notification. We currently have around 200 machines up and running at the moment and around 30% are connected with TOMRA Insights.”

In the company's digital toolkit, TOMRA Insight is joined by TOMRA VPN Remote Assist and TOMRA Visual Assist making up a formidable service offering to help TOMRA support its customers, even at the most remote mines.

In concluding his remarks and looking to developments for the company, Bartram surmised, “We have some real revolutionary technology in development which we are going to bring to the market which I can't speak about yet, but there is something coming, so keep your eyes and ears open. In the meantime, we will be bringing a lot of small, constant improvements such as higher resolution sensors and valves. This sounds boring, but it will reduce yields, increase recovery, reduce operating costs and ultimately have a huge effect.” ■



The company currently has around 200 machines up and running and around 30% are connected with TOMRA Insights.

Image Credit: TOMRA Mining

Grasping the green energy opportunity

Victor Rodriguez, head of consulting for EMEA at CRU, takes a closer look at the energy transition opportunity open to Africa.



DRC and Zambia especially are in excellent position to develop their copper industries.

CRU is a global organisation which offers business intelligence on the global metals, mining and fertiliser industries through market analysis, price assessments, consultancy and events. It provides data and consulting services to businesses across industries to assist decision-making through data-driven and financially-grounded research.

The organisation has been working with clients in Africa for decades and now has a permanent presence in South Africa to further develop its presence on the continent and reaffirm its commitments there. CRU's belief that the continent represents one of the most exciting markets for the mining and metals sector has been highlighted in its presence at this year's Investing in African Mining Indaba.

Following the conference, Rodriguez explained to *African Review* the scale of the green energy opportunity for the continent and what must be done to ensure this is taken advantage of.

AR: How big an opportunity is the energy transition for Africa's mining industry and how well has this message been understood?

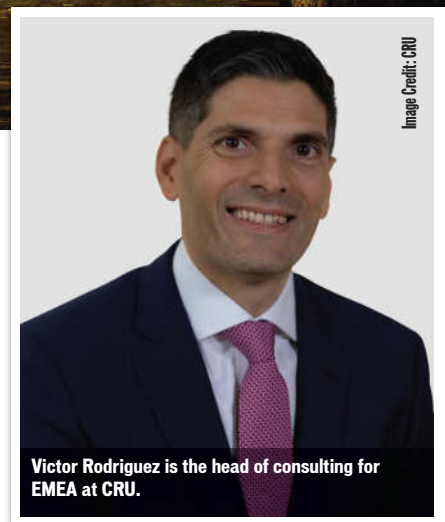
VR: Today, the world is generating around 52 Gt of Greenhouse gases (GHG) each year. Although it may feel like there is progress in reducing emissions, these have been rising at an average rate of 1% per year recently. This is a long way from where we need to be. To have a chance of hitting the green goals – net zero by 2050, the 1.5°C pathway – global emissions need to halved by 2030.

Today, approximately two thirds of global emissions come from activities such as electricity generation, transport and industry. Decarbonisation of these sectors will have a heavy reliance on new, green technology and this is where the opportunity for the mining sector really lies, because in many cases, those green technologies are more metals and mineral intensive than the processes that we use today.

Take electric vehicles (EVs) as an example: they have roughly double the metal content of a traditional internal combustion engine (ICE)

“Africa is one of the most resource-rich regions in the world and it contains vast amounts of untapped, high grade resources of metals like copper, cobalt and manganese.”

VICTOR RODRIGUEZ, HEAD OF CONSULTING FOR EMEA AT CRU



Victor Rodriguez is the head of consulting for EMEA at CRU.

vehicle – largely a result of the battery pack. Likewise, wind and solar energy generation is much more metal intensive than traditional coal and gas.

So the energy transition is really a broad-based demand story for the metals industry and there is a huge opportunity for the African mining sector to provide the world with the metals needed for this green transition. While differences by country are relevant, Africa is one of the most resource-rich regions in the world and contains vast amounts of untapped, high grade resources of metals like copper, cobalt and manganese. Moreover, many of its mining operations enjoy low operational costs and countries such as DRC and Zambia have access to clean hydroelectric power resulting in low carbon production processes.

