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Yinka Adelekan,
MD and CEO of Agosto & Co. Ltd.

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Editor's Note

Welcome to the April issue of ATR. Inside this month, we've got the latest news and views from around the continent to bring you up to date with key business developments in all the big industries in Africa – from power and construction to mining and transport.

You can also find out what industry events are taking place in the coming month in our listings guide, and discover more stories online via our 24/7 web service. There's a preview too of the all-important Mining Indaba conference and exhibition, which takes place from May 9-12 (page 48).

Our energy coverage this month includes our annual genset buyer's guide (page 28), as well as other news, features and insight. Energy remains an area of Africa's economy that appears as ever given the pressing need for more power, some welcome news in such an unsettled global economy.

We also look at trends in data centres (page 20), warehousing and logistics (page 21), and the impact of technology on these and other areas (page 18).

Plus there's a country analysis on Ghana, one of Africa's leading economies, which continues to draw in foreign investment despite all the difficulties of the past couple of years (page 16).

Make sure you stay ahead of the pack. ATR is your trusted business companion to all things Africa, as it has been for almost six decades. As the most widely distributed and read business magazine throughout the continent, we'll help guide you through the maze.

Martin Clark, Acting Editor

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While key financial challenges persist, traditional industries such as oil and gas, mining and agriculture remain strong in Ghana, providing the platform for the growth and emergence of new technologies and innovation.



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As the demand for robust data centre infrastructure snowballs, investment into new facilities continues to flood in and an increasing number of digital players are entering the African market.



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Despite the emergence of new solutions which are geared to change the future energy landscape forever, demand for modern genset power systems appears as robust as ever with security being found in something that has long provided crucial energy space and peace of mind for much of the African population.

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The development of the Lagos Rail Mass Transit System has been a long time coming, but tangible progress in recent years has meant that the first phases are set for commercial operation by the end of the year.

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Jayson Pieterse, regional director for South Africa at Nozomi Networks, explains that with the frequency of cyber attacks growing across the mining industry, robust cyber security is critical to prevent safety breaches, impact on revenue, and market value being compromised.

MENA's largest rPET producer chooses TOMRA recycling for new Egypt plant

BariQ for Techno and Advanced Industries has celebrated the signing of a construction agreement that will see the development of a new PET bottle-to-bottle recycling plant, home to the latest plastic sorting systems, from TOMRA Recycling in the Giza governorate in Egypt. The plant will process and recycle polyethylene tetraphyte (PET), the plastic used for plastic bottle manufacturing.

The Egypt-based company is the leading rPET producer in the MENA region, and will combine its industry experience and network of influential partners for the state-of-the-art plastic recycling facility.

BariQ welcomed ministers from the Egyptian Government, ambassadors, brand representatives, equipment providers and local and foreign financial institutions for the construction announcement and celebration. The event revealed the new plant's design, including annual targets of 35,000 metric tons of food-grade rPET production, and an annual reduction of over 80,000 tons of CO₂. The new facility will complement an existing plant, which has been operational since 2010, and features four of TOMRA's sensor-based sorting systems that process more than 3 tones of PET bottles per hour. To date, the company produces an annual amount of 15,000 tons of food-grade rPET that complies with a host of international standards.

Elie Sandros, area sales manager for the Middle East and Africa at TOMRA Recycling, explained, "I have been accompanying this project right from the beginning and am delighted that we are part of this exciting project. Seeing the evolution of the country's waste management and the technical advancements we've made in the previous years makes me confident that our collaboration will support plastic manufacturers in meeting their recycled content targets and curb plastic recycling in the MENA markets."

The new plant will host two new-generation AUTOSORT units from TOMRA, along with two AUTOSORT FLAKE units for additional purification that can sort polymers by material and colour, along with removing metal contaminants.



Image Credit: TOMRA

Four TOMRA sorting units will help the plant produce 35,000 tons of food-grade rPET every year.

AYA GOLD & SILVER'S ROBUST EXPANSION STUDY

Aya Gold & Silver Inc. has announced the positive results from its feasibility study, examining the potential for expansion of the Zgounder Silver Mine in Morocco.

The expansion will see the mine's capacity grow from 700 tonnes per day (tpd) to 2,700 tpd.

Raising the mine's capacity will bring a 394% increase in annual production, expected to drive annual silver production to 7.9mn oz by 2024. This will incur a 364% increase in revenue, from US\$37mn in 2021 to US\$172mn by 2024.

"We are thrilled to deliver our Zgounder expansion feasibility study less than two years after taking over as management – testament to our team's hard work. The feasibility study is supported by a high-grade maiden reserve and is expected to quadruple production at industry-low costs while delivering economic returns for all stakeholders," explained Benoit La Salle, president and CEO.

The plan encompasses further potential opportunities, including exploration along strike and at depth and the possibility to optimise the flow sheet during the front-end engineering design and the mine plan as part of the underground expansion.

"While we see exceptional economics on the basis of reserves-based mining only, our long-term plan incorporating a portion of the exploration upside and optimisation opportunities positions Zgounder as a long-life cornerstone asset for Aya. We believe there remains significant upside to be gained through exploration," continued La Salle.

"With the mine development already underway, Zgounder will be a significant economic driver in the region, with this initial expansion providing more than 400 jobs during construction, 450 jobs during operations and extending the mine life by at least 11 years," La Salle concluded.

AMEA POWER'S 100MW SOLAR AGREEMENT RATIFIED

AMEA Power's concession and power purchase agreements for a 100MW solar project in Kairouan has been ratified by the Government of Tunisia.

In December 2019, a consortium founded by AMEA Power and TBEA Xinjiang New Energy Co. Ltd. was awarded the 100MW project (part of the first round of solar projects under the concession regime) which was launched through an international tender programme by the Ministry of Industry and SMEs in Tunisia.

AMEA Power chairman, Hussain Al Nowais, commented, "This is a milestone for Tunisia and AMEA Power. Through the Government's 2030 New Energy Vision, Tunisia aims to increase the share of renewables in its energy mix to 30% by 2030, corresponding to an additional installed capacity of approximately 4GW. AMEA Power is proud to be able to support Tunisia in achieving this grand vision."

► BRIEFS

Egyptian solar partnership targets solar growth



Image Credit: Amarenco Group

300MW of assets will be developed through the partnership.

Amarenco Group and SolarizEgypt have announced a new partnership, which will see the former acquire 74% of SolarizEgypt's portfolio and co-develop 300MW of assets in the next four years.

"Amarenco is committed to investing in the Egyptian market to provide cleaner, sustainable, and cheaper sources of electricity," explained Yazan Faouri, Amarenco CEO for the Middle East & North Africa.

AFR-IX Telecom signs landing agreement



Image Credit: Telecom Egypt

The agreement will see the 8,760 km cable land in Egypt.

Telecom Egypt, Egypt's first integrated telecom operator, has signed an agreement with AFR-IX Telecom, a Barcelona-based infrastructure and telecom operator, for the landing of the largest Mediterranean submarine cable system, Medusa, in Egypt.

The subsea cable will now span 16 different landing points across the Mediterranean and North Africa, including Portugal, Morocco, Spain, Algeria, France, Tunisia, Italy, Greece, and Egypt.

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Tracto aids in trenchless pipe renewal in Botswana

Tracto, a piping solutions provider from Germany, recently facilitated a week-long training session at a job site in Francistown. The training was held to get the machine operators acquainted with the company's static pipe bursting application the GRUNDOBURST 800G.

The training included general method information, daily routine, general maintenance and knowledge with regard to transport, set-up and disassembly of the bursting rig.

The company and the operators are now able to carry out upcoming jobsites themselves and furthermore can pass on their own knowledge about trenchless pipe replacement to construction companies and institutions in other regions in Botswana. This will allow maintenance of the network in a country in desperate need for water supply to improve as quickly as possible.

This comes after the job site in Francistown, where a total of 1,700 m old pipes were replaced by new HDPE pipes with a larger diameter. 150 mm pipes made of PVC were expanded to 200 and 250 mm, as well as AC pipes from 400 to 450 mm. The replacement work was carried out by Focus Engineering Solutions, which used the application of trenchless technology was used for the very first time to renew service pipelines in Botswana.

According to Tracto, due to an annual dry season, which usually lasts about 9 months in Botswana, the semi-desert climate and the average temperature climbing by 3°C, which causes permanent water shortage issues in the country.

To satisfy the water demand of the public and the cattle, groundwater which cannot re-generate so quickly, has to be used to great effect. Therefore, Botswana must rely on an extensive water supply network and maintain the network in top condition.

This was the first project of its kind in Botswana to utilise the pipe bursting method. It has the potential to set new standards for pipeline construction and replacement in the country and the African continent.



Image Credit: Tracto

Use of the GRUNDOBURST static pipe bursting rig is learnt very quickly in training, with the QuickLock rods ensuring fast installation progress at the job site.

NORFUND AND CDC GROUP AID RENEWABLE POWER DEVELOPMENT IN SOUTH AFRICA

Norfund, the UK's development finance institution, and CDC Group, a South African managed renewables investment and development company, have recently announced their commitment to invest US\$39.8mn in H1 Capital.

The transaction represents a joint vision by the DFIs to mobilise climate finance to Africa and back clean infrastructure projects across the continent. The investment from Norfund and CDC, which will soon be renamed British International Investment (BII), will aim to improve access to clean and affordable energy in South Africa. The increase in clean energy supply will provide consistent power to cities, villages, townships, businesses and farms, thereby increasing productivity and encouraging economic growth.

This investment will support the country's clean energy goals, as it will enable H1 Capital to fund a pipeline of over 2.4GW of new wind and solar projects, generating approximately 6,400GWh per year.

NEW RANGE ROVER PRICING ANNOUNCED FOR SA

Land Rover has announced pricing for the new Range Rover which will be officially launched in South Africa.

The fifth-generation Range Rover will be available with four, five or seven-seat interiors together with Standard and Long Wheelbase body designs.

The new luxury SUV will come in a choice of HSE, Autobiography and flagship SV trim levels, while a unique First Edition will be sold throughout the first year of production. The First Edition is based on the Autobiography and will be available exclusively in a Sunset Gold Satin finish, among a choice of five other colours.

Three powertrain options will include advanced six- and eight-cylinder engines, including a new Extended Range Plug-in Hybrid Electric Vehicle (PHEV).

The Range Rover is the first Land Rover to be powered by a new 4.4 litre V8 engine, badged P530 in reference to its output in horsepower. This engine produces 390kW and 750Nm of torque, and powers the SUV from 0-100 km/h in 4.6 seconds with Dynamic Launch engaged, and to a top speed of 250 km/h.

A powerful D350 3.0-litre straight-six turbodiesel produces 257kW and 700Nm of torque, and propels Range Rover from 0-100 km/h in 6.1 seconds.

The new Extended Range P510e PHEV combines the inherent refinement of Land Rover's 375kW in-line six-cylinder Ingenium petrol engine, with a 38.2kWh lithium-ion battery and a 105kW electric motor integrated with the transmission.

Together, the powertrain provides up to 113 km of near-silent pure-electric driving and with instantaneous electric torque, the new P510e accelerates from 0-100 km/h in 5.6 seconds.

The New Range Rover will be launched in South Africa toward the middle of 2022.

► BRIEFS

Audi showcases e-tron range in South Africa

Image Credit: Adobis Stock



Audi is the first premium automotive brand to launch a fully-fledged electric vehicle range locally.

At a ceremony held at the Zeitz MOCAA museum, Audi celebrated the official arrival of their fully electric e-tron range in South Africa.

This includes the arrival of the e-tron 55 SUV, e-tron 55 Sportback and S Sportback as well as the high performance and halo models, the e-tron GT and RS e-tron GT.

The 'Night of Progress' event hosted about 170 key industry players, media, celebrities, and acquaintances of the brand.

O&L Group and CMB launch green hydrogen plant

Image Credit: Adobis Stock



The aim is to produce green hydrogen from solar power and distribute clean fuel to heavy-duty applications.

Ohlthaver & List (O&L) Group and CMB.TECH, have launched Namibia's first green hydrogen production plant. The plant, a demonstration hub for hydrogen applications, will be built in the Erongo region. The construction will commence during 2022 with the aim to be operational by the end of 2023. Depending on the results of the demonstration plant, a larger scale production plant will follow in a second phase, possibly using ammonia as transport fuel.



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Meinergy signs agreement with Huawei for 1GW and 500MWh Ghanaian solar projects

Huawei Digital Power Technologies Co. has entered a strategic cooperation with Meinergy Technology Co. Ltd., West Africa's leading photovoltaic developer.

As part of the agreement, Huawei Digital Power will provide a complete smart photovoltaic and energy storage system (ESS) solution for the 1GW utility-scale solar plant and 500MWh ESS project (developed by Meinergy) in Ghana.

Wu Guangwen, Meinergy's CEO; Zhou Wei, Huawei Ghana Representative Office's managing director; and Fang Liangzhou, vice president and chief marketing officer for Huawei Digital Power attended a signing ceremony to commemorate the landmark agreement that will see a boost to Ghana's pursuit of sustainability.

To meet the increasing demand for power, diversify the nation's energy mix, and accelerate economic development across the nation, the Ghanaian Government has set its strategic goal for renewable energy. The proportion of renewably-sourced energy in the energy mix is set to increase to 10% by 2030, along with the Government prioritising the promotion of green energy and making power accessible nationwide.



Image Credit: Huawei

The solar plant is a step in the right direction for Ghana's sustainability targets.

INVESTEC, INTESA FINANCE GHANA ROAD UPGRADE

Investec Bank Ltd. and Intesa Sanpaolo S.p.A, in partnership with export credit agency UK Export Finance and African Trade Insurance Agency, have signed a loan for financing the upgrades and rehabilitation of a 109 km stretch of road in Ghana.

The section spans part of the Bolgatanga-Bawku-Pulmakom Road in the upper-east region of the country.

The financing consists of two loans for Ghana's Ministry of Finance. The first, supported by UK Export Finance, the United Kingdom's export credit agency, is worth approximately US\$38mn, split into a direct loan of approximately US\$19mn and a similar buyer credit guarantee tranche.

The second loan is an untied commercial loan of approximately US\$51.5mn to cover the balance of financing required, backed by ATI, Africa's multilateral trade and investment insurer.

QG Construction UK Ltd is set to carry out the engineering, procurement and construction contract for the project.

Hon Charles Adu Boahen, Minister of State at the Ministry of Finance, said, "We are delighted to again work with Investec as co-ordinating bank, in the delivery of this landmark export credit financing. The Bolgatanga road will provide access to essential services for local communities, will stimulate trade and economic and social development and will further integrate the Upper East and the northern regions of Ghana, as well as improve access to neighbouring countries."

The large untied commercial loan tranche supported by ATI enables significant local sourcing of Ghanaian equipment and services as well as local job creation in the delivery of the project.

The loans are classified as a social loan under LMA social loan principles. Investec is the co-ordinator and agent for both loans.

SMT GHANA DELIVERS CUSTOMISED VOLVO

SMT Ghana, the official distributor for Volvo Construction Equipment, Volvo Trucks, Volvo Buses and Volvo Penta in Ghana, has introduced a customised Volvo B8R - Marcpolo bus to Asante Kotoko Football Club.

The 33-seater bus ensures utmost comfort, safety and well-being in light of Covid-19, with hand sanitisers at both entrance and exit points as well as air conditioning with ultraviolet light.

The first model was presented to the Asante Kotoko Football Club and the club's chief executive officer, Nana Yaw Amponsah, who, along with some officials from the team, celebrated the delivery of the new vehicle at the SMT Ghana head office in Accra.

Sales director at SMT Ghana, Felix Ofoosu-Kontoh, explained, "We are optimistic that this bus will be useful especially for the football team and as Asante Kotoko FC has paved the way with the first purchase, we hope other teams will follow to protect the health and well-being of its players in this era."

The first model was presented to the CEO of Asante Kotoko Football Club.



Image Credit: SMT

BRIEFS



Image Credit: Lekki Deep Sea Port LFTZ Enterprise Ltd.

Lekki Port nears completion

Lekki Deep Sea Port LFTZ Enterprise Limited has confirmed that the construction of Lekki Port, currently being undertaken by China Harbour Engineering LFTZ Enterprise, has reached 85% completion. All aspects of the port construction (dredging, reclamation, quay wall, breakwater and landslide infrastructure) are currently underway and progressing rapidly.

The port will become Nigeria's deepest when it becomes operational in 2023.

Operations are expected to begin in the first half of 2023.

Golden Rim delivers Kada project MRE



Image Credit: Adobe Stock

The eastern Guinea project is estimated to deliver 930,000 oz.

Golden Rim Resources Ltd. has confirmed its maiden Mineral Resource Estimate (MRE) for the Kada Gold Project.

The West African gold exploring company partnered with the independent RPM Advisory Services, which delivered an estimate of 25.5mn tonnes at 1.1g/t gold for 930,000 ounces of contained gold.

Kada covers an area of 200 sq km in the centre of the Sigiuri Basin in eastern Guinea.

Orange, Sonatel and SES to deploy O3b mPower gateway in Senegal

Marking a first for the continent, Orange, the multi-service telecommunications group, with its subsidiary Sonatel, the leader in Senegalese telecommunications solutions, has partnered with SES, the global content connectivity solutions provider, to deploy and manage the O3b mPOWER gateway.

The gateway will enable the African continent to enjoy access to high-performance and low-latency connectivity services.

The three companies confirmed that the gateway for the O3b mPOWER, SES's next-generation medium earth orbit communications system, will be located at Sonatel's teleport in the Senegalese territory of Gandoul.

"The Sonatel teleport is Senegal's pride, as it was home of the very first 30-metre satellite dish to be installed in Africa ever. Not only has Senegal played a key role in developing the telecommunication industry in the African continent for the last 50 years, but we will also continue to lead in bringing new technologies to the market with the introduction of O3b mPOWER, a next-generation MEO satellite network," said Sekou Drame, CEO of Sonatel.

Orange and Sonatel will utilise the continent-first O3b mPOWER gateway to deliver quality services throughout Africa. SES will use the gateway to support telemetry, tracking and command (TT&C) functions for the O3b mPOWER fleet from an additional location.

"In the last decade, we have connected communities and industries around the world with our O3b communication system, positively impacting their lives and their businesses," remarked Steve Collar, CEO of SES.

"We have partnered with Orange to improve cellular backhaul and Internet connectivity for its African affiliates, and to enable enhanced operations for its enterprise customers."

Previously, Orange and SES has confirmed that Orange will be the first global telecommunications operator to integrate the O3b mPOWER gateway system in its network. The adoption will support the growing demand for connectivity across Africa, and a continental rollout is expected across Orange's 18 operational nations, starting with the Central African Republic.



Image Credit: Adobe Stock

The continent-first gateway will enable high-performance and low-latency connections.

PUBLIC-PRIVATE PARTNERSHIPS DRIVE MINING INVESTMENT

Director general of the Nigeria Mining Cadastre Office, Engr. Obadiah Simon Nkom, has emphasised the importance of public-private partnerships to drive huge investment in mining. Investments from collaborations such as this will help achieve the mining mandate of the present administration.

Nkom explained this during a visit from Optiva Resourced Ltd., a London-based investment organisation, at the agency in Abuja. The director general assured of a more conducive environment for public-private partnerships, especially in the award of exploration licenses, quarry leases, small-scale mining leases, water use permits and mining leases.

On the administration's encouragement for private investment in public mining schemes, Nkom elaborated, "We upgraded from regular polygon to the online system we have now. We are talking about real time administration and these are the series of upgrades that will align with best international practices."

Further elaboration revealed that the Mining Cadastre Office is now online, ensuring that the application process is easier than ever thanks to the Government's recent collaboration with the World Bank to upgrade the agency's systems.

"With the new system, you can apply for mineral title from anywhere in the world. Currently, we are crossing and dotting wherever is necessary for us to have a sustainable system."

Offices in six geopolitical zones have been opened to equally receive applications from different zones and states.

He stressed the role of such partnerships to drive ongoing mining research all over the world, and added that Nigeria is far ahead in the cadastre than most of the countries on the African continent.

NIGERIA TO RECEIVE BRITISH BOOST

The United Kingdom is set to provide up to UK£10mn (approximately US\$13mn) of concessional aid to reduce the risk for pension and insurance funds to invest in energy access projects, and support Nigeria's COP26 commitments.

Nigerian investors will be encouraged to focus on low-carbon energy, supporting off-grid and efficient energy projects across the nation as part of the financing.

Finance will be blended to de-risk transactions and mobilise domestic institutional investment from local pension funds, insurance firms and other local investors. This will help scale up domestic financing for eligible off-grid clean energy infrastructure such as mini-grid and home solar power systems.

Vicky Ford, the UK Minister for Africa, said, "The UK is committed to increasing both renewable energy and energy access in Nigeria, driving clean, sustainable and resilient growth."

BRIEFS

DFC and USADF launch small business acceleration scheme in sub-Saharan Africa



Image Credit: Adobe Stock

Small- and medium-sized enterprises will be entitled to grants.

The US International Development Finance Corporation (DFC) and US African Development Foundation (USADF) have jointly announced the launch of the African Small Business Catalyst (ASBC), a business accelerator for early growth-stage small- and medium-sized enterprises in sub-Saharan Africa. ASBC will seek to provide loans from US\$100,000 to US\$1mn along with mentoring, training and technical assistance.

GDIZ to become zero-waste zone for cashew nut processing



Image Credit: GDIZ

32,000 jobs will be generated from the project.

HRD Industries, a company specialising in the processing of agricultural products, has invested in the Glo-Djigbé Industrial Zone-Zé (GDIZ-Zé) in Benin. HRD Industries will construct a production unit with an annual production capacity of 50,000 litres of oil and 45,000 tons of bio-charcoal. It will use cashew nut shells and spread across three hectares, rendering the GDIZ a zero-waste zone from cashew nut processing.

EcoGraf partners with Vermeer to evaluate Epanko surface miner

Diversified battery anode materials company EcoGraf Limited has announced a non-binding memorandum of understanding (MoU) with Vermeer Equipment Suppliers.

As part of the agreement, the companies will explore low emission mining methods at the Epanko Graphite Project in Tanzania.

Vermeer Equipment Suppliers is the sub-Saharan African distributor of Vermeer Manufacturing Company, an organisation whose 4,000-strong workforce operate globally to deliver high-quality underground construction, surface mining, agricultural and environmental equipment.

The agreement will result in the evaluation of the suitability for new and alternative surface mining concepts with one of Vermeer's surface miners to economically mine, load and haul Epanko ore, with the aim of reducing carbon emissions and footprint and overall environmental impact than conventional and current mining processes. Initial environmental and cost benefits of the continuous miner are expected to include:

- Increased slope stability and slope angles, resulting in smaller mine footprints during operation, reducing the volume of waste and surface area impacts during mining phases.
- Eliminating drilling and blasting, reducing waste from the site as well as noise and environmental pollution of operations.
- Reduced haul truck emissions through increase payload, removing intensive distribution processes and carbon emissions from hauling phases.
- A reduction in mining equipment and the requirement for primary crushing, reducing labour and environmental intensity of projects.

Under exclusivity agreements within the MoU, EcoGraf will provide Epanko's extensive geotechnical, geological, structural and mining data to Vermeer to undertake an initial study to provide technical and economic data relating to surface miner performance.

If the results of the initial study and survey are sufficiently encouraging, the companies will develop a practical onsite test to develop the new concept.



The surface miner concept and evaluation will test a more sustainable approach to mining.

MODERNA SIGNS KENYAN FACILITY MOU

Moderna Inc., the biotechnology company behind the messenger RNA (mRNA) therapeutics and vaccines that have been utilised in the fight against Covid-19, has confirmed a new Memorandum of Understanding with the Government of the Republic of Kenya to establish the country as the location for a new state-of-the-art mRNA manufacturing facility.

Moderna will construct the mRNA facility with the goal of producing up to 500mn doses of various vaccines each year. An investment of US\$500mn is expected from Moderna for the new facility, which will focus on drug substance manufacturing specifically for the continent.

Plans for the facility include the possibility for fill/finish and packaging expansions.

Moderna is working on plans to allow the facility for fill doses of its Covid-19 vaccine for Africa as early as 2023.

"With our mRNA global public health vaccine programme, including our vaccine programmes against HIV and Nipah, and with this partnership with the Republic of Kenya, the African Union and the U.S. Government, we believe that this step will become one of many on a journey to ensure sustainable access to transformative mRNA innovation on the African continent and positively impact public health," said Stéphane Bancel, Moderna's CEO.

In its prophylactic vaccines modality, Moderna's mRNA pipeline comprises 28 vaccine programmes, including vaccines against various respiratory viruses, vaccines against latent viruses and vaccines against emerging threats to global public health.

H.E Uhuru Kenyatta, President of the Republic of Kenya, concluded, "We are pleased to partner with Moderna to help prepare the country and our sister states on the continent to respond to future health crises and stave off the next pandemic."

MASDAR SIGNS CLEAN ENERGY DEAL WITH TANESCO

Tanzania Electric Supply Company Ltd. (TANESCO) has confirmed an agreement with Masdar for the development of renewable energy projects across the East African nation.

An MoU was signed at a ceremony in Dubai, with H.E Samia Suluhu Hassan, President of the United Republic of Tanzania, Mohamed Jameel Al Ramahi, Masdar CEO, and Maharage Chande, managing director of TANESCO, all in attendance and serving as signatories on the agreement.

Al Ramahi explained, "This collaboration between Masdar and TANESCO will enable Tanzania to make a significant step forward on its clean energy journey and meet its growing energy needs. We look forward to working with TANESCO to leverage our mutual expertise to deliver clean energy for the people of Tanzania."

Since 2020, Masdar has doubled the capacity of its renewable energy portfolio, with the Tanzanian Government targeting an electrification rate of 75% across the entire country by 2035.

► BRIEFS



The company is joining Rwanda in the digital revolution.

MTN Rwanda refreshes brand

In line with the Ambition 2025 strategy to build leading digital platforms for Rwanda's digitalisation and progress, MTN Rwandacell Plc (MTN Rwanda) has rebranded to reflect its evolution from leading telecommunications provider to digital technology specialist. Mitwa Ng'ambi, CEO, said, "The digital transformation is at the forefront of Rwanda's development... we too must make the shift from analog-based to digitally-based."

Wah Seong awarded EACOP midstream contract



The contract covers provisional pipe insulation services.

Piping expert Wah Seong Corp Bhd has been awarded a midstream contract by East African Crude Oil Pipeline (EACOP) Ltd. worth approximately US\$254.1mn.

The contract covers the provision of line pipe thermal insulation services for the East African Crude Oil Pipeline and feeder line project, located between the town of Kabaale in Uganda and Tanga Port in Tanzania. Work and services are expected to be completed within 30 months.

Ethiopian Airlines and Boeing sign MoU for New 777-8 Freighter

Ethiopian Airlines and its longstanding partner Boeing have announced the signing of a memorandum of understanding (MoU) with the intent to purchase five 777-8 Freighters, the industry's newest and most fuel-efficient twin-engine freighter.

The MoU to order the 777-8 Freighter will enable Ethiopian Airlines to meet expanding global cargo demand from its hub in Addis Ababa and position the carrier for long-term sustainable growth.

"Consistent with our history of aviation technology leadership in Africa, we are pleased to sign this MoU with our longstanding partner Boeing, which will make us join a select group of launch customer airlines for the fleet. In our vision 2035, we are planning to expand our cargo and logistics business to be one of the largest global multimodal logistics providers in all continents. To this effect, we are increasing our dedicated freighter fleet with the latest technology, fuel-efficient and environment-friendly airplanes. We have also started the construction of the largest E-commerce Hub Terminal in Africa," said Ethiopian Airlines Group CEO Tewolde Gebremariam.

"The new 777-8 Freighters will be instrumental in this long journey of growth agenda. Today, our air cargo services cover more than 120 international destinations around the world with both belly hold capacity and dedicated Freighter services."

Boeing launched the new 777-8 Freighter in January and has already booked 34 orders for the model, featuring advanced technology from the 777X family and proven performance of the 777 Freighter. With payload capacity nearly identical to the 747-400 Freighter and a 30% improvement in fuel efficiency, emissions and operating costs, the 777-8 Freighter will enable a more sustainable and profitable business for operators.

Ethiopian Airlines currently operates nine 777 Freighters, connecting Africa with more than 40 cargo centers throughout Asia, Europe, the Middle East, and Americas. The carrier's fleet also includes three 737-800 Boeing Converted Freighters and a combined commercial fleet of more than 80 Boeing jets including 737s, 767s, 787s and 777s.



Image Credit: Adobe Stock

The freighters will help meet growing cargo demand.

XYLEM OPENS REGIONAL HUB OFFICES

Xylem, a leading global provider of pure water solutions, has opened new regional offices in Nairobi, Kenya, which will serve customers across East Africa.

The new offices represent a major investment for Xylem in Africa and, with their opening, the company aims to raise its service levels higher and offer even quicker responses to local market needs.

"Kenya has many challenges around water, ranging from basic access to improving delivery to modern commercial, industrial and municipal applications. Through the regional offices, we can provide additional services and support to Kenya and its neighbours, and do so faster," commented Reuben Marowa, director for Xylem East Africa.

The offices include a showroom demonstrating Xylem's range of products, services, and solutions. They will lay the groundwork for future developments that expand and support Xylem and its partners' work.

RAHA LIMITED UNVEILS ITS NEW IDENTITY

RAHA Limited has officially unveiled its new identity – Liquid Intelligent Technologies, a business of Cassava Technologies. This rebrand is part of the extensive transformation from being just a telecommunications service provider to a full one-stop-shop technology group for local businesses.

RAHA's rebrand to Liquid Intelligent Technologies highlights the organisation's commitment to digitally transforming the continent through its cloud business, Cyber security services in addition to its existing telecoms and connectivity capability.

Denny Marandure, CEO for Liquid Intelligent Technologies Tanzania, said, "The evolution of the RAHA brand to Liquid Intelligent Technologies opens up numerous opportunities and is a step towards the creation of a digitally-led economy. Liquid has always believed that public-private partnerships are critical for economic development, and our organisation has successfully partnered with governments across the continent. We are looking forward to partnering with the Government to help reach the ambitious goals set that are the foundation of Tanzania's long-term success."

Commenting on the rebrand, Adil Youssefi, regional CEO for Liquid Intelligent Technologies East African Markets, said, "This rebrand is our reaffirmation to all our customers in Tanzania that we are a one-stop-shop technology service provider bringing intelligent services such as cloud computing, managed services, and cyber security. We have brought intelligent technologies to the rest of the continent, and we are confident that our presence in Tanzania will ensure a digitally connected future for all Tanzanians."

Liquid Intelligent Technologies' has recently launched its cyber security business unit which delivers security at its core.

BRIEFS

Verve Cards accepted at KCB POS locations



Image Credit: Adobe Stock

The Verve Card is a pan-African card scheme owned by the Interswitch Group.

Verve and KCB Bank Uganda Limited (KCB Bank) have announced a new phase of their partnership which makes KCB Bank the first commercial bank to accept the Verve Card on its strategically distributed Point of Sale (POS) merchant network. Damalie Sajjabi, head of products and operations, Interswitch East Africa Uganda Limited, said, "The Verve Card Scheme entered the Ugandan market to provide flexible, customised and cost-effective tokens to financial institutions."



Image Credit: KfW

The MoU signing ceremony.

KfW reaffirms Rwandan support

German Development Minister Svenja Schulze travelled to Rwanda to establish vaccine production, support efforts to combat the climate crisis, encourage digitalisation and reinforce the role of women in successful development. Schulze signed a MoU which stated that the two countries will work on the implementation of the National Climate Contribution to the Paris Agreement, under which, Rwanda has committed to reducing its GHG emissions by 38% by 2030.

Upcoming Events Calendar 2022

APRIL

11-12

FUTURE OF ENERGY

Amsterdam, The Netherlands

<https://futureofenergy-event.com/#home>

MAY

9-12

INVESTING IN AFRICAN MINING INDABA

Cape Town, South Africa

<https://miningindaba.com/Page/save-the-date-may-2022>

10-12

SECUREX WEST AFRICA

Lagos, Nigeria

<https://www.securexwestafrica.com/>

17-19

SUSTAINABLE ENERGY FOR ALL

Kigali, Rwanda

<https://www.seforall.org/forum>

19-21

7TH SOLAR EXPO KENYA

Nairobi, Kenya

<https://www.expogr.com/solarafrica/>

30-3 June

IFAT

Munich, Germany

<https://ifat.de/en/>

JUNE

1-3

WAMPEX

Accra, Ghana

<https://www.wampexwestafrica.com/>

2-3

MMEC

Maputo, Mozambique

<https://mozambiqueoilmining.com/>

7-9

ENLIT AFRICA

Cape Town, South Africa

<https://www.enlit-africa.com/>

21-23

POWER & WATER NIGERIA

Lagos, Nigeria

<https://pnwnigeria.com/>

21-24

AFRICA ENERGY FORUM

Brussels, Belgium

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

JULY

7-9

SOLAR AFRICA

Addis Ababa, Ethiopia

<https://www.expogr.com/ethiopia/solarexpo/index.php>

12-14

HYDROVISION INTERNATIONAL

Colorado, the USA

<https://www.hydroevent.com/event-information/about-hydrovision>

IFAT MUNICH: DRIVING ENVIRONMENTAL AND CLIMATE PROTECTION

The sustainable use of resources – and thus climate protection – is the major topic of IFAT Munich, which will be held from 30 May to 3 June 2022 in Munich.

International interest in the World's leading trade fair for water, sewage, waste and raw materials management remains strong. The trade show brings environmental technologies to life and provides the network to address the greatest challenge of our time.

“Preparations for IFAT Munich are running at full speed, with all 18 exhibition halls and a large part of the outdoor area occupied. This is a very strong development, even compared to the record-breaking edition in 2018,” explained Stefan Rummel, managing director of Messe München. So far, around 2,500 exhibitors from more than 50 countries have registered, “and we continuously receive numerous further requests.”

Environmental, resource and climate protection is more urgent than ever in the minds of the global community, “and IFAT brings together the international decision-makers, experts and market players in one place to tackle the major challenges,” Rummel continued.

In addition, with the major international event IAA MOBILITY as well as the trade fairs EXPO REAL, productronica and TrendSet in January, Messe München has proven that successful trade fairs are possible under pandemic conditions.

Top market players in all segments

All exhibition sections are well booked; in some cases the demand is even greater than the space available. In the area of ‘Circular Economy and Waste Management’, exhibitors will include: Remondis, Veolia, PreZero, EEW Energy from Waste, Doppstadt Umwelttechnik, Komptech, Arjes, Sutco RecyclingTechnik, Eggersmann, Lindner-Recyclingtech, Zeppelin



Image Credit: Adobe Stock

The sustainable use of resources is the main topic of IFAT 2022.

Baumaschinen, Sennebogen Maschinenfabrik, Liebherr-Hydraulikbagger, Komatsu, Zöller-Kipper, Martin, SSI Schäfer and ESE.

In the ‘Water & Sewage’ sector, registrations include: Wilo, Huber, Invent Umwelt- und Verfahrenstechnik, Grundfos, KSB, Sulzer, Xylem Europe, Endress+Hauser, Gea Westfalia Separator Group, Kaeser Kompressoren, EnviroChemie, Otto Graf, Aerezener Maschinenfabrik, Veolia Water Technologies, AVK Armaturen, Hawle Armaturen, Talis, Siemens, Hermann Sewerin, Aco Tiefbau, Kaiser and IBAK.

‘Municipal Technology’ will be represented by, for example: Faun Umwelttechnik, Bucher Municipal, Aebi Schmidt, Küpper-Weisser and Fayat Environmental Solutions. In the vehicles section, exhibitors will include: Iveco Magirus, Scania, Volvo Group Trucks, DAF Trucks, Daimler Truck and Mercedes Benz.

“ Skilling a billion citizens may seem an impossible task. As a multi-stakeholder coalition, SADA will achieve this through the powers of ownership, collaboration, and partnership to define a sustainable environment for skills development. We call for all our country members state, private sector, development partners and any interested stakeholders to support the SADA initiative to join this ambitious yet achievable programme.”



Image Credit: Smart Africa

LACINA KONÉ
CEO of Smart Africa on the launch of the Smart Africa Digital Academy (SADA)

“ The expansion of women’s economic opportunities has contributed to Tanzania’s sustained growth over the past 20 years, which recently culminated in its transition from low-income to lower-middle-income status. However, more can be done to enhance women’s ability to realise their full economic potential and play a pivotal role in supporting an inclusive and resilient post-crisis recovery.”