Importantly, African countries have shown that they can produce these metals as

demonstrated by the fact that the region has experienced the highest growth in mined copper output out of all the world's regions, almost quadrupling its production in the last decade – making it the second largest copper producing region in the world after South America. We've estimated that all probable and possible projects covered in CRU's database would add 1.5 Mt of Copper production to Africa by 2030 (an increase of 46% compared to current levels) – naturally, not all these projects will come into fruition, but this puts into perspective the size of the opportunity.

AR: Which countries are the most well-suited to taking advantage of this opportunity and what do they need to do to fully realise this?

VR: DRC and Zambia are in an excellent position to further develop their copper industries; as mentioned before, both countries have an excellent natural endowment and access to clean hydropower. In addition, DRC is and will continue to be the largest cobalt producer in the world and, according to our estimates, may account for up to 60% of mined supply growth in the next five years.

South Africa, the world's largest producer of manganese ore, may also benefit from increased demand for batteries – though this accounts for a small proportion of total demand at the moment, its importance will certainly grow in the medium- and long-term as EV penetration increases.

There is no silver bullet to guarantee the realisation of the continent's potential. But I would flag that some well-established mining jurisdictions are implementing more stringent regulations (like Chile where the congress is discussing an increase in taxation) or facing political/social turbulences (like Peru).

“Sensible public policies can really make a difference in the eyes of investors and this is a valuable opportunity for African governments to consider.”

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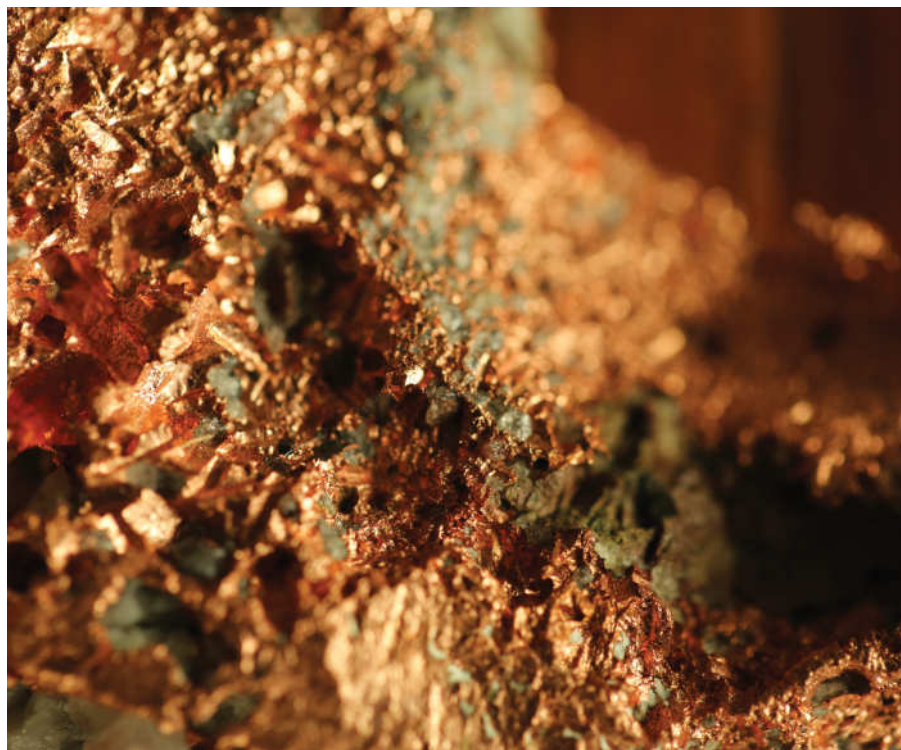


Image Credit: Adobe Stock

Many green technologies are very metal and mineral intensive.

Fundamentally, there is the broader question about the role that Africa can play in a world where mature mining countries are likely to experience a decline in their competitiveness due to a variety of reasons such as the natural depletion of old deposits and higher taxation. As such, sensible public policies (taxes, environmental regulation, etc.) can really make a difference in the eyes of investors – and this is a valuable opportunity for African governments to consider.