MARA WARWICK
World Bank country director for Tanzania, Malawi, Zambia and Zimbabwe

“ Africa is a continent with enormous opportunity and energy. We want to play our part in harnessing her potential and supporting her progress by driving digital and financial inclusion. It is a well-known fact that the youth are central to achieving this potential. Whilst we remain focussed on all our customers and stakeholders, our brand evolution demonstrates an enhanced focus on the youth.”

RALPH MUPITA
MTN Group president and CEO on the company’s brand overhaul

“ Gender equality, remains a core business priority at Mastercard – especially now as the continent looks to recover from the impact of the Covid-19 pandemic. It is critical that we use this time as a reset to ensure that we build a better future, one where everyone is included. We believe that it is only by working together that we can unlock women’s full potential. And a world that works better for women, creates limitless possibilities for us all.”



Image Credit: Mastercard

EBEHIJIE MOMOH
Country manager and area business head for West Africa at Mastercard

“ Coca-Cola Africa is happy to support such an initiative that seeks to advance the conversation on women empowerment in Africa. At Coca-Cola, we believe that women are critical not only to the success of our business, but to the continued success of the communities we proudly serve. Women and youth empowerment is one of the focus areas under our sustainability platform, JAMII, where we commit to unlocking economic opportunities through the provision of improved access to soft skills training, networks, finance and markets.”

PATRICIA OBOZUWA
Vice president, public affairs, communications & sustainability for Coca-Cola Africa

“ The Covid-19 pandemic is a powerful demonstration that when health is at risk, everything is at risk. Investing in health across Africa is therefore essential not just to promote and protect health, but also as a foundation for lifting people out of poverty and driving inclusive economic growth.”

TEDROS ADHANOM GHEBREYESUS
Director-general of the World Health Organization

“ Natural resources have the potential to catalyse growth and development in transitional countries. Improved governance of natural resource outflows will support countries’ efforts to achieve sustained recovery from the Covid-19 pandemic, help them to better manage their debts, and reposition their economies for the future.”

VANESSA USHIE
Acting director of the African Natural Resources Centre

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

INVESTORS PREDICT AFRICA'S INTERNET ECONOMY IS SET TO BOOM



Image Credit: Adobe Stock
One in four professional investors believe the African internet economy will double by 2025.

Professional investors are forecasting strong growth in the value of Africa's internet economy with mobile phones central to the expansion.

The new global research study (on blockchain-based mobile network operator World Mobile) with professional investors responsible for around US\$700bn assets under management by independent research company PureProfile found one in four expect the value of Africa's internet economy to more than double over the next three years from the current estimated US\$115bn. More than half (51%) expect it to be worth more than US\$200bn by 2025.

Increased use of mobile phones will be central to the growth which will be further enhanced by improved affordability, the study with investors in the US, Germany, the UK, Hong Kong, India, Japan, Nigeria, and Switzerland found. Around 71% of investors expect affordability of mobile phones in Africa to improve over the next three years, while nearly all professional investors (97%) believe the Covid-19 pandemic has accelerated demand for mobiles.

Professional investors that were questioned believe healthcare is the sector which will see the most benefit from increased connectivity. Around 53% highlighted the opportunities for healthcare ahead of e-commerce on 42% and media and entertainment on 40%. Education was chosen by 33% of professional investors questioned alongside finance which was selected by 34%.

BALANCING NIGERIA'S ENERGY TRANSITION



Image Credit: Adobe Stock
Many Nigerians still rely on wood, charcoal and other forms of biomass for fuel.

Speaking virtually at the International Energy Week 2022, Dr Mele Kolo Kyari, Group managing director and CEO of Nigerian National Petroleum Corporation, discussed how the country is striving towards net zero by 2060 whilst also redressing the country's energy deficiencies.

Kyari said that Nigeria has committed to reaching net-zero by 2060 but perhaps a more pressing issue is that around 60-70% of Nigerians are currently in some form of energy poverty. In addition to this, partly due to the reliance on biofuels, the Saharan desert advances two kilometre into the country each year.

"Our country's commitment to 2060 is anchored around what we can do now, which is to see how we can leverage our natural gas resources to cut down the impact on the environment by reducing the cutting down of trees and forests."

Kyari noted he had heard suggestions that the country could 'skip' the natural gas phase and move directly to cleaner fuels but said that, as most of the country's revenue comes from gas, it is incredibly difficult to cut it off immediately. He also remarked that the African continent contributes just 3% of global emissions, suggesting there were more pressing issues to be addressed elsewhere.

"I am not saying we are looking to catch up with the world (in emissions) but there needs to be some balancing and justice as we progress. We must have some kind of transition but our pathway is different."

FINANCE AVAILABLE FOR ALL JOHN DEERE CONSTRUCTION AND MINING MACHINERY



Image Credit: John Deere
The first thing people consider when it comes to financing solutions is good interest rates.

John Deere Financial has extended its portfolio to include John Deere Construction and Mining equipment.

The John Deere Financial aims to support the business to benefit from tailor-made asset finance, thus saving money in the process. To deliver the best possible service and solution to the clients, John Deere Financial is built on four key pillars, namely: Convenience, Commitment, Competitiveness and Insightfulness. John Deere Financial has a team that is ready and waiting to visit its clients, assess and understand their unique needs, and recommend the most fitting financial solution.

With the necessary permission, it is even possible for the John Deere Financial representative to assist in gathering the documents from the accountant or auditor. In this way, both parties can do what they enjoy, and the client can focus on what he does best.

During these times, John Deere Financial can provide the necessary support by presenting flexible solutions to their clients. John Deere Financial also recognises that business cycles may differ from year to year, which is why the payment date can easily be extended by a month or two, working with the client's cash flow cycle.

The first thing people consider when it comes to financing solutions is good interest rates. The financial package structure, along with considerations of the term and deposit, means that clients can expect rates as low as prime minus 9%.

GENIE BOOMS AND LIFTS HELP WITH WAREHOUSE PROJECT IN SA



Image Credit: Genie
The DSV Warehouse project's construction started in 2019.

South African-based Goscor Access Solutions relied on Genie to match the right equipment for the job during construction of a new DSV Warehouse in Plumbago.

For a new warehouse in Plumbago, a new DSV Warehouse in Plumbago turned to Genie authorised distributor Goscor Access Solutions in Midrand, South Africa, to get the right machines for the job. Around 50 machines were onsite at any given time, including Genie GS scissor lifts, Z articulating boom lifts and S telescopic boom lifts.

The project's construction started in 2019, but the schedule was challenged by Covid-19 pandemic. "DSV Warehouse used a combination of diesel and electric scissor lifts during the construction of the warehouse over a period of one year from 2020-21. However, the main contactor still managed to complete the project within the deadline time," said Shirley Smit, a senior sales executive at Goscor Access Solutions, adding that Goscor still has units on site to help with extra work added on to the project by the DSV Group.

The DSV Warehouse project started off with a range of diesel equipment, including Genie GS-3369 RT and Genie GS-5390 RT scissor lifts, which were used by the cladding, electrical and fire sprinkler installation companies.

As the project progressed, and once the site was equipped with electricity and concrete floor slabs were cured, Goscor also supplied electric Genie units for the site.

Addressing Africa’s infrastructure deficit

Teddy Daka, co-chief executive officer of Zutari, suggests that the effective implementation of public-private-partnerships (PPPs) is critical to address the infrastructure deficit in Africa.

The African Union (AU) has noted the clear impact of infrastructure deficits on African competitiveness, recognising this as “a continental problem that requires a continental solution”.

Regional integration through infrastructure programmes is expected to overcome constraints imposed by scale and location, and improve the competitiveness of African producers, connecting consumers and enhancing intra- and inter-regional trade.

African leaders have consistently expressed their desire to support Africa’s economic development through a common market for goods and services. A 2016 report by McKinsey projects that Africa’s manufacturing output could expand to nearly US\$1 trillion by 2025 if Africa’s manufacturers upscaled to meet domestic consumer and business demands. This will require inter-sectoral collaboration between business and governments to address obstacles to production and exporting of goods.

Recognising these and other market opportunities, aspirations for Africa’s development have begun to translate into policy-making: the African Free Trade Agreement underscores regional policy efforts towards this goal; the AU’s Programme for Infrastructure Development (PIDA) is an outcome of a

coordinated policy effort to unlock competitive opportunities; and, in South Africa, the recent adoption of the District Development Model shows a localised shift, mirroring intra-regional policy trends.

Leveraging regional development

While much research, advocacy and institutional work is ongoing towards reshaping African policies to support effective integration, this goal relies on the effective implementation of public-private-partnerships (PPPs) as a mechanism. The PPPs which undertake infrastructure projects unconsciously mediate a social contract between governments and citizens against which to monitor performance.

“Aspirations for Africa’s development have begun to translate into policy-making.”

TEDDY DAKA, CO-CHIEF EXECUTIVE OFFICER OF ZUTARI



Image Credit: Zutari

Teddy Daka is the co-chief executive officer of Zutari.

Our ability to leverage innovative regional development hinges on the translation of infrastructure development practices across the entire development process. It is clear that infrastructure delivery – and the quality of leadership, governance and public-private cooperation required for its development – both exist as grand challenges in their own right and underpin the interventions necessary for many others.

As Africa joins the global effort to attract funding from large global institutional investment vehicles, its ambitions are being matched through more integrated policy making, redesigned finance instruments and project execution practices and project information systems that support performance monitoring.

For visions of shared prosperity, regional integration and intra-continental strengthening to translate from policy through to development practices (across the value chain), and service delivery performance, call for embodying a developmental identity and embedding an innovative mindset at multiple levels throughout the sector and across the infrastructure delivery value chain.

We are pushed to be resourceful, intelligent and wise; we are required to be adaptive, to develop our talents, our capacity; and we certainly need to cultivate the motivation and commitment to see through this multi-generational task. ■



Regional integration through infrastructure is expected to improve the competitiveness of African producers.

Ghana recovery back on track

Traditional industries such as oil and gas, mining and agriculture remain strong in Ghana, providing a platform for the growth and emergence of new technologies and innovation, though key financial challenges persist.



Ghana's economy is recovering with the health crisis easing.

Image Credit: Adobe Stock

Like so many other countries, Ghana's economy hit a roadblock when Covid-19 struck. This slashed real growth rates from 6.5% in 2019, down to 0.4% by 2020, according to the International Monetary Fund (IMF).

However, with the health crisis easing, there are hopes of a return to more significant economic growth soon – in 2021, this eased back up again to reach 4.7%.

Despite major financial and other challenges, Moody's Investors Service recently upped its outlook for Ghana's Government and its credit rating to 'stable' from 'negative'. This was, in part, recognition of its achievements prior to Covid-19.

"The stable outlook balances Ghana's significant fiscal challenges, large refinancing needs and constraints on access to funding against the Government's pre-pandemic track record of relatively effective policy delivery and

maintenance of a variety of funding sources," Moody's noted in a February 4, 2022 update.

It added that Ghana's institutional framework and "dynamic economy" remain key credit supports, with growth forecasts of around 5% over the medium term.

The challenges are substantial, however, with Government debt estimated at around 80% of GDP by the end of 2021 – interest payments alone consumed half of government revenues last year. This trade-off – between meeting a large debt and delivering services to the Ghanaian

population, where average incomes are still low at about US\$6,000 per capita – greatly reduces Accra's scope for policy action.

The net zero factor

The country is also caught in the crosswinds of the West's net zero push, which may further thwart economic progress.

While Ghana is only a relative newcomer to Africa's club of oil and gas exporting nations – following the launch of its flagship Jubilee field in 2010 – the industry has already become an important pillar of the economy.

But the Government may need to find alternative ways of looking to bankroll its hydrocarbons ambitions, with traditional sources of funding drying up, a point echoed by Finance Minister Ken Ofori-Atta recently. Speaking at an energy transition forum in Accra organised by the Ministry of Energy, he highlighted the potential of new offshore blocks that could be developed and boost the wider economy.

"Potentially, we could bring in billions of dollars if we are given the chance to develop these multiple blocks. But now, all of a sudden, the West is saying we should move to clean energy," he was quoted as saying in local press.

Taking funding off the table for new oil and gas investments is not the solution, he added.

While there is a national commitment to sustainable development and decarbonisation efforts, Ghana's challenges are clearly not the same as those in

“Potentially we could bring in billions of dollars if we are given the chance to develop these multiple blocks.”

KEN OFORI-ATTA, GHANA'S MINISTER OF FINANCE

heavily industrialised areas such as Europe or the US.

Oil and gas opportunities

Oil and gas still presents a tremendous opportunity to elevate the nation out of poverty, especially for the many Ghanaians who still have no access to reliable electricity.

The trend toward alternative energy certainly hasn't deterred existing investors in the country.

Tullow Oil, for example, plans to increase its stakes in both the Jubilee and TEN fields, as part of a broader commitment to Ghana's upstream industry. It completed four new wells and other work following the restart of operations in the wake of covid disruptions, with Jubilee production expected to average up to 84,000 barrels of oil per day (bpd) during 2022.

Three more wells are planned to be drilled at the site this year, while Tullow also expects to take over the operation and maintenance (O&M) of the floating production storage and offloading (FPSO) platform from MODEC when its current contract comes to a scheduled end in 2022.

Like other oil companies today, the Jubilee field operator is also building sustainability into its work. As part of Tullow's commitment to becoming a net zero company by 2030, a scheduled shutdown on the FPSO this year will help facilitate increased gas handling capacity.

This will support increased gas export capability and help towards the target of eliminating routine flaring in Ghana by 2025. Other activities planned during the shutdown will focus on the maintenance, integrity and reliability of the FPSO for the long-term future.

Despite the current antipathy to oil and gas, it is clear such projects generate huge positives for developing economies like Ghana, from hard currency earnings and jobs, to spurring broader economic development in power generation and industry generally.

Tullow is also listed on the Ghanaian stock exchange, a boost for the local capital market.



Manufacturing plays an important part of the industrial mix.

Clean energy development

At the same time, Ghana is also nurturing clean energy technologies as well.

Lekela Power's Ayitepa wind project, located on the southeastern coastal region, is in an advanced stage of development and working towards financial close, after which construction is expected to take about 18 months.

The project will begin at 150MW, with the potential to add a further 75MW in the future.

The developer says the wind farm will be an "energy catalyst" for Ghana, supplying 400GWh of clean, economic and renewable energy each year for an expected 20 years to the national grid. It will also avoid 200,000 tons of carbon dioxide being emitted into the atmosphere every year.

Swiss firm NEK is likewise looking to develop a portfolio of commercial-scale wind projects in the country, recently receiving an airspace safety permit for its 200MW Konikablo venture, which is mandatory for the construction and operation of the wind farm. Actual construction of the wind farm project is expected to begin in 2023.

It will be connected to the transfer station in Sege, in the

project area, where grid access to the 330kV line is planned. The company has also secured a final permit from the Ghanaian Environmental Protection Agency (EPA) for another project, the 200MW Madanunu Wind Farm.

Investment possibilities

Regardless of any environmental politics, what all of these projects highlight is Ghana's appeal to overseas investors – again, a reflection of its past history as one of West Africa's more stable, democratic nations.

Bit by bit, this effect filters through to other areas of the economy, as it diversifies, expands and becomes more sophisticated.

Adding value to the extractive industries is a key priority for the Government – Ghana is also one of Africa's big mining nations, as well as a significant agricultural producer – but so too is moving into more advanced niches, from technology and communications to financial services.

High-profile foreign investors in recent years include the likes of US tech giants Google and Twitter.

Announcing its arrival last year, Twitter explained why it had opted to set up its Africa base in Accra, citing Ghana as a champion for

democracy, a supporter of free speech, online freedom, and the open Internet. It also noted Ghana's recent appointment to host the Secretariat of the African Continental Free Trade Area, an initiative that will help drive intra-regional trade in the long-term.

Favourable prospects

Ghana was recently ranked third among African states for its 'digital readiness' according to the Agility Emerging Markets Logistics Index 2022, after only Kenya and South Africa. Significantly, it was also the fastest mover in the index as a logistics hub for the region.

"No nation in the 50-country index opened eyes as much as Ghana," the report states. "Year on year, Ghana jumped eight spots to No. 32 in the 2022 Index."

Mostly, however, Ghana's economic advance means building upon existing strengths.

Manufacturing, already an important part of the industrial mix, is one area primed for growth. Some notable areas under the Government's industrial agenda include agro processing, the automotive industry and the fabrication of steel and other metals, including aluminium smelting. The manufacturing sector already makes up about 10% of the nation's GDP, according to the World Bank, and contributed an estimated US\$7.2bn in 2020.

The Ghana Investment Promotion Centre (GIPC) says opportunities also exist in pharmaceuticals, textiles and apparel, and the manufacture of machinery and components. A vast number of other initiatives are also making a difference.

The Ministry of Energy and Petroleum Commission has just launched the Ghana Welding Bureau, for instance, to train locals to learn the craft as the industry expands with a view to boost certification and standards.

It is such initiatives that will propel Ghana's fortunes long-term, boosting the skills base, and securing more jobs for Ghana's youthful, fast-growing population. ■

“No nation in the 50-country index opened eyes as much as Ghana.”

AGILITY EMERGING MARKETS LOGISTICS INDEX 2022

Shaping the future landscape of jobs

Industries, firms, and jobs in advanced and emerging-market economies are being transformed by ‘disruptive’ technologies such as robotics, artificial intelligence (AI), smart factories, 3D printing, machine learning, the internet of things (IoT), cloud computing, blockchain, and big data.

The use of new technologies to produce manufactured goods and services could be disruptive across much of Africa, leading to new activities and new modalities for conducting existing work. With the ‘Fourth Industrial Revolution’ (or Industry 4.0) underway, sophisticated technologies are being deployed in manufacturing activities, including hardware (such as industrial robots), software platforms (big data analytics) and connectivity (IoT).

Rapid automation and other digital innovations are changing the nature of work by increasing demand for skilled labour (at the expense of unskilled). “Workers need to be prepared for a career, not just a job, and possess the ability for life-long learning to adapt and upgrade their skills to ever-changing environments,” the World Bank has reported.