AR: What are some of the most obvious challenges standing in their way and how can these be overcome?

VR: One of the biggest challenges, and this will not come as a surprise, is infrastructure – especially in the copper industry which aims to significantly increase its production.

Growing mine output from the region has intensified existing road freight delays along the Copperbelt corridor. For months, miners in the DRC have dealt with many bottlenecks from limited truck availability and extended border queue times. Total travel time from the Copperbelt to China may take up to six months at the moment via the port of Durban in South Africa. In regular times, this trip takes three months. It is worth noting that inland transportation is usually a small component of costs for copper mining companies. Hence, these complications may not necessarily affect the

economic viability of new projects. Instead, they pose significant operational challenges.

Longer term, some major infrastructure projects are being worked on to combat these road truck bottleneck issues, such as the Lobito railway project, which will provide the shortest distance between the DRC and the ocean via Angola; and the Standard Gauge Railway project in Tanzania. The railway projects can help eliminate trucks from the roads, lowering congestion and reducing expenses and time for miners in the Copperbelt.

AR: With most mining companies now seriously considering their own climate footprint what are some of the low-hanging fruits that can be targeted to reduce this most quickly?

VR: Renewable power and energy efficiency improvements are the lowest hanging fruit for mining. To give an example, many operations in the copper belt use hydropower and are at the bottom of carbon emissions benchmarks. Over time, mining companies may look at technologies like trolley assist, electric vehicles and a switch to electrified heating to improve energy efficiency.

More broadly, automation could also be an important tool to reduce carbon footprint – by reducing human input, the efficiency of material flows tends to improve and reduce fuel and/or energy consumption. ■

TOMRA MINING LAUNCHES XRT ORE SORTING SOLUTION FOR FINE PARTICLES

TOMRA Mining has launched a new ejection module for its proven COM Tertiary XRT sorter, specifically developed for sorting small particle sizes. The COM Tertiary XRT Fines sorter, featuring the new TS100C module and the recently introduced image processing unit, is capable of sorting particle sizes down to 4mm in high-capacity applications with much higher energy efficiency, delivering a high-quality product at low operating costs. Field tests have shown that it can deliver a 70% reduction in energy use on a production scale.

The new high resolution TS100C ejection module features a new type of ejector that is four times faster. Together with the new high performance image processing unit, it delivers higher precision in sorting small particle sizes at high throughputs. The mechanical design of the



Image Credit: TOMRA Mining

The TOMRA COM Tertiary XRT sorter.

sorter has also been improved by the introduction of a new splitter plate and more precise calibration equipment to ensure the greater precision in the alignment between detection and ejection systems required for fine particles.

The fast and highly precise ejection module uses significantly less compressed air to eject the particles and reduces the energy consumption dramatically. Tests showed a significant reduction in air consumption compared to industry standards, as well as an improvement in product purity of around 15%.

“We are receiving a rapidly growing number of requests from customers to sort smaller particles,” commented Ines Hartwig, director Product Management at TOMRA Mining. “One of the biggest drivers of cost in sensor-based sorting is the energy used for the compressed air for the ejectors. The new TS100C ejection module successfully addresses this issue and provides an effective solution to this increasing demand.

“It is a groundbreaking invention to create more high-value product and reduce product loss.”

Sandvik’s D25KX rotary drill rig arrives in South Africa

The first unit of the new D25KX rotary drill rig from Sandvik has been sold in South Africa. The new model is an improved version of the D25KS drill rig, offering a redesigned cabin with significant ergonomic and safety enhancements.

Large cabin windows now allow greater visibility from the operator’s swivel seat and control panel. The cabin systems include a seven-inch mobile grade touch screen and PLC control. Added intelligence of the touch screens and digital gauges gives the operator real-time feedback on machine performance and monitors machine health. There is even a seat in the cabin for a trainer or supervisor to accompany the operator when working.

“These enhancements have been applied to a design which retains the elements that made the previous model such a success,” commented Nelize Nel, Sandvik Mining and Rock Solutions’ acting business line manager for rotary drills.