Digitalisation among African firms (especially small and medium-sized enterprises) is low compared to peer regions due to a lack of internet-enabled devices (notably computers); high prices of internet services, smartphones, and mobile data; as well as poor awareness/skills required to use digital technologies. Presently, the region’s internet penetration is merely half of the global average.

In the pandemic’s aftermath, however, sub-Saharan African (SSA) firms expanded the use of digital technologies. Specifically, one-fifth reported starting or increasing the use of the Internet and digital platforms – especially among financial, information and communications technology (ICT) services and larger/formal firms. Recent studies have indicated positive employment effects and no displacement of low-skill jobs in selected SSA countries after the arrival of fast internet connectivity.

Solutions for the current skill supply

The future job trends in Africa are likely to be different compared to other regions. The size of SSA’s manufacturing sector (in value added and employment) is relatively low. This implies that labour-replacing technologies will not displace many workers in coming years. Most workers are employed in the informal sector, and the relatively low wage cost discourages heavy capital spending on automation functions.



Image Credit: Adobe Stock

Most digital technologies accessible via the internet are appropriate for low-skilled labourers who are more prevalent in SSA than emerging-market regions. Examples include fintech platforms for informal microenterprises and the unbanked, voice/video-based e-extension services for small farmers and Uber-type platforms that do not require reading/numeracy skills. “Adopting digital technologies that create new demand for low-skilled workers will generate more direct/indirect technology-enabled jobs,” said the World Bank. “New technologies create new quality jobs, whilst boosting the productivity of existing ones. Technology can play a role in laying the foundation of cognitive and socioemotional skills.”

In Kenya, NairoBits is an organisation which promotes innovative use of ICT skills to help employability of young people. Active labour market policies, including upskilling, training and education are necessary to ensure that job losses deriving from technological advances and globalisation of supply chains are offset by other employment opportunities, as noted by the International Labour Office.

Developing a productive workforce

The most critical regional challenge is preparing future generations for the modern world of work. Education systems in SSA must cope with a knowledge-based economy. The quality of

manpower is pivotal to sustainable development. The region has both the fastest growing workforce and largest stock of ill-equipped adults relative to other regions.

Investing in tertiary education, especially in science, technology, engineering, and math (STEM) fields is needed to design technologies that foster skilled jobs. But SSA has the lowest gross enrolment rates in tertiary education (10%), and even lower enrolment of students in STEM fields, as reported in ‘The Skills Balancing Act in sub-Saharan Africa’, a co-publication of the Agence Française de Développement and the World Bank.

The International Telecommunication Union’s ICT Development Index puts SSA countries (except South Africa) at the bottom of the global ICT skills base distribution worldwide. The main drawbacks are poor quality/quantity of math and science education, and a lack of scientists and engineers.

To increase the stock of quality STEM graduates and professionals, the African Centre of Excellence (ACE) initiative was launched by the World Bank and West and Central African countries in 2014.

The ACE initiative aims to establish specialised centres in selected universities to train students in disciplines related to STEM, agriculture, and health. For instance, ICT in Cameroon, statistics in Côte d’Ivoire, and applied mathematics in Senegal.

Future employment is expected from diversification of output/exports and from

increased domestic demand for services as incomes grow – with service jobs, such as IT and finance more likely to outpace industrial jobs. It is critical to nurture modern skills among youth, whilst retrain existing workers for technological adaptation to multiple jobs within a career.

Scaling up manufacturing capabilities

The introduction of new production technologies in developing countries often takes place through global value chains (GVCs), which demand skill upgrades to shift from lower to higher-end manufacturing, agriculture and services-related activities. SSA countries (with a few exceptions) are yet to seize the opportunities from globalisation. That, in turn, requires increased integration with global markets to raise output and create jobs by moving into the high-end manufacturing sector.

In this context, policies should encourage the participation of local firms in GVCs and promote foreign direct investment (FDI) into non-extractive sectors – which depend on improved business environment, resilient physical infrastructure (electricity, transport, and logistics) and supportive trade policies. Businesses need to adopt new, worker-enhancing technologies, reduce production costs, increase consumer demand and jobs across all economic sectors.

Changes in global manufacturing markets present challenges for SSA. Increased use of robots in the automotive and electronics industry reduces the labour-cost advantage of ‘off-shoring’ to developing countries. “If labour represents a smaller share of costs, more production may happen in richer countries, closer to consumers. Fewer businesses may move to lower-cost locations and local firms will face steeper

competition,” the World Bank has noted.

Automation of traditional manufacturing sectors (textiles/apparels, footwear, and basic metals) in the region is low because investments in automation technology are still not cost-efficient. But Africa needs to climb the ‘value-chain’ to stay competitive with peer regions as new fields and expertise are emerging.

New technologies are also affecting the business process outsourcing (BPO) industry as many ‘offshorable’ jobs are vulnerable to automation. For example, a local healthcare company in South Africa is using Watson, IBM’s artificial intelligence system, to assist in customer service. While online work platforms have expanded opportunities for the remote delivery of back-office professional services, such as data entry, translation, and marketing, among others.

High-tech agriculture

Digital technologies boast the potential to modernise agriculture by changing the way farmers work through accurate weather forecasts, optimised irrigation, pesticide and fertiliser use, real-time price data and market logistics.

“Companies are creating technology to make farmland more productive and farming more

efficient. Soil maps, remote sensing, and global positioning system (GPS) guidance are becoming critical tools for modern farmers. Big data and methods of precision agriculture are helping to increase yields and efficiency in unprecedented ways,” as reported in ‘Reaping Richer Returns’, a co-publication of the Agence Française de Développement and the World Bank.

Rural SSA regions are sparsely populated with limited infrastructure and dispersed markets, but the use of innovative technologies can overcome these drawbacks. For instance, in Ghana, smartphone-enabled field officers are directly connected with farmers on mobile phones to provide comprehensive agronomic advice and market services via multilingual voice, text, video, and spatial maps. Mobile phones are used for distributing seeds/fertilisers in remote areas of Nigeria through e-vouchers. The Ghana-based Farmerline platform connects and communicates (in native language) with 200,000 farmers across 11 countries on best agricultural practices.

Technological transformation

Monetising the full potential of ‘digital dividends’ requires investing in resilient broadband infrastructure, skills and platforms as well as effective regulation to promote competition/innovation in the ICT sector by removing barriers to entry (such as restrictive licensing and exclusivity rights) – hence making connectivity universal and affordable. The World Bank has identified key criteria to support digital transformation of Africa:

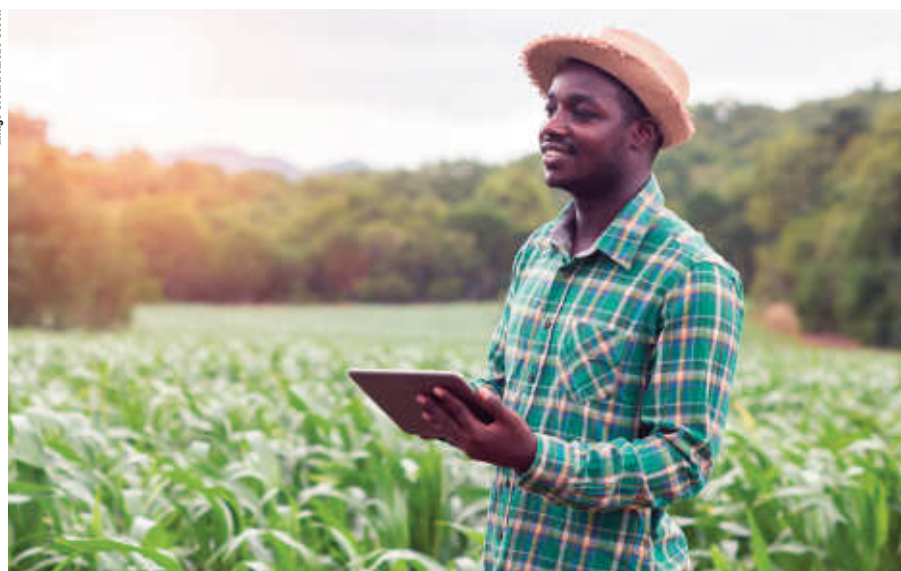
- Pragmatic/coherent national ICT strategy
- Infrastructure conducive for future digital economy
- A critical mass of digital entrepreneurs and high-skilled youth with a strong IT skills base
- Investment to nurture a workforce of qualified professionals in science, technology, and business.

“Building technical skills and forming a critical mass of high-skilled individuals in the region are required to continue innovating and adapting new technologies to local standards and needs,” the organisation stated.

In sum, the pace and scope of technology has increased over the years in a fast-moving automated world. Africa needs to build strong foundational and digital skills to unlock the opportunities provided by the digital economy. Harnessing the rapid growth of digital technologies holds hope for regional structural transformation, with implications for productivity and job creation. ■

“New technologies create new quality jobs, whilst boosting the productivity of existing ones.”

THE WORLD BANK



Digital technologies have the potential to modernise agriculture.

Moin Siddiqi, economist



Meeting data demand

The need for a robust data centre fabric in Africa is of paramount importance as the continent progresses in its digital transformation.

A rendering of Vantage Data Center's first facility in Johannesburg.

Image Credit: Vantage Data Centers

As outlined in Africa Data Centres Association's *State of the African Data Centre Market* report, Africa's need for a robust data centre fabric is essential for reducing the North-South digital divide in a globalised economy and levelling the opportunity playing field so that users in Nairobi or Lagos can utilise cloud, blockchain and other digital tools with a similar level of comfort and security as those in Frankfurt or New Delhi. Local hosting infrastructure can help transform African enterprises and public service delivery and make them more competitive against global peers, and can enable local startups to leverage the digital tools they need.

Currently, the continent is only accountable for around 1% of the world's co-location data centre supply, however growing internet penetration, a rapidly expanding population and the reasons listed above has meant that demand is increasing. This is reflected by projected investment into Africa's data centre market with an analysis on reportlinker suggesting that it expected to grow at a CAGR of approximately 15% between 2020 and 2026 and increase in size from US\$2bn to US\$5bn in the same period. Of late, this opportunity has led digital players to take a greater interest, and several notable projects have taken significant steps forward in order to meet this growing demand.

Equinix looks to expand

Leading digital infrastructure player, Equinix, has announced its intention to enter the African space by looking to acquire MainOne, a leading West African data centre and connectivity solutions provider with a presence in Nigeria, Ghana and Côte d'Ivoire.

MainOne has helped enable the connectivity of the business community of Nigeria and now has digital infrastructure assets including three operational data

year off the back of a US\$1bn investment which was leveraged from existing financial partners.

The campus is expected to be 30 acres, housing three data centres that will deliver a combined total of 80MW of critical IT load, and 650,000 sq ft of space will be offered by the buildings. The first phase of the project is scheduled to be operational in the summer of 2022 and will include 8MW of IT capacity with 300W/SF average density.

US\$1bn, and it will create hundreds of jobs to positively impact the local economy."

Fresh ground in Namibia

In a bid to build the first carrier-neutral and the largest data centre facility in Namibia, Paratus Namibia has unveiled plans to launch the Armada Data Centre in Windhoek.

The new facility, which is expected to be launched in August 2022, will house two separate collocation data centre halls, each of which will be supported by two separate energy centre pairs. A total of 240 cabinets will provide collocation options, data and cloud services and help meet the increasing customer demand for these services as existing facilities near capacity in the country.

Chief operations officer of Paratus, Schalk Erasmus, remarked, "Our customers understand that technological advancement, in the form of big data, cloud services and AI (artificial intelligence), is critical for their future success. They need an independent, secure, and highly sophisticated data centre facility. The Paratus Armada Data Centre will store and protect client data 24/7; house and physically protect all equipment and computer systems; handle the migration from off-site to the data centre; provide back-up power generation; and offer an array of add-on services and features." ■

“Our first campus will create hundreds of jobs to positively impact the local economy.”

ANTOINE BONIFACE, PRESIDENT OF VANTAGE EMEA

centres with another expected to open in the first quarter of 2022. The transaction has an enterprise value of US\$320mn and will add more than 64,000 gross sq ft to Platform Equinix, with 570,000 sq ft of land for future expansion. The acquisition will be a pivotal entry point for Equinix into the continent.

Taking advantage in SA

As part of its efforts to expand into the EMEA region, Vantage Data Centers is drawing ever closer to completing its first data centre campus in Africa. Construction of the Johannesburg Data Center Campus, located in Waterfall City just 30 km from the O.R. Tambo International Airport, began last

The design will emphasise sustainable construction practices such as offering renewable energy options, limiting carbon footprints and maintaining energy-efficient operations. Powered by ESKOM, the campus will feature an dedicated on-site high-voltage substation which will be cooled using an efficient, closed-loop chilled water system generated through air-cooled chillers.

Antoine Boniface, president of Vantage EMEA, said, "We look forward to not only opening the doors of our first African facility to our customers, but also to becoming part of the local community. Our first campus has a planned investment of more than

Warehouses: a vital trade cog

Few sectors were more dramatically affected by Covid-19 than trade, as lockdowns and isolation policies curtailed commerce at both a national and international level.

Africa followed suit in this phenomenon but now, as the pandemic continues to recede, it is trade which is offering a chance for the continent's economic revival and continued development. According to the World Bank, Africa's effective participation in the international trade environment remains central to boosting the region's growth, and the continent is poised to become a global player in this environment. The institution suggested that to do so, bold reforms must be followed to re-engineer trade with traditional partners (US and



Image Credit: Investec Property

The Brickworks will become one of South Africa's most pivotal logistics and distribution hubs.

EU); countries should seek to strategically diversifying trade with Asia; and deepening regional integration to scale up supply capacity and build regional value chains is paramount.

There are promising signs that this potential is beginning to be recognised and pursued. The start of the African Continental Free Trade Area (AfCFTA), which could open up the largest free-trade area in the world in terms of the number of

participating countries, was a statement of intent in this regard. Since January last year it has continued to gather pace and, most recently, it was bolstered by the signing of an MoU with the World Customs Organisation (WCO) to strengthen organisational capacity, transparency and effectiveness of African Customs administrations. Kunio Mikuriya, secretary general of the WCO, said that the organisation could contribute in the

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automation, risk management and trade facilitation which will yield economic benefits to the African continent.

Tying into this, the launch of the much anticipated Pan-African Payments and Settlement System (PAPSS) has also been warmly welcomed. The platform is expected to boost intra-African trade by transforming cross-border payment which could save the continent more than US\$5bn annually in payment transaction costs. Benedict Oramah, president and chairman of the board of directors of Afreximbank, said, “PAPSS will effectively eliminate Africa’s financial borders, formalise and integrate Africa’s payment systems, and play a major role in facilitating and accelerating the huge AfCFTA-induced growth curve in intra-African trade.”

A strong foundation

A key facet of trade that has increased in importance during the pandemic is warehouses.

Warehouses play a critical role in the development of trade and commerce, facilitate fast product delivery; provide benefits in the secure supervision of goods; give better control over industry; ensure price stabilisation; and more.

This vital cog of the logistics industry have only become more significant for the role they play in the distribution of Covid-19 vaccines – an effort which has been ramped up in recent months in order to put an end to the pandemic once and for all.

Looking to take advantage of the positive outlook for the logistics and distribution sectors, Improvon, a specialist warehousing and logistics property developer, has broken ground on a new warehouse and logistics facility, the Dakota Precinct at Rand Airport Commercial Park, South Africa.

Noting that container costs are reportedly four times higher than before the shutdown, supply chain disruptions continue to move inland and a rapidly growing domestic e-commerce market needs support, Stefano Contardo, CEO of Improvon, said that significant investment into new infrastructure is required to meet demand rises. The new facility, covering 250,000 sq m of land to be developed in five phases will offer 130,000 sq m of gross lettable area of A-grade



Image Credit: Clark

The Clark three and four-wheel forklifts are available with extensive additional equipment.

logistics and warehouse facilities and is due for completion in five years.

In Durban, Investec Property has announced plans to redevelop the old Corobrik site (which previously provided brick materials to a range of construction users and property developers) to create one of South Africa’s most pivotal logistics and distribution hubs. Located between Riverhores Valley and Umhlanga, ‘The Brickworks’ will offer top-of-the-range facilities to a range of users, with the capacity to store and distribute goods without them being compromised. David Rosmarin, CEO, Investec Property, said, “While the property market has been challenged by the pandemic and lockdowns, industrial property, in particular warehousing and logistics facilities, has proven to be resilient.”

The commencement of top structure development is planned to begin in the second half of 2022. The first phase of construction will result in approximately 150,000 sq m of gross lettable area which will eventually measure in excess of 450,000 sq m once it has been complete. The estimated value of the venture is R6bn (approximately US\$392mn).

Effective warehouse solutions

Other organisations have looked to ensure African warehouses run as efficiently as possible through the introduction of innovative solutions. Softeon, a global supply chain software provider, offers a powerful, flexible and scalable Warehouse

Management System (WMS) solution to meet the needs of diverse distribution centre types and complexities. Its WMS offers a single solution to work in the full range of distribution operations from larger environments, mid-level facilities down to small facilities such as retail store-based fulfilment. WMS systems keep track of where inventory is stored, the number of units available and what needs to be shipped. They can reduce human error and allow distributors to manage stock with more accuracy.

SEC Exports, which specialises in creating warehouse storage solutions through management of inventory and providing dedicated supply bases to customers in often extremely remote locations, has continued its consistent delivery of solutions for the continent. The company has announced a new project in Mauritania where it will start on a warehouse storage installation to support a large international oil company in its new operation in the heart of the country. It has designed a pallet racking solution with high density shelving and a mezzanine for space-optimised storage of equipment and parts. The installation also includes a double insulated temperature-controlled enclosure to store delicate spare parts in an ambient temperature.

From a more hands-on perspective, Clark has re-launched the GEX and GTX series. The three and four-wheeled electric forklifts have load capacities of 1.6 to 2 tonnes and are now available with a lithium-ion battery. This marks the first time the company has brought counterbalance trucks with these batteries onto the market, which should benefit customers due to their longevity, quick and intermediate charging capability as well as freedom of maintenance. Clark noted the forklifts are particularly in demand from the distribution industry, where high availability is important. ■

“ While the property market has been challenged by the pandemic, industrial property, in particular warehousing and logistics facilities, has proven to be resilient.”

DAVID ROSMARIN, CEO OF INVESTEC PROPERTY

Bolloré meets logistics challenge



Image Credit: Bolloré

5,000 freight tons of pieces and equipment were transported for the project.