Image Credit: Sandvik

The first Sandvik D25KX in South Africa has already been delivered to a customer in the Northern Cape.

RUGGEAR LAUNCHES NEW 5G SMARTPHONE

RugGear, one of the leading developers and manufacturers of rugged mobile devices for professional use, is expanding its product portfolio with a 5G smartphone, developed for mission critical communications and industrial environments.

Equipped with the powerful 8-core Qualcomm QCM6490 processor from Qualcomm Technologies, Inc., the Android 12 device offers users the ideal basis for smooth mission-critical push-to-talk and -video communication. A clear 6-inch FHD display, 48 MP main camera, 103 dB amplified speaker, 4400 mAh removable battery, WIFI 6, Bluetooth 5.2, NFC and 16-pin interface for secure peripheral connection complete the feature set.

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Avoiding water crises

Jan-Willem Van Huyssteen, associate director - water systems, Africa at AECOM, considers key steps to addressing South Africa's ongoing water and energy crisis.

Highlighting challenges to water supply in South Africa, Van Huyssteen says the three major ones are non-revenue water, lack of finance to support infrastructure maintenance and upgrades, and supply chain processes not considering quality as a key factor to procuring consulting engineering services.

"These are quite diverse and complex challenges which I firmly believe can be overcome by stronger collaboration between the public and private sector," remarked Van Huyssteen. Firstly, it should be noted that non-revenue water is both a function of water leakage and non-payment for water services. "The leakage problem is an ongoing challenge, and some good work is being done to tackle this giant, but non-payment is equally important to address," stressed Van Huyssteen.

It is also, however, a business with input costs that must be suitably covered by revenue income. "As citizens, we must recognise this and all contribute to add our bit to ensure the pumps keep running, so we do have access to this much needed resource."

Funding is currently another major challenge. As with the energy sector, the government is making good progress to privatise certain elements in the sector. It includes long-term concessions for reclamation projects, which will be key to provide the necessary support to the government to deliver services.

Lastly, the supply chain system, although excellent in avoiding bribery and corruption as far as possible and providing access to as many companies as possible to participate in service delivery, does not consider the necessary expertise of the relevant companies to



Jan-Willem Van Huyssteen is the associate director - water systems, Africa at AECOM.

provide the required services.

"At present, pricing for services is a race to the bottom, which inevitably leads to a reduced level of service, resulting in poor infrastructure being implemented. In addition, the much-needed value engineering activities that actually save money for the client's ultimate bottom line are not being adequately addressed," surmised Van Huyssteen.

Energy optimisation and water supply

Water is a scarce commodity that needs to be managed responsibly

and with great care, continued Van Huyssteen. But water-related infrastructure is also a high energy consumer. Considering South Africa's current energy crisis, the water sector must also contribute to reducing the energy demand by means of energy optimisation technologies.

AECOM has multiple international initiatives around combining water supply powered by renewable energy, which some clients in Africa are actively pursuing. The organisation has the relevant capabilities in the water and renewable energy sector to support

its clients in such endeavours.

It is also involved in some exciting projects in the future fuels market, of which green hydrogen is a growing industry globally looking at future alternative fuels and mechanisms to generate energy. "Water supply is a major part of this industry, considering it is the key source to produce hydrogen," noted Van Huyssteen.

AECOM in Africa

The AECOM water systems team delivers largescale water and sanitation schemes across Africa and the world. Its areas of expertise include bulk water and sanitation conveyance and storage, water reticulation, sewage systems and water and wastewater treatment. It also has past and active water resilience projects for mining and industrial clients looking at ways it can actively protect their interests in times when water shortages loom and to act as responsible corporate citizens playing their part to manage this scarce resource responsibly.

AECOM has been involved in major irrigation projects in Lesotho and the Middle East to support the agricultural economy in the important task of feeding the ever-growing global population. The water resources team advises the government and private clients around future water supply planning and risks associated with sustainable water supply.

"We also have some interesting international projects such as the East County Advanced Water Purification Indirect Potable Water Reuse project in the United States and the Barbados South Coast Water Reclamation Project in Barbados, to name but a few," said Van Huyssteen. ■



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