From June to November 2021, Bolloré Logistics Tanzania carried out the logistics for the Songo Songo project by transporting 5,000 freight tons of pieces and equipment. In doing so, the company was able to accomplish a historic feat by being the first to send a large land craft to the Songo Songo Island.

Bolloré Logistics Tanzania was contracted in 2021 to handle all logistical requirements to set up a gas compression plant on Songo Songo Island, located in the South of Tanzania. The contract was awarded by one of the largest suppliers in China of petroleum and

petrochemical products, equipment and technology to the global market.

A total of seven barge vessels were required to deliver the equipment to the island at different intervals, and several specialised pieces of equipment were used including a 130 ton and a 60 ton crane, an excavator, a modular hydraulic trailer and 2 semitrailers for shunting.

Difficulties included the lack of infrastructure, which was overcome by the rebuilding of a jetty which was converted into a landing area capable of accommodating the vessel and cargo arriving onto the island.

NORDEN EXPANDS INTO PORT LOGISTICS

NORDEN has forayed into a new business area of port logistics by signing a contract with manganese mining company Comilog, a subsidiary of Eramet.

Across the 10-year agreement, NORDEN will be responsible for setting up and operating a transshipment solution in Gabon, with an investment of around US\$40mn.

Development of the port logistics business will be managed by the newly established Logistics & Climate Solutions team. The Gabon project has seen NORDEN developing a floating transfer station 40 km away from the existing port to allow Capesize vessels to be used. Cargo is transported on barges from the port to the station where it is loaded onto the vessels and then onto Asia.

The agreement with Comilog sees NORDEN handling the ocean freight for a portion of the transhipped cargo.

“Port logistics is an exciting new growth opportunity for us as we look to take our business beyond a standard freight service to an innovative supply chain partner,” said NORDEN CEO Jan Rindbo.

EMBRACING DATA FOR A SUSTAINABLE WAREHOUSE FUTURE

Climate change continues to dominate the global headlines, further highlighting the challenges facing every industrial sector and the important changes that must be made to impact the world in a more positive way. Aligning that to the warehouse and distribution centre arena, the logistics sector must continue to look at ways to implement more efficient processes and operations to follow a sustainable path to continued growth.

The past two years have demonstrated that supply chains must be kept healthy, robust, and ready for whatever comes their way, as the challenges facing the logistics sector currently are numerous. Consumer demands, political uncertainty and unprecedented supply chain disruptions have caused huge logistical challenges that have significant impact on economic success across Africa. Central to solving these issues are the warehouses and distribution centres within the supply chain.

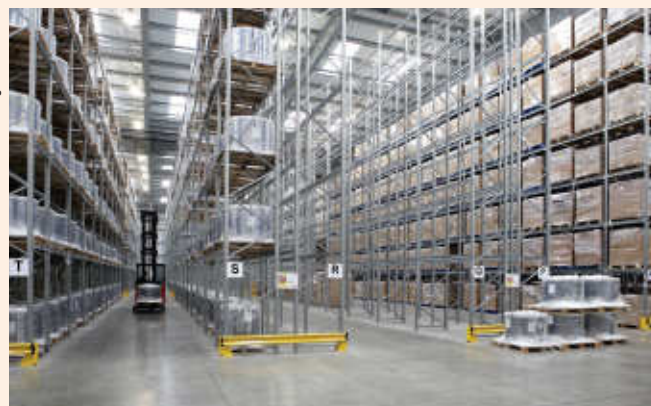
In today's market, distribution centres must simultaneously hold a more comprehensive range of stock, dramatically increase the speed and accuracy of deliveries, and contribute towards the journey to sustainability. Consequently, the necessity for optimised warehouses has never been greater — something that can only be achieved through the detailed analysis of operational data.

Leading the way

SEC Exports leverages clients' operational data utilising a bespoke suite of artificially-intelligent analytical tools and virtual twinning technology to produce innovative designs that are more efficient, effective and flexible than alternative solutions.

The use of operational data allows the company to continually optimise the performance of its systems installed at a customer's facility over time.

Image Credit: Dexion



SEC Exports has collaborated with core suppliers such as Dexion to ensure sustainable practices are employed in the delivery of high quality storage equipment.

SEC Export's solutions have been built upon sustainable principles and intelligently use space and power to reduce environmental impact. However, perhaps the most long-lasting impact is that it has transformed customer beliefs in the value that warehousing can provide, and delivered solutions that have supported them towards their strategic objectives.

Not just outwardly focused on sustainability, SEC Export's internal processes have also changed towards a more sustainable future including collaboration with core suppliers such as Dexion to ensure sustainable practices are employed in the manufacture and delivery of high quality storage equipment.

It is important to embrace these stepping stones of change so that, as a collective, the logistics sector can lead the way to sustainability.

‘North Backbone’ connection launches

H.E Mohamed Bazoum, President of the Republic of Niger, and H.E Nana Addo Dankwa Akufo-Addo, chair of the Authority of Heads of State and Government of the Economic Community of West African States (ECOWAS) joined to launch the ‘North Backbone’ project, an electricity interconnection project integrating Nigeria, Niger, Burkina Faso, Benin and Togo with a connection worth US\$568.2mn.

The connection aims to establish a 330kW interconnection line to supply electricity to the five involved nations, and has been funded by the World Bank, the African Development Bank, the French Development Agency, and the European Union. Construction work is expected to be completed in 2024.

Sédiko Douka, commissioner for mines and energy at ECOWAS, representing H.E. Jean-Claude Kassi Brou, president of the ECOWAS Commission, said at the ceremony, “It goes to show that ECOWAS is also concerned about physical infrastructure (transport, energy, telecommunications, water), in addition to agriculture and food security, single currency, the common external tariff, free movement of goods and services and the right of establishment, among others.”

Nigeria’s Minister for Petroleum, Energy and Renewable Energy welcomed the stakeholders to the groundbreaking ceremony, explaining that the far-reaching regional project is expected to have a positive impact by facilitating electricity trade and extending power access across 611 communities.

Upon its completion, along with the Gambia River Development Organization (linking Senegal, the Gambia, Guinea, Gineau Bissau) and the TRANSCO CLSG (Cote d’Ivoire, Liberia, Sierra Leone, and Guinea), the three landmark projects will result in the interconnection of all 14 countries in the ECOWAS region, which looks to be a favourable prospect for the implementation of the regional electricity market, a scheme that was first launched in 2018 by the West African regional organisation.

Construction of the line, which is expected to be completed in around 18 months, has taken into consideration all environmental and social aspects, including compensation, resettlement, institutional aspects, and capacity building, in strict compliance with international standards.



Image Credit: ECOWAS

The connection links Nigeria, Niger, Burkina Faso, Benin and Togo.

POMONA WASTE PROJECT GIVEN SIGNIFICANT BOOST

German investor Geogenix BV is set to invest approximately US\$331.6mn in an expansive waste-to-energy project at the Pomona dumpsite in Harare, which is anticipated to generate up to 22MW of electricity once operational.

The Minister of Local Government and Public Works, July Moyo, explained that the investor is expected to visit Zimbabwe to confirm the finalisation of the agreement, elaborating, “What is left for Geogenix BV is to sign the agreement to start. They will sign the agreement with the City of Harare, but all the indications show that they are ready to start.”

The deal will be operated by Geogenix BV for the first 30 years of operation, and is set to improve waste management and increase power supply at the Pomona site.

As part of the agreement, the German company will design, build, operate and transfer the Pomona waste management facility to an energy plant.

Speaking at a cabinet meeting, Minister for Information, Publicity and Broadcasting Services, Monica Mutsvangwa, explained, “The project will be managed and operated by the investor for a period of 30 years before transfer of the project to the City of Harare. In addition to waste management, the project would also generate up to 22MW of electricity which would be introduced into the national grid.

“Government is encouraging local authorities to open up similar projects in other cities and towns as a way to ensure environmentally-friendly management of waste in the country.”

The agreement followed the positive results of a feasibility study conducted by an international body. Pomona’s waste management project is expected to contribute to Harare’s renewable targets and aid the pursuit of a sustainable future.

GLOBAL CO₂ EMISSIONS REBOUND TO HIGHEST YET

2021 saw global energy-related carbon dioxide emissions rising by 6% in 2021, reflecting 36.3 bn tonnes in total. This marks the highest ever level, with the rebound from the Covid-19 pandemic and reliance heavily on coal to power the growth.

The increase in global CO₂ emissions of more than 2bn tonnes was the largest in history in absolute terms, more than offsetting 2020’s pandemic-induced decline, according to IEA analysis.

The company’s new report is based on the IEA’s detailed region-by-region and fuel-by-fuel analysis, drawing on the latest national data and publicly available energy, economic and weather data.

Coal accounted for over 40% of the overall growth in global CO₂ emissions throughout 2021, reaching an all-time high of 15.3bn tonnes. Natural gas emissions rebounded to well above their 2019 levels, reaching 7.5bn tonnes. At 10.7bn tonnes, emissions from oil remained significantly below pre-pandemic levels.

► BRIEFS



Image Credit: G8 Subsea

G8 awarded 65MW solar LOI

G8 Subsea, a Singapore-based technology company, has announced a letter of intent (LOI) from the West Africa Power Authority to install a full turnkey floating 65MW system at the Bui Dam hydroelectricity project in Ghana.

The group will install the GPM-65 floating solar system, featuring G8’s new generation flotation and high-output PV modules to increase capacity. Commissioning is expected by Q3 2023, and will expand capacity from the current 5MW system.

The system will occupy 350,000 sq m of water space in the Hydro dam vicinity.



Image Credit: AfDB Group

AfDB to finance G5 facility

The African Development Bank Group (AfDB) has confirmed the approval of a US\$379.6mn commitment for the financing of the Desert to Power G5 Sahel Financing Facility, covering Burkina Faso, Chad, Mali, Mauritania, and Niger. Financially supporting the project will include technical assistance for the facility over the next seven years.

The facility is expected to result in 500MW of additional solar power.

The project aims to assist G5 Sahel countries in adopting low-emission power generation.

Murray & Roberts Cementation utilises solar energy at Bentley Park in South Africa

Murray & Roberts Cementation is now powering its Bentley Park site near Carletonville using solar energy, which is allowing it to keep operating at full capacity.

Almost a hectare of photovoltaic panels, supported by lithium batteries to enable seamless continuity, is generating around 726kW of power for the range of training and engineering activities operating across the site.

The photovoltaic installation comprises almost 1,400 solar panels, with the north-facing, ground-mounted modules at a 12° angle, feeding into 800 kWh of battery capacity, providing uninterrupted flow to the range of electrical equipment on-site.



Image Credit: Murray & Roberts Cementation

The solar energy installation is enhancing Bentley Park's path to a sustainable future.

Expanding its power capacity has put the multi-purpose training and engineering facility on a stable and reliable energy base. Murray & Roberts Cementation's engineering services executive, Hercilus Harmse, explained, "In recent years, the case for a more sustainable energy supply has grown – especially with ongoing load shedding and power outages due to cable theft."

"This solution allows the leveraging of solar energy to protect the facility against the direct and indirect disruption caused by unreliable electricity supply."

The solution integrates a hybrid model, relying on solar power for much of the site's usage, with backup lithium batteries acting as a failsafe and guaranteeing continuous electricity in the case of outages. An existing backup diesel generating system adds another level of redundancy and failsafe in the case of outages.

"This comprehensive design assures customers that we can continue to deliver our training and refurbishment services irrespective of the threats facing our national energy network," concluded Harmse.



Image Credit: Murray & Roberts Cementation

The photovoltaic installation comprises almost 1,400 solar panels across the site.



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Gensets market primed for growth and evolution

While change is now a constant in Africa's energy market as the transition to cleaner technologies gathers momentum, demand for modern genset power systems appears as robust as ever.

In a continent where reliable power is not taken for granted, gensets have long filled a gap, providing crucial energy and peace of mind for industrial sites, hospitals, residential users, and many others. These gensets power, or provide back-up, to some of Africa's most vital industries, ranging from remote mining sites to offshore oil platforms.

As times have changed, so too has the technology behind these portable power stations, as they become increasingly energy-efficient. The range of fuels has broadened out from traditional diesel and heavy fuel oil (HFO) to natural gas, while many sites also now embrace 'hybrid' models that may incorporate renewable and alternative technologies, such as wind or solar power. That is a key trend as businesses around the globe tackle issues surrounding climate change.

"I think the most talked about topic when it comes to gensets and power generation in general is the need to reduce GHG (greenhouse gas) emissions," said Kara Neale, business development manager at Clarke Energy, a part of the Kohler group, a leading supplier of gensets and engines to Africa.

"Multiple sectors – mining, industrial, commercial property – are moving away from grid power



One of the two 1,000kVA diesel generators that power the residential skyscrapers at Azuri Towers in Nigeria.



Rolls-Royce mtu 16V4000L32 natural gas gensets installed at IPP producing electricity in 2016 for a food factory in Nigeria.

as their main/sole supply to either full self-generation with hybrid systems, or adding partial generation to use during peak periods, or times of load shedding etc.

"From our perspective, we see gas as being the transition fuel, moving away from coal, HFO and diesel, and in doing so halving the GHG emissions. The next stage would be the move to renewable fuels such as biogases and hydrogen when these are viable."

Clarke Energy expands

Illustrating the breadth of fuels now available, one recent project in Nigeria is currently utilising liquefied natural gas (LNG) to power the operations of Aspira Nigeria Ltd, part of Lee Group of Companies, the second-highest employer in Kano after the state government. Clarke Energy installed plant a 4MW power

plant in the initial phase of the project, which will be upscaled to 10MW in a later phase. Nigeria is one of Africa's biggest LNG producers and exporters and sits on vast natural gas reserves.

At the end of last year, Clarke Energy also relocated to a new regional office in Tunisia, a move that will bolster its Francophone Africa hub, based in Tunis. The new site is equipped with a spare parts warehouse of the gas engine manufacturer INNIO Jenbacher. It also reflects the company's belief in the investment climate in Tunisia. Clarke Energy took the opportunity to celebrate the signing of a global partnership agreement with Rose Blanche Group, a Tunisian agrifoods company, to ensure the optimal energy efficiency of its plants for a total capacity of 11MWe.

An ever-changing market

Another company that is beefing up its presence in Africa is Rolls-Royce Power Systems. It is providing energy for a wide range of applications on the continent, including mtu power solutions for data centres, hospitals, airports, shopping malls and other infrastructure, as well as backup for the grid network in some countries.

From its headquarters in South Africa, the company plans to strengthen its presence in eastern and western African markets offering the complete Rolls-Royce product portfolio for power generation. This includes mtu diesel and gas gensets, UPS systems, battery containers and complete decentralised energy systems.

Rolls-Royce's autonomous energy systems can combine heat and power plants, diesel and gas gensets, and renewable sources with batteries. All elements are linked together in an

“ I think the most talked about topic when it comes to gensets and power generation in general is the need to reduce GHG emissions.”

KARA NEALE, BUSINESS DEVELOPMENT MANAGER AT CLARKE ENERGY

intelligent energy management system that optimises energy use technically and commercially.

Its research and development engineers are also working on fuel cell systems, hydrogen engines and other concepts for decentralised power plants.

Some of its mtu diesel gensets were recently installed to power Lagos's three 140 metre-high Azuri Towers. Two emergency gensets based on mtu engines now guarantee that the electricity never fails at this flagship development. The gensets also mark a milestone for the company: with the Azuri installation, Rolls-Royce has delivered more than 150 diesel and gas gensets in Nigeria since 2015. In total, gas gensets with a capacity of around 50MWe are now installed to power applications, from residential developments and hotels, and as prime power plants in steel, glass and food factories.

Demand and opportunity

Another major player in Africa's is MAN Energy Solutions, which recently unveiled a project to install 110MW sub-Saharan generation capacity across three power plants in Niger, Chad and Burkina Faso. Its work includes the supply of generation technology for a newly built power plant in Chad, the expansion of an existing facility in Niger, and the commissioning of a power plant in Burkina Faso.

In Chad, MAN Energy Solutions will supply four 18V32/40 CD engines to a new power plant providing a total of 35MW to the

national grid. Currently under construction North of the capital, N'Djamena, the transport of the plant's heavy duty engines and auxiliary equipment over more than 1,800 km by truck from the port city of Douala, Cameroon, is a particularly challenging task. Currently, just 10% of Chadians have access to electricity.

The Niger project will see the expansion of a power plant near the capital, Niamey, where four MAN 18V48/60TS engines are already in operation on-site. The addition of another engine of the same type will add another 20MW to the site's total capacity, to a total of over 100MW. "After this expansion, the Niamey power plant alone will provide over 45% of Niger's generation capacity," commented Ghassan Saab, head of power for the MEA region at MAN Energy Solutions.

"However, Niger is still one of the countries in Africa with the lowest electrification rate and we are in talks with the country's government to increase it significantly over the next few years."

The company's engineers also recently commissioned a further three MAN 18V51/60TS engines for a power plant expansion project in Burkina Faso. The plant in Kossodo, a suburb of Ouagadougou, will provide 55MW to the national grid, increasing the country's generation capacity by nearly one fifth. Despite delays due to the Covid-19 pandemic, the team was able to hand over the site on time to national utility, SONABEL, which has relied on power plant engines from

“ The Niamey power plant alone will provide over 45% of Niger's generation capacity.”

GHASSAN SAAB, HEAD OF POWER FOR THE MEA REGION AT MAN ENERGY SOLUTIONS

MAN Energy Solutions since 1978. It means around half of Burkina Faso's total installed capacity is now based on MAN technology.

Future look

While the market for gensets looks as robust as ever given Africa's urgent need for more power and as the Covid-19 crisis recedes, it is not entirely business as usual.

The advent of new technologies continues to drive innovation, with hybrid systems involving solar and wind energy now increasingly common, often working alongside traditional thermal power solutions. Manufacturers are exploring other options too such as fuels cells and hydrogen. That could gain even more traction, especially in the context of rising oil and gas prices.

Leading companies such as Wärtsilä and Caterpillar are now helping mining firms and industrial clients with decarbonisation efforts to help them achieve climate targets. Wärtsilä's latest project, in South America, will see it supply a 7.8MW energy storage system to a leading gold mining company – the first utility-scale energy storage system to be built in Suriname. It's a sign of the times as genset producers square up to

environmental challenges alongside their clients.

The hydrogen market looks set to expand significantly in the coming years, as part of this broad shift. Over the next few years, MAN Energy Solutions, for example, plans to invest up to (approximately) US\$550mn in its subsidiary H-TEC SYSTEMS to transform the hydrogen specialist into a mass-producer of PEM electrolysers as quickly as possible. Green hydrogen is tipped to become one of the most important primary energy sources for the global economy as it continues to decarbonise, experts believe.

Rolls-Royce Power is adjusting its mtu natural gas-powered Series 4000 to accommodate hydrogen. Right now, that means up to 20% hydrogen blended to natural gas, but the target today is up to 40%, using its conventional lean burn technology engines after being retrofitted. Looking ahead, the Rolls-Royce PowerLab division is working on concepts for pure hydrogen systems – using 100% hydrogen – both in terms of retrofitting existing power plants and designing new engines.

Just as the energy transition continues to reshape the power industry globally, expect more of the same in Africa in the coming years. The traditional genset remains the workhorse of choice for industrial clients up and down the continent, but environmental pressures will mean there's no avoiding the shift to cleaner fuel sources.

That said, not all will change: performance, reliability and service remain as much in demand today as ever. These timeless values are unlikely to go out of fashion no matter what changes are to come. ■



Engine transport of a MAN 18V51/60TS for a power plant extension in Kossodo, Burkina Faso.

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

ABZ manufactures, installs and services custom-built diesel gensets of 50kVA to 5000kVA capacity for continuous, stand by or peak load operation for all possible applications as stationary, mobile, containerized or canopied units. A wide range of control systems and switchboards for all kinds of operations is available.

Aggreko

29 Spier Road, Block E, Unit E1
Plumbago Business Park
Glen Erasmia, Kempton Park
Gauteng, South Africa
Tel: +27 861 244 735
Web: www.aggreko.com
E-mail:

Sibongile.Thobakgale@aggreko.com

World-leading provider of mobile modular power, temperature control and energy services, supplying portable equipment for a wide range of uses.

Aggreko specialises in serving eight key sectors: Oil & Gas, Manufacturing, Mining, Petrochemicals & Refining, Business Services & Construction, Events, Telecommunications/Data Centres and Utilities.

Agents:

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

AJ Power Ltd.

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

AJ Power specialises in the volume manufacture and design of diesel generating sets from 10kVA to 4376kVA, associated equipment and HV solutions up to 13.8kV. The companies' strength lies in engineering excellence built on experience. Drawing on these skills and utilising the latest technology we provide a cost effective, reliable source of power with suitable solutions to cover a wide range of industries.

All products are designed, manufactured and tested, in our UK factory using European components, fully supported by our dedicated engineering and aftersales team in partnership with our distribution network.

AKSA Power Generation

Rüzgarlibahçe Mahallesi Özalp
Çikmazi No:10, Beykoz/Istanbul
34805, Turkey
Tel: +90 216 6810000
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

Ausonia S.r.l.

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E-mail: ausonia@ausonia.net

Since 1932, we design, produce and offer a wide range of AC gensets up to 3000 kVA, available in different configurations (Open-sets, Soundproofed canopies or shelters, Mobile sets on trailers, No-Break Power Systems, Gas gensets, Cogeneration power plants, etc.). Within our power products portfolio, we also include customized solutions for very critical applications (Oil & Gas, Mining, Defense, Telecom), as well as Hybrid Gensets and High Efficiency DC Energy Solutions. OPEX model also available.

Ayerbe Industrial de Motores SA

c/ Oilamendi 8, Pol. Ind. Jundiz
Vitoria, 01015, Spain
Tel: +34 94 5292297
Fax: +34 94 5292298
Web: www.ayerbe.net
E-mail: ayerbe@ayerbe.net

Ayerbe has been manufacturing generators since 1992 and nowadays is one of the leading manufacturers in Spain. The range goes from 2 to 250kVA.

Balton CP Ltd.

CP House, Otterspool Way
Watford, WD25 8HU, UK
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E-mail: tk@baltoncp.com

Balton CP Ltd. Group, through its local

subsidiaries in Sub-Saharan Africa, supply, install and maintain a comprehensive range of power generators from 5kVA to 2000kVA with Perkins Engines. Also included in our range are lighting towers, UPS/Voltage regulators and hybrid power generation units for the telecom industry. Solar Energy solutions and off-grid power solutions.

Agents:

Ghana - Dizengoff Ghana Ltd. (Balton)
Rwanda - Balton Rwanda Ltd.
Uganda - Balton (U) Ltd.

Baudouin



Technoparc du Bregadan
Cassis, 13260, France
Tel: +33 (0)4 88 68 85 00
Web: www.baudouin.com
E-mail: contact@baudouin.com

For over 100 years, Baudouin has manufactured the highest quality engines for power generation and industrial applications. The Baudouin PowerKit range and PSI range provide comprehensive power solutions from 18-4125 kVA in diesel, variable speed, lean burn gas and rich burn gas technologies. Based in France, Baudouin's global network of service points across 130 countries are factory-trained and ready to support our customers.

C. Woermann GmbH & Co. KG

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Tel: +49 40 3281110
Fax: +49 40 3281112
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E-mail: info@c-woermann.de

Technical supplier for industrial machinery, workshop equipment and services, handling equipment, construction machines and agricultural equipment, forestry equipment, generators, spare parts.

Agents:

Angola - C. Woermann Angola Lda.
Ghana - C. Woermann (Ghana) Ltd.
Nigeria - C. Woermann (Nigeria) Ltd.

CANTONI MOTOR S.A.



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E-mail: motor@cantonigroup.com

Cantoni Group is a global leader in

manufacturing of electric motors, apparatus and tools with over 100 years tradition. Cantoni Motor, the international Sales Office located in Poland, coordinates the sales and purchasing for the whole Group. We offer a full range of IEC asynchronous induction electric motors from 0,04 kW up to 6000 kW in standard and special executions as well as NEMA Premium motors.

Caterpillar Electric Power

Web: www.cat.com/demand_cat
E-mail: Electric_Power@cat.com

Caterpillar has the widest electric power portfolio in the industry including diesel and gas generator sets, containerized power modules, cogeneration systems, rental units, solar microgrids and energy storage solutions, and advanced monitoring and control systems. The Cat dealer network provides long-term service agreements, technical training, and parts availability. Visit cat.com/dealer-locator.

Clarke Energy

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Clarke Energy is a multi-award-winning global business specializing in the engineering, installation and maintenance of flexible energy solutions. Clarke Energy provides distributed power plant solutions with market leading engineering, installation and maintenance support. Our installations provide environmental benefits that can help reduce our customer's carbon emissions and improve energy efficiency.

COELMO spa



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Web: www.coelmo.it
E-mail: sales@coelmo.it

Coelmo is one of the oldest European manufacturers of industrial and marine generators from 3kVA up to 4000kVA. Based in Italy, with a large stock of Generating Sets available to be shipped overnight to any destination in the world. Company profile, products and models are available online at www.coelmo.it



● ● ALTERNATORS MADE IN ITALY

Your Success is our Mission

Linz Electric is an Italian company specialized in the production of synchronous alternators up to 1500kVA. Linz Electric's Mission is to create the most efficient solution to lead customers to success through Made in Italy quality products, flexibility in process and quick and complete service. **Linz Electric's Alternators: Energy for your Success.**

Crestchic Loadbanks

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Burton on Trent
DE14 2WF
United Kingdom
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Fax: +44 1283 510103
Web: www.crestchicloadbanks.com
E-mail: sales@crestchic.co.uk

Crestchic design and manufacture AC & DC loadbanks and transformers for safely and accurately commissioning and maintaining power systems; including diesel generators, gas turbines and UPS.

Our loadbanks are used for testing AC systems and are available in packages up to 150MW, at voltages from 380V to 36kV, 50/60Hz.

Cummins Middle East FZE

South Zone 2 - S201
Jebel Ali Free Zone
Dubai, UAE
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Web: www.cummins.com
E-mail: cummins.middleeast@cummins.com

For more than 100 years, Cummins' technology has powered success around the world. Our comprehensive portfolio delivers innovative solutions for your unique power need - commercial, industrial, marine, mining, recreational, emergency and residential. Products include diesel engines ranging from 49 to 5,500 hp, diesel and gas powered generator sets ranging from 15 to 3750 kVA, alternators, generator-drive engines and integrated power systems, combining generator sets and power control and transfer technologies. Services range from system design, project management, operations and maintenance contracts to the development of turnkey power plants. With 600 distributors and 7,200 dealer locations in 190 countries and territories, we offer global capabilities and local support wherever and whenever you need us. Cummins technologies and employees are always innovating for a world that's always on.

Agents:

South Africa - Cummins South Africa Pty. Ltd.

DEUTZ DIESELPOWER

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DEUTZ DIESELPOWER, a member of the HUDACO Group is the Sole Distributor of DEUTZ products and services for South Africa and certain key Anglophone African countries. Long service life, reliability and cost effectiveness are synonymous with DEUTZ engines and it is characteristics that have made them world-famous.

Doosan Portable Power (DPP)

PO Box 262688, JLT Platinum Tower
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Tel: +971 4 2767206
Fax: +971 4 2767204
Web: www.doosanportablepower.eu
E-mail: gaby.rhayem@doosan.com

DPP is a leading manufacturer of portable Compressors, Generators and Mobile Lighting Systems for the African market.

Forest City Generators Ltd

Albion House, 163-167 King Street
Dukinfield
England, SK16 4LF
United Kingdom
Tel: +44 161 4490660 / 4490770
Web: www.forestcitygenerators.com
E-mail: forestcity@compuserve.com

Supplier of diesel generator sets from 7.5kVA to 2650kVA with Perkins, Volvo and Cummins engines coupled to Mecc-Alte, or Leroy Somer alternators, soundproof canopies, control panels and transfer switch (ATS) panels and all associated OEM spare parts.

Generators for Export Limited



Unit 15A, Goodwood Road
Keytec 7 Business Park, Pershore
Worcestershire
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Tel: +44 (0)1386 553344
Web: www.generatorsforexport.com
E-mail: sales@gfe.uk.com

Generators for Export Limited (GFE) is a British leader in the sale and global distribution of pre-owned, used diesel generators ranging from 6-3000kVA. We stock in excess of 250 generators at our site in the UK and specialise in brands including:

- Perkins
- Cummins
- Volvo
- FG Wilson
- Caterpillar
- Iveco
- Spare parts and accessories

Genmac S.r.l.

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GENMAC manufactures generators in Italy since 1983. GENMAC offers a complete range of generators and accessories from 2kW to 2000kVA, open and supersilent, in parallel, ATS, remote control, trailers and trolley, spare parts, fuel tanks, technical documentation. All the power solution you need, GENMAC can make it!

GFE Power Products Limited



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E-mail: sales@gfepowerproducts.com

GFE Power Products Limited is a UK specialist in the assembly, supply and distribution of diesel, petrol and OEM powered generators ranging from 2kVA to 3000kVA. Dedicated to the supply of products powered by:

- Perkins
- Cummins
- Kohler-SDMO
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- Doosan
- Baudouin
- Spare parts and accessories

Green Power Systems S.r.l.

Localita Maiano SN
Caprazzino di Sassocorvaro (PU)
61028, Italy
Tel: +39 0722 726411
Fax: +39 0722 720092
Web: www.greenpowergen.com
E-mail: giovanni@greenpowergen.com

Manufacturer of generating sets up to 3000kVA, 50 and 60Hz.

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

Hatz Diesel South Africa

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Edenvale, Postnet Suite 22
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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.

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Tel: +39 011 9648211
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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

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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!

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- 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
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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 - POWER02

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 40 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 10 countries with 3 manufacturing plants and 29 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
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Tel: +39 045 7639201
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Web: www.linzelectric.com
E-mail: info@linzelectric.com

Linz Electric S.p.A. specializes in the production of alternators from 1,7kVA to 1.500kVA and rotating welders up to 500amps. The main focus of LE is customer satisfaction through high quality product Made in Italy and fast and comprehensive service. Linz Electric is part of the Pedrollo Group with which it shares values and production synergies to guarantee the highest quality standards.

Lovato Electric S.p.A.

Via Don E. Mazza 12
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24020
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Tel: +39 035 4282111
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E-mail: info@lovatoelectric.com

World leader manufacturer of electrochemical and electronic components for genset control panels. Our range includes generator controllers, automatic transfer switch controllers, battery chargers, changeover contactors and switches and more!

MAN Energy Solutions SE

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86153
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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



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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:

Egypt - Mantrac Egypt Ltd. (Cairo)
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.

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With over 130 years of experience, Marelli Motori is one of the world's leading designers and manufacturers of electrical rotating machines, based in Italy. The company offers a complete range of alternators and electric motors for low, medium and high voltage systems to meet every customers needs.

Agents:

South Africa - Marelli Motori South Africa (Pty) Ltd

MB Crusher

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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.

Mecc Alte

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Mecc Alte design and build high performing alternator solutions for low, medium and high voltage power classes for standby and prime power applications, from 1-5,000kVA. With manufacturing in Italy, the UK, China and India,

their network of factories is supported by wholly-owned subsidiaries across the globe who specialise locally in the sales, distribution and aftersales for all Mecc Alte products. Combining independent thinking with agile supply and committed service, it delivers next generation products with intelligent capabilities for OEMS looking for greater efficiency and reliability.

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Perkins is a world leading supplier of off-highway diesel engines, offering power up to 2500 kVA. Our cost effective solutions, from competitive fuel consumption to ease of maintenance, whatever the power requirement, add real value to our customers' equipment.

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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

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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.

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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 130 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.



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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.

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Volvo Penta is a world leading and global manufacturer of engines and complete power systems for both marine and industrial applications. The Volvo Penta Industrial engine range covers diesel engines for electrical power generation and industrial diesel engines for different stationary and mobile off-road applications. Our engines meet both the most stringent exhaust emission levels, Tier 4/Stage 4, but are also available in lower Tier versions. Volvo Penta has a global coverage with around 4000 dealers in 130 countries. Volvo Penta is a part of the Volvo Group, one of the world's leading manufacturers of trucks, buses and construction equipment.

Agents:

Congo Brazzaville - SMT Congo (Brazaville)
Congo Brazzaville - SMT Congo (Pointe Noire)
Congo DR - SMT RD Congo (Kinshasa)
Congo DR - SMT RD Congo (Lubumbashi)
Egypt - Orascom Trading Co.
Nigeria - Marine and Land Logistics Ltd.
Nigeria - SMT Nigeria (Abuja)
Nigeria - SMT Nigeria (Lagos)
Nigeria - SMT Nigeria (Port Harcourt)

Zest WEG



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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

Section Two: Agents & Subsidiaries in Africa

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A S4S-61SD Mitsubishi Diesel Engine with a PRO18S C/4 Linz Electric Alternator.

Image Credit: MTEE

PowerPackPlus range supports African OEMs

Mitsubishi Turbocharger and Engine Europe B.V. have teamed up with Linz Electric to launch the PowerPackPlus product range.

As part of its strategy to assist genset OEMs in the African region, Mitsubishi Turbocharger and Engine Europe B.V. (MTEE) have launched the PowerPackPlus product range in cooperation with Linz Electric.

PowerPackPlus products involve the consolidated supply of a Mitsubishi Diesel Engine, radiator and Linz Electric alternator, giving OEMs the opportunity to simplify the management of their purchasing, logistics, customs clearance and aftersales support processes.

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

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

The union of Japanese and Italian technical and manufacturing expertise in the PowerPackPlus provides customers with a dependable, durable, efficient and cost-effective power-production unit

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

Meeting demand

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

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

Paul Kaliski: The demand for generator sets in Africa is continuing to grow and MTEE would like to grow with it. Mitsubishi is already an appreciated brand in Africa and our products fit the market

needs of reliable energy solutions that are easy to install and maintain. More so than in Europe, the demand for generator sets includes the residential, commercial and small to medium-scale manufacturing sectors so we are tailoring our product range for the African market and are steadily expanding our dealer network in the region.

Alberto Azzolini: Linz Electric has important collaborations in Africa and we do believe that for the future it will be increasingly a key market for us. The demand of electrical energy is constantly expanding, and Linz Electric wants to be a part of the electrification process in the African region.

AR: Why did you create the PowerPackPlus product?

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

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

“ The demand for generator sets in Africa is continuing to grow.”

PAUL KALISKI, PRODUCT MANAGER - G-DRIVE ENGINES AT MTEE

PowerPackPlus product comes in.

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

This simplifies the various processes that surround these items, giving benefits in order processing, customs administration, transportation costs, stock management and delivery coordination. Regardless of sector or size, efficient supply chain management is vital for the success of any company.

Moreover, with the PowerPackPlus, MTEE has undertaken some of the technical analysis work for the OEMs and streamlined the aftersales support processes – all of which enhances our core business of providing powerful, reliable diesel engines that are easy to install and maintain.

AA: In our opinion, it is really important for African OEMs to deal with just one contact for both the engine and alternator. This will lead to several advantages such as saving time and making the entire purchase process easier, not to mention the fact that both engines and alternators will be on stock together and ready to be delivered. Additionally, the PowerPackPlus will simplify all of the aftersales processes as a result of the Mitsubishi service network being able to provide aftermarket support for both engine and alternator.

“The demand of electrical energy is constantly expanding, and Linz Electric wants to be a part of the electrification process in the African region.”

ALBERTO AZZOLINI, SALES MANAGER - ALTERNATORS AT LINZ ELECTRIC

AR: What is the ‘Mitsubishi & Partners’ initiative?

PK: This initiative is about MTEE giving extra support to customers or working in a collaborative way with suppliers to find the best possible solution to problems. ‘Mitsubishi & Partners’ is about building long-term relationships in the value chain.

AR: Why did you choose to collaborate with Linz Electric for the PowerPackPlus product?

PK: Linz Electric has the skills and passion that makes it a valuable addition to our network, not just for today but long into the future.

They are producing high quality products with a dynamic and innovative spirit that encompasses the whole corporation. In every stage of this initial project together, they have been flexible and cooperative. Their technical and service teams were eager to collaborate and share their knowledge with our counterparts at MTEE and their sales and production teams are communicating closely with us to manage the delivery schedules efficiently. Their proximity within the EU and their adaptable vertically-integrated manufacturing philosophy helps make our own supply chain management simple, allowing us to pass-on this simplicity further down the chain.

AA: It is an honor to have been chosen by such a prestigious organisation as Mitsubishi for this initiative. This will play a crucial part in Linz Electric’s strategy to strengthen its worldwide brand and to be more and more a key player in the energy sector.

AR: What helps this partnership be a long lasting one?

PK: MTEE operates under the MHI Group Code of Conduct and Corporate Social Responsibility guidelines. Basic principles of honesty, integrity, mutual respect and taking responsibility for our actions are paramount to how we do business and, as a group,

we have continuing Sustainable Development Goals in relation to the environment, society and governance.

Since 2014, our group has driven down our CO₂ emissions, our water usage and our waste generation and developed numerous products that actively contribute to the environment.

MTEE strives to provide a work environment where each and every employee can reach their full potential. We foster a culture that aims to attract and retain the best talent and we keep them protected by following strict occupational health and safety practices.

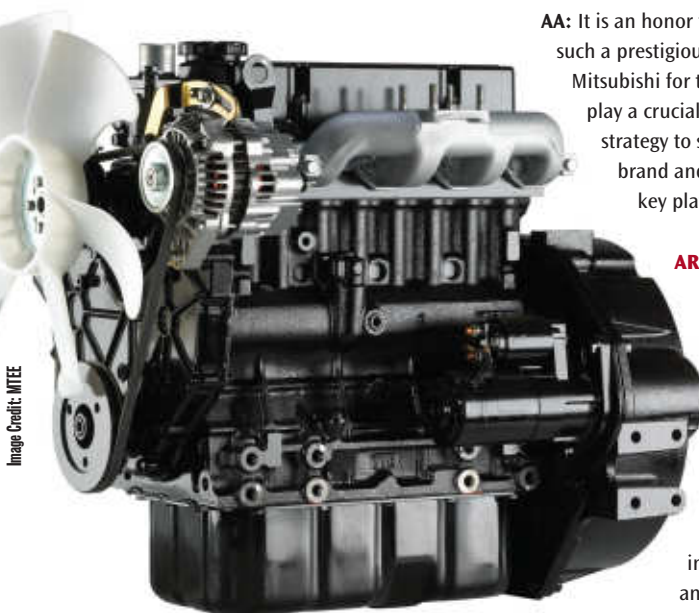
When forming business relationships, MTEE, therefore, seeks partners whose corporate values parallel those of our own and Linz Electric certainly fits these criteria.

We share a strong focus on identifying and satisfying the specific requirements of each customer so that we can provide products that customers, and the world, need. Both of our organisations realise that good business is not just about good profit. It is about contributing to sustaining and improving the world we live in.

AA: Linz Electric is part of Pedrollo Group, which is always conscience of promoting integrity and ethics in business and the workplace. Furthermore, Linz Electric cares deeply about providing a safe working environment for its employees, and we have invested heavily to make sure that we have received ‘Lavoro Sicuro’ certification which is an important Italian health & safety accreditation.

Beyond the normal day-to-day business, the Pedrollo Group has also established the “Pedrollo 4 People” programme to undertake various social projects every year. A fair number of these projects are in Africa. Recently, we provided support to an orphanage in Tanzania and we have helped build more than 1,200 wells around the world, many of which are on the African continent. ■

To learn more, contact:
Abdesselam Bennis, business development manager
EMEA, engine & energy division.
Email: ABennis@MTEE.eu
Mob: +31 6 12 089 086



A S4L2-61SD engine from Mitsubishi.

BBOXX LAUNCHES NEW ENTRY-LEVEL BRAND

Bboxx, a next-generation utility, has launched Flexx by Bboxx, a new brand offering entry-level clean energy products to millions of people at the bottom of the energy pyramid. Flexx by Bboxx will bring new and reliable products to market that are affordable, accessible, and flexible, getting millions more people onto the energy ladder.

As part of the launch, Bboxx announced two new clean energy products:

- Flexx10 is an affordable 'plug and play' portable solar lantern, designed for rural customers and those who are mobile. The product is also capable of charging mobile phones. Flexx10 is an upfront cash sales product.
- Flexx40 is a Pay-As-You-Go token-based multi-light solar system, designed for rural customers at the bottom of the energy



Image Credit: Adobe Stock

Bboxx is offering entry-level clean energy products.

pyramid, with a demand for lighting applications and mobile phone charging. It comes with dimmable LED light bulbs, which allows customers to have more control over their energy usage.

Both new products are designed to minimise lifetime costs and include features that reduce maintenance and service requirements. All

Bboxx's systems run on its comprehensive management platform Bboxx Pulse, enabling clean energy access to be scaled to places previously considered too expensive or difficult to reach via traditional grid infrastructure.

Mansoor Hamayun, CEO and co-founder of Bboxx, said, "We are passionate about our mission to address the major global problem of energy poverty. The scale of the issue is vast, with 759 million people living without access to energy, of which 570 million are in Africa. We are therefore delighted to be expanding our product offering to include even more flexible and affordable solutions for customers struggling to get onto the energy ladder."

Flexx by Bboxx will first launch in Rwanda and Kenya before expanding to other Bboxx markets in subsequent months.

Agreement for green ammonia facility

Scatec has signed a memorandum of understanding (MOU) with the General Authority for Suez Canal Economic Zone (SCZONE), The Sovereign Fund of Egypt (TSFE), the Egyptian Electricity Transmission Company (EETC), and the New and Renewable Energy Authority (NREA), to jointly develop a green ammonia facility in Egypt with a production capacity of one million tonnes annually and with a potential for an expansion to three million tonnes annually.

The green hydrogen and ammonia facility will be located in the SCZONE in Ain Sokhna Industrial Zone and will be powered by renewable energy plants to be built close by.

This is the first large-scale project for production of green ammonia in the country, which also includes the participation of the Government of Egypt and is a demonstration of the country's pledge to maximise low carbon and green energy production. Egypt will host the United Nations Climate Change Conference, also known as COP27, in Sharm Elsheikh later this year.

Raymond Carlsen, CEO of Scatec, commented, "We are proud to partner once more with the Government of Egypt represented by SCZONE and TSFE, as well as with our long-term partners EETC and NREA, for the realisation of this exciting large-scale green ammonia project in Egypt. We believe that no effort should be spared to accelerate the energy transition, and we are thrilled to be contributing to Egypt's aspiration to become a hub for green fuel."

Ayman Soliman, CEO of The Sovereign Fund of Egypt, said, "We are thrilled to play an active role in the green transformation towards a more sustainable future."

Scatec will leverage its expertise in renewables, project structuring and financing, as well as execution and operation to help establish a green energy hub and green corridor in Egypt.

Long term offtake agreements will be secured to enable non-recourse project financing for the green ammonia. The green ammonia will mainly be exported to European and Asian markets.



Image Credit: Scatec

The agreement signing.

FLUKE SHOWCASES SUSTAINABLE SOLUTIONS

Fluke, the global technology leader in the manufacture of compact, professional electronic test and measurement tools and software, showcased a range of state-of-the-art handheld tools as well as new approaches and initiatives at Middle East Energy 2022, held from 7-9 March in Dubai.

Leading products showcased included the acoustic and thermal imaging, measurement of power quality, electrical and calibration tools, and other advanced industrial technologies for the detection of energy leaks. Other products include the world's first clamp meters for solar power installations with a CAT III 1500 V safety rating, the ii900 Industrial Acoustic Imager, the new Fluke ii910 Precision Acoustic Imager and Fluke's 1770 Series Three-Phase Power Quality Analysers.

Fayez Al Nobani, channel sales director and mechatronics engineer (Middle East and Africa) at Fluke said, "With our decades of experience in refining the technology that ensures energy efficiency and sustainability, we are positive of the many opportunities for industries to enhance electricity usage and thereby contribute to a more sustainable energy growth in the region."

Fluke's energy loss detection technology is capable of identifying and isolating energy loss and wastage, which can then be recovered and preserved for future uses. The company's power quality and calibration tools also work on preventing the disruptions and outages in power grids. These products and solutions are essential to industries that apply electronic installations, maintenance and services, precision measurement and quality control.

MYTILINEOS leads the charge towards a sustainable future



In addition to the construction of thermal power plants and selected infrastructure projects, MYTILINEOS, a leading global industrial and energy company with an established presence in all five continents, is focusing on the dynamic development of sustainability projects.

Today, MYTILINEOS is a world-class developer and contractor of solar and energy storage projects, offering solid capabilities across their lifecycle, ranging from stand-alone projects to complex hybrid systems.

The development of solar parks and energy storage projects is implemented by the Renewable & Storage Development Business Unit (RSD BU), extracting significant synergies across the business units.

With a strong in-house engineering capability, global scope and unmatched responsiveness, the company delivers high quality projects for its clients world-wide.

The broader strategy of the RSD BU also includes the solar development business model Build-Operate-Transfer (BOT) which leverages the expertise of the company, having completed more than 1.5GW of solar power plants and 400MW of energy storage projects in all five continents.



The CCGT Power Plant.

The CCGT Power Plant

MYTILINEOS supports the effort to reduce greenhouse emissions while constructing emblematic projects.

Such project is the 826MW new CCGT station within the company's Energy Complex in Aghios Nikolaos, Greece. The new station is under construction according to schedule and will start its commercial operation in second half of 2022.

The station will be operating with an H-Class gas turbine with efficiency of more than 63%, making it the most efficient plant across Europe.

The project is executed by the company's Sustainable Engineering Solutions Business Unit with important synergies, ensuring reduced investment costs.

As a contractor, MYTILINEOS has already undertaken and successfully completed numerous CCGT station projects around the world, thus

guaranteeing both the speed and quality of construction.

A new era in sustainable energy projects

The Sustainable Engineering Solutions Business Unit of MYTILINEOS is benefitting from its established international presence, excellent track record and strong partnerships with technology and equipment providers. It is uniquely placed to pursue new growth opportunities focusing on Energy Transition and Sustainability.

With a strong presence in sub-Saharan Africa, MYTILINEOS has been already awarded three successive thermal power plant projects with overall capacity of 650MW in Ghana.

Committed to sustainable development

MYTILINEOS pursues its development through its business model, responding to the global challenges of sustainable development. The company's path to sustainability is characterised mainly by its conscious commitment to responsible entrepreneurship and the alignment of its strategic priorities with the Global Sustainable Development Goals

It is noteworthy that MYTILINEOS committed to minimising its carbon footprint, aiming to reduce the total direct and indirect CO₂ emissions by at least 30% by 2030 (against 2019 levels), and by 2050 it has committed to achieving net zero emissions across its entire business activity. With these commitments, the company paves the way for a sustainable future for all the areas it operates. ■

MYTILINEOS is committed to minimising its carbon footprint.

Image Credit: MYTILINEOS



End of the line in sight

Lagos public transportation is set for a significant boost as construction progresses on the Lagos Rail Mass Transit System.

Current estimates for the population of Lagos, Nigeria, range from around 15 million to more than 20 million and, while there is disagreement on the specific number, the majority of sources agree that this figure is rapidly expanding. Such an impressive population requires an equally impressive public transportation system to ensure that the inhabitants can go about their daily and work life uninhibited – for which the economy will undoubtedly benefit.

The Lagos Rail Mass Transit System, imagined with this in mind, is a project which was begun with the proposition of a metro system in 2008, with construction commencing shortly after. The project, which incorporates the erection of no less than seven lines, has since experienced long delays, but extensive construction works over the last few years has led to significant progress on both the blue and red lines so that now, delivery of the first phases is within sight.

The Red line

The 37 km Red Line, which will traverse from Agbado to Marina, will be capable of transporting more than one million commuters daily upon final delivery.

It will be completed in three phases with the first, between Agbado and Iddo, expected to be fully operational in the final quarter of 2022 or the first quarter of 2023. It will have a passenger capacity of 500,000 daily and is expected to significantly reduce travel time.

Speaking at the ground breaking ceremony last year, Lagos State Governor Babajide Sanwo-Olu said, “Since efficient transportation is the backbone of any economy, we are happy to be committing this



The blue line will run for 27 km.

Image Credit: CPCS



Track realignment being performed on the Blue Line.

Image Credit: CPCS

investment in our transport infrastructure, so that our people can meet their daily targets and aspirations. This all-important transport project we are all gathered to witness today represents a major step in this direction.”

The Blue Line

Having been under construction for a longer period, the Blue Line will

run for 27 km between Okokomaiko and Marina with approximately 8 km elevated.

A spokesperson from CPCS, a management consulting firm specialising in infrastructure which is offering technical advisory services for the project, told African Review that it will serve 11 stations and is expected to have a patronage of approximately 1.5 million

passengers per day within its first decade of operation.

The project is being delivered in two phases:

- oPhase 1 (sub-phases I to IV): Construction of rail works from Mile 2 to Marina with an approximate length of 12.5 km

- oPhase 2 (sub-phase V): Construction of rail works from Okokomaiko to Mile 2 with an approximate length of 14.5 km.

The CPCS spokesperson reported that fixed infrastructure works have been completed for sub-phases I-III (Okokomaiko to National Theatre) and are currently ongoing for sub-phase IV. The demonstration phase of Blue Line Rail operation is expected to commence before the end of 2022.

“The Blue Line is part of the Lagos State Strategic Transportation Master Plan that is aimed at transforming the Lagos transport sector beyond its current challenges. The project is expected to facilitate reduction in traffic congestion and travel time for commuters within the Lagos metropolitan area, create affordable transport alternatives for residents and stimulate economic development within the state,” the spokesperson remarked.


Other key companies involved in the project delivery include the Lagos Metropolitan Area Transport Authority (LAMATA) as the project sponsor and developer on behalf of Lagos State, and China Civil Engineering Construction Company (CCECC) as the EPC contractor. Alstom, a rolling stock manufacturer operating in rail transport markets, was brought on to structure finance to help provide metro trains, CTBC based signaling, the operation and control centre, passenger information services, the electrification of part of the blue line and more. ■

“Efficient transportation is the backbone of any economy.”

LAGOS STATE GOVERNOR BABAJIDE SANWO-OLU




The sustainable path.

 www.wirtgen-group.com/sustainability



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Lifting loader performance

New releases from key equipment providers are ensuring clients get the most out of their loaders on site.



The new S550 ready for use in the MEA region.

Image Credit: Bobcat

Seeking to strengthen the company's position in the competitive Middle East and Africa (MEA) market, Bobcat has launched eight new 500 and 600 series compact loader models.

Included are the best-selling S550 and S630 models; the S510, S530, S570, S590, S630, S650 skid-steer loaders; and the T590 compact track loader. These loaders have been designed to provide operators with increased performance, enhanced comfort and optimised maintenance requirements to maximise job site efficiency.

Gaby Rhayem, regional director Middle East and Africa at Doosan Bobcat EMEA, remarked, "The new 500 and 600 series introduce a fresh look for our market-leading loaders in MEA. In the new S510 and S530 models, the compact size is maintained but customers also benefit from the higher torque and performance of a new Interim Tier 4 engine."

The S510 and S530 models are fitted with the Kubota V2403 engine to improve engine performance and meet stricter emission regulations. The S550, S570, S590 and T590 models are equipped with the Kubota V2607 interim Tier 4 engine while the dependable Kubota V3307 interim Tier 4 powers the S630 and S650 skid-steer loaders.

The new loaders can be equipped with the option of Versatile Duty Tyres, with a bi-directional design for use on most common mixed surfaces, improving lifetime significantly.

Industrial Solid Flex Tyres are also available as an option and are designed for intensive wear applications that have a higher risk of punctures.

In all the new models, the Cloth Suspension Seat option is also available, improving the operator's comfort in hot weather – and providing more comfortable seating on slopes and inclines.

Complementing this, Bobcat continues to offer other popular comfort features in all eight new models, including cushioned lift and tilt cylinders. Another option available in all the new models is the Auto Ride Control option, which improves operator comfort while driving with a load in the bucket on rough terrain.

Volvo CE expands load assist functionality

With the Volvo Co-Pilot screen in the cab, wheel loader operators can receive real-time information on the condition of their tires which can help to save time during machine inspection, reduce fuel consumption and prolong tire lifetime.

Volvo Construction Equipment (Volvo CE) has added tyre pressure monitoring to its Load Assist suite of intelligent machine control systems for wheel loaders in order to give operators an instant and safe indication that their tires are functioning within the correct parameters.

Via the cabin display, operators can see real-time information on tire pressure and temperature both as nominal values and percentages as well as receiving visual alerts.

"Under-inflated tires can increase fuel consumption and are prone to more wear and damage, so the addition of the Tire Pressure Monitoring System in Load Assist makes it easier for operators to help maintain the optimal condition and performance of their machine for greater uptime, productivity, efficiency and profitability," said Robert Johansson, technical product leader at Volvo CE.

The Load Assist Tire Pressure Monitoring System is available on the Volvo L150H, L180H, L260H and L350H wheel loaders in selected African markets.

The Load Assist for wheel loaders was also updated by Volvo CE with the Operator Coaching app which offers real-time guidance to operators. The app helps them understand how their actions influence machine productivity and efficiency, as well as identify areas for improvement or changes in their technique.



Image Credit: Volvo CE

Operators receive real time information and graphic visualisation of the machine.

Operators receive a real-time score and graphic visualisation of their performance across previous shifts to help facilitate improvements over time.

"Since we launched our Assist Services a few years ago, we have been gradually extending their functionalities and will continue to do so to provide even greater value for our customers," Johansson commented.

Load Assist also includes On-Board Weighing to say goodbye to under- or overloading; a Map function to show the desired route, location of other machines and personnel and the recommended speed; as well as Calculator, Notes and Weather apps. ■

Caterpillar launches Cat 333 Hydraulic Excavator with increased bucket size

Caterpillar has released the new Cat 333 Hydraulic Excavator. Built for tough applications, it offers an increased bucket size, up to 10% more bucket force and up to 15% more stick force than the Cat 330 in order to maximise performance.

In addition to its increased digging force, the 333 excavator boasts wide track gauge and reinforced structures for increased stability and durability. Extended maintenance intervals combine with a fuel-efficient hydraulic system and two engine power mode options to lower cost-per-hour operation.

The new 333 Excavator delivers reliable operation and increased productivity when working in challenging applications. Reinforced linkage, sticks and booms help to deliver higher digging forces when excavating tough materials. Further increasing durability, the frame of the machine is reinforced to ensure a long service life while performing at a higher capacity.



The Cat 333 Hydraulic Excavator.

Image Credit: Caterpillar

RESORT EGYPT PROJECT MAKES PROGRESS

Starlight Developments has signed a contract with Gama Construction to complete the construction of 100 feddans of the total area of 205 feddans of Egypt's Katameya Coast luxury resort project.

The Katameya Coast project is located on the 180 km Alexandria-Matrouh Road in the North Coast, on a total area of 205 feddans, with a total of 770 units spaced out on seven levels of an elevated plot of land to give all units a direct view of the sea.

Eng. Sherif Aboutaleb, CEO, Starlight Developments said, "Construction works of Katameya Coast started four months ago, and four plots have been built after the completion of infrastructure work of the first phase of the project. We have contracted the biggest construction companies in the Middle East to speed up development work and we plan to deliver the project ahead of the scheduled dates."

The project is part of the Government's vision to accelerate development of an integrated masterplan for the North Coast.

MMC PURCHASES 30TH VOLVO DUMP TRUCK

Mbuyelo Mining Contractors (MMC) has purchased its 30th Volvo dump truck. Babcock presented the mining contractor with a uniquely branded Volvo A40G articulated hauler, sporting MMC's signature blue and company logo on the 'nose' of the truck.

MMC has been steadily increasing its fleet of Volvo Construction Equipment over the last six years and has purchased 28 Volvo A40G articulated dump trucks and two other Volvo machines for its mining operations in Belfast, Hendrina and Delmas.

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CAT
LET'S DO THE WORK.

HYVA INTRODUCES NEW FAMILY TO EDGE LINE CRANES

Hyva has added the 40 tm family to its EDGE Line cranes. These cranes offer a first-class lifting experience and cutting-edge innovations, along with three years general warranty and five years on structural parts.

The 40 tm family comprises of five models including the HC 401, HC 401 K, HC 441, HC 405e, and HC 445e.

The cranes have two to eight extensions, 8.02 to 20.90 metres maximum outreach, and 10 metre jib (not available for K-boom and Marine versions). Some features that increases operator efficiency and safety include Magic Touch (MT), Dynamic Load Diagram (DLD), and a DLD Simulator.

Available as an option in dedicated markets is the new feature Connectivity 4.0, an innovative accessory designed to increase customer



Image Credit: Hyva

The cranes have from two to eight extensions.

efficiency through an internet connection to the cloud where all relevant data are stored to support crane operation and maintenance.

Operating performance is maximised with all

the standard features of the tried and tested EDGE range. These include: articulated stabiliser feet; hoses and pipes running inside the stabiliser beams; extra extension speed; smooth descent system; liftrod articulated system; soft closing retraction, centralised greasing system; high pressure filter; stability control system; and manual control along with a wide variety of radio controls.

“We are proud to add this new range of 40 tm cranes to our EDGE Line,” commented Giuseppe Bevacqua, product manager Cranes at Hyva.

“High performance levels, together with a wide range of innovative features and variety of accessories and attachments, make these cranes ideally suited to many applications from construction to logistics, oil and gas to mining, and maintenance to rental.”

TURNING A TELESCOPIC HANDLER INTO A CRUSHER

MB Crusher has explained how telehandlers have seen growing popularity on urban construction sites due to their multipurpose benefits.

While purpose-built for material handling, the company asks why limit the possibilities of the machine when, by plugging in an MB Crusher attachment to the hydraulic system, customers can extend the duties that can be carried out by just one machine and one operator.

Connecting a telescopic handler with an MB Crusher means it can serve as a substitute for backhoe loaders and can guarantee better mobility and less expensive performances. MB Crusher attachments offers multiple units to transform a telescopic handler including:

- **MB-L line:** These attachments will transform the telehandler into a jaw crusher. Four models are available to choose from and the carrier will scoop up debris, rocks, bricks and concrete and crush all rubbles into valuable backfill material.
- **MB-HDS:** Four different models will change a telehandler into a machine able to select and reduce a multitude of materials. The innovation of this line is how effortless the rotating shafts can be changed at the site. With one HDS unit and different rotating shafts, the telehandler can be considered a multi-purpose system.
- **MB-LS:** Two rotary screening buckets that will be ideal when precision is needed, nothing bigger than the size of the hole will pass through. The chosen grid size can be changed at the site by unscrewing a few bolts.

These possibilities can be achieved by equipping the telehandler with an MB Crusher unit.

100 t telescopic crawler crane expands SENNEBOGEN's product portfolio

With the popular performance class up to 100 t load capacity, SENNEBOGEN is now expanding its extensive portfolio of telecranes with a new model, and also marking a small anniversary.

SENNEBOGEN is introducing a new 100 t model, a crane that will fill the gap between the existing models and will be an interesting solution for construction companies in building and civil engineering and for crane rental companies in particular.

With its current product portfolio from 16 t to 130 t load capacity, SENNEBOGEN already covers a wide range of applications, where the telescopic crawler cranes in particular offer many advantages when lifting, moving and positioning large loads.

The new SENNEBOGEN 6103 E is a telescopic crane with a load capacity of 100 t and a maximum boom length of up to 62 m, specially designed for demanding pick and carry applications. The new addition to the product line is equipped with a 186 kW diesel engine of emissions stage V, which also hydraulically drives the powerful crawler drive of the 100 t machine as well as main and auxiliary winches with 100 kN tractive force each and allows cable speeds of 125 m/min.

The five-section pin boom of the new 6103 E has a maximum length of 46.8 m for the driver in standard configuration. The reach can be optionally optimised up to 62 m with the fly jib and extension. The boom system thus enables comfortable working heights of up to 50 m.

Operation is carried out simply and intuitively via joystick movement. The 100 t machine also allows to work on rough terrain. Thanks to the robust, telescoping crawler undercarriage with a maximum track width of 4.20 m, there is no need for time-consuming positioning or supporting the machine.



Image Credit: SENNEBOGEN

SENNEBOGEN's new 100 t model crane.

BKT'S PORTMAX RANGE OFFERS RELIABLE TIRES FOR PORT MACHINERY

There are a number of essential characteristics that tires intended for port operations must boast, namely, resistance, maximum traction on dry and wet surfaces and high durability over time.



PORTMAX PM 90 is equipped with multilayer steel belts.

In addition to this, each specific machine operating in the environment requires specific design traits. Bridge cranes, for example, need solutions with robust casings that can withstand the considerable weight of the machinery and the load, whereas for container handling vehicles maximum operational efficiency, exceptional stability and superior resistance are more important.

Such considerations have been incorporated into BKT's range of port tires which offers solutions suitable for the different machinery operating in port hubs. BKT tires meet the needs of logistics and port handling and can operate on irregular and treacherous areas, worksites with rough cemented surfaces, and can lift heavy loads in complete safety. In particular, BKT's PORTMAX radial range offers solutions that are suitable for these applications.

PORTMAX PM 90

PORTMAX PM 90 is the radial tire designed for reach stackers and is equipped with multilayer steel belts which guarantee stability. All Steel structure offers maximum strength to the casing and an adequate distribution of loads on the

ground. The special anti-static compound of this tire ensures high heat-resistance and a prolonged life cycle.

PORTMAX PM 93 PLUS

For intermodal transport for straddle carriers, PORTMAX PM 93 PLUS is particularly resistant and boasts a high load capacity. This solution guarantees the operator a more comfortable ride, without slippage, reducing fuel consumption and, thanks to its strength and robustness, it is able to operate even in the most difficult situations.

PORTMAX PT 93

PORTMAX PT 93 has been specifically developed for terminal tractors and is suitable for operations in ports and interports. The tread, designed with a special anti-static compound, offers resistance to wear and tear even in the most demanding situations, so as to minimise the frequency of replacement and the related vehicle downtime.

PORTMAX joins various other BKT solutions designed for port operations and meeting the needs of professionals in the sector.

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A rising threat

Jayson Pieterse, regional director for South Africa at Nozomi Networks, explains why cyber threats are a mounting concern for the mining industry and what must be done to thwart such attacks.

African Review: The frequency of cyber attacks are rising across industries, including within the mining sector. Why is this?

Jayson Pieterse: For decades, mining companies relied on legacy industrial control systems (ICS) that kept them isolated (i.e. air gapped) from broader corporate IT systems. But with mounting pressure to improve profitability through operational efficiencies, organisations have embraced Industrial Internet of Things (IIoT) technologies. The integration of IIoT devices into control systems, and the subsequent connection of once-isolated operational systems with a mine's entire enterprise network, leaves entire operations open to cyber threats.

Threat actors know that exploiting one weak spot in a mine operator's IT system can often deliver access to the entire IT/OT network. Attackers are now taking advantage of the cyber security gaps present at many mines. Unfortunately, we have seen a dramatic increase in the size, backing and sophistication of organised threat actors based on the increasing revenues that can be made through ransomware and other crippling attacks. It's likely only going to get worse.

AR: What damage can cyber attacks have on mines and mining companies if they bypass the cyber defences put in place?

JP: It's fair to say that the stakes are high: a successful attack can put mining operations, equipment, data and employees at risk. Even a single safety or environmental incident can impact revenue and significantly compromise market value.

For example, in March 2019, Norsk Hydro, one of the largest



Jayson Pieterse is the regional director for South Africa at Nozomi Networks.

Image Credit: Nozomi Networks

aluminum producers in the world, experienced a crippling cyber attack. It paralysed the company's computer networks, forcing it to isolate plants and switch some operations to manual. Altogether, the attack is believed to have cost Norsk Hydro up to US\$70mn.

Last fall, Weir Group, a major supplier to the mining industry, lost more than US\$54mn in profits after a cyber attack forced it to shut down its core IT systems.

AR: Are African mining companies taking this threat seriously?

JP: Mining companies, like most critical infrastructure organisations, likely take the threat seriously, but

there are still costs to be weighed against other priorities.

Unlike most technology investments, there is very little ROI to be gained from security investments. You are only managing downside security risks or potential loss. Mining organisations are running fairly lean operations and have to scrutinise security investments against actual risk versus perceived fear mongering.

Many western governments are already subsidising cyber security improvements to critical infrastructure because they know it's hard to increase expenses out of low margin businesses. We have seen this initially with government

funding to the smaller US electrical power utilities. This has stimulated quite a bit of improvement in the electrical grid's security posture overall.

These kind of efforts between the public and private sector can actually facilitate action. We are also seeing more cooperation between competing organisations by sharing threat information, as well as the creation of industry-wide cyber security monitoring groups that help everyone and lower costs.

AR: What preventative measures should be put in place to ensure full protection from cyber attacks?

JP: To adequately prepare for a possible threat, mine operators must understand that integrated OT and IT systems open their network to more risk. It's imperative to put the defenses in place to detect and manage cyber threats.

Nozomi Networks helps mine operators rapidly detect potential cyber threats in the industrial network. It delivers superior operational visibility, real-time network monitoring and threat detection in a single, unified solution. By considering both network connections and process state, it quickly detects system anomalies – both accidental and intentional – and prompts proactive responses to detected threats. Our deep insights into OT processes, equipment and network protocols gives us unique advantages to detect real threats and to filter out false alarms that distract security and operations teams. We provide actionable intelligence that can guide and accelerate remediation efforts while prioritising the tasks that will materially reduce risks and reduce attack surfaces to avoid potential breaches. ■

“It's imperative to put the defenses in place to detect and manage cyber threats.”

JAYSON PIETERSE, REGIONAL DIRECTOR FOR SOUTH AFRICA AT NOZOMI NETWORKS

Sercel's WiNG Seismic Nodes deployed in Zambia's Katangan copper basin

Sercel has announced that its WiNG land acquisition nodes are making a key contribution to a major mining exploration programme in Zambia's Katangan copper-bearing basin.

A 30 km-long WiNG node array is being deployed to acquire passive seismic data over a nine-month period across the Kansashi mine owned by First Quantum Minerals and the adjacent Solwezi basement dome.

The programme aims to explore the crustal structure of the mine area using background seismicity alone (ambient noise, mine blasting, local and regional earthquakes and teleseismic events).

With the programme requiring easy-to-deploy and ultra-low-frequency-sensitive equipment, the WiNG wireless nodal acquisition system was an obvious choice. Its lightweight form factor and compact design make it fast and simple to deploy compared to conventional seismometers. Featuring QuietSeis, Sercel's ultrasensitive advanced digital sensor, WiNG, offers outstanding low-noise performance and detection of even the weakest signals.

The programme is a collaborative effort between the Ministry of Mines of Zambia, First Quantum Minerals and Oxford University's Earth Sciences Department. It is part of the UK Research and Innovation (UKRI) Copper Basin Exploration Science (CuBES) project.

Emmanuelle Dubu, Sercel CEO, said, "Our participation further demonstrates Sercel's ability to provide cutting-edge equipment and solutions that meets the specific requirements of the mining industry and confirms our opportunity for growth in the environmental and alternative energy-related monitoring and observation markets."



Image Credit: Sercel

WiNG provides low-noise performance and detection of even the weakest signals.

THARISA UNDERTAKES LONG-TERM PRODUCTION TESTS WITH LIEBHERR

Tharisa, a platinum group metals (PGMs) and chrome co-producer, has announced that three Liebherr mining machines have been delivered to the Tharisa Mine and have begun operational testing.

The partnership with Liebherr is part of Tharisa's ESG initiative to reduce its carbon footprint. The two T 236 mining trucks with a capacity of 100 metric tonnes and one 72 ton PR 776 dozer, both of which use the latest generation diesel engine technology with the T236s using Cummins QST 30 engines and the PR 776 utilising the Liebherr D9512 engine, are characterised by low-level fuel consumption, and will be fully stress-tested under operational conditions for 18 months. They will operate as part of the production fleet under supervision of both Tharisa's mining team and Liebherr Mining Africa.

These state-of-the-art diesel-electric mining trucks' drive train technology benefit from improved fuel economy due to their efficient engine and fuel system, advanced airflow system as well as low-end torque performance and emissions capability. The trucks' continuous drive system technology will be field tested to determine whether the machines can withstand the climatic and geomorphological makeup of the hard rock mining of the Bushveld Complex.

The aim of the long-term, real-life tests is to ensure the trucks reduce diesel consumption and costs while testing the machines' ability to deliver a minimised environmental footprint, as part of Tharisa's drive for a more sustainable mining environment. They must also still deliver on production metrics.

The T236 has a variety of operational safety features such as payload warnings, anti-rollback features, and engine shutdown switches in the cab and at ground level.

SANDVIK'S HARARE POWERHOUSE KEEPS MINING MOVING

Sandvik Mining & Rock Solutions' Harare-based operation remains at full capacity and at the leading edge of industry innovation.

Strengthening its capacity to serve its market, including customers in Botswana and Mozambique, the company has upgraded the skills, tooling and equipment of its service centre and completed a state-of-the-art technology centre.

The service centre in Harare remanufactures all current models of Sandvik mobile equipment and also has a repair and rebuild facility for all major components as well as a dedicated drifter repair and test centre.

"We are looking forward to two new platinum operations taking shape, which could be producing within five years, as well as the expansion and digitalisation of existing operations," said Ian Bagshaw, territory manager for Sandvik Mining & Rock Solutions.

BRIEFS

African Energy Metals acquires interest in Manono DRC

African Energy Metals has acquired an interest in a project in the prolific Manono area of the DRC with high prospectively for lithium, tin and tantalum.



Image Credit: Adobe Stock

AVZ Minerals Limited recently made a potentially world class lithium rich LCT discovery near the new project.

The concession is situated in Tanganyika province, Manono district in the territory of Kiambi.

Stephen Barley, executive chairman of African Energy Metals, commented, "The Manono project has great potential for expansion of the tin and tantalum deposit and high prospectively for lithium."

Fritsch unveils jaw crusher for brittle materials



Image Credit: Fritsch

The aim is to help the workforce for pre-crushing of brittle materials.

Fritsch Jaw Crusher PULVERISETTE 1 classic line aims to provide an ideal solution for the classic workhorse for pre-crushing of brittle materials in the areas of mining and metallurgy, chemistry, geology and mineralogy, glass industry, ceramics industry, rocks and soils.

The compact Fritsch Jaw Crusher PULVERISETTE 1 classic line is the ideal instrument for fast and effective pre-crushing of hard and very hard brittle materials - even ferrous alloys are no problem for this instrument.

Power to remote mines

Proving that an isolated location is not a problem, Mantrac has successfully delivered Caterpillar generators to support a remote mine in Sierra Leone.



Image Credit: Mantrac

Caterpillar's generators are helping to enable continuous operations on site.

Koidu Limited, one of the largest underground diamond mining companies in West Africa, was struggling with its operations in Sierra Leone as it did not have a reliable power grid to tie the mine into.

The ability to produce power on site is critical for continuous operation, and significant capital can be lost without it, due to fleet downtime. Koidu recognised the need for this and approached Mantrac for help.

The first scope of Mantrac's response was to supply two generators to replace two older units from the seven in the site's powerhouse. Eventually five Caterpillar 3516 Diesel Generator Sets were supplied, with the potential to increase the powerhouse with three or four additional units.

Early challenges overcome

At the early stages of installation, some serviceability issues were encountered on one of the

generators. However, this was quickly overcome as Mantrac immediately set to work rectifying the issue. Koidu reported the problem in the morning and by the afternoon Mantrac had a new module on site with technicians that performed the installation.

Christopher Chakawodza, head of engineering at Koidu, commented, "One of the biggest advantages of this solution was firstly its simplicity. The original solution provided by another brand was complicated, with too many moving parts and often susceptible to lightning. The DeepSea controller was easier, and the Caterpillar gensets interface with the DeepSea was also very good.

"The technicians who were deployed on site had an exceptional

knowledge of the DeepSea controller, which made the interface even better. And then the actual response you get from the Caterpillar genset is far superior to the other gensets that we have."

Effective and affordable

Representatives of Koidu were not just impressed with the performance of the gensets but also the payment plan and support included. They highlighted that Mantrac provided a good cashflow position due to the payment terms put forward.

Having a support team based in country means that if anything goes wrong, support is assured within a short space of time and spare parts and consumables are also readily

available if needed. This was especially important and impressive as the site is in a remote location, and the lengthy time waiting for service providers to arrive on site was previously detrimental to business – something that is no longer a problem.

Miles Van Eeden, deputy general manager of Koidu, remarked, "Mantrac has outperformed the competition in terms of adjudications received on this project. They've brought to the table telematics, smart solutions, web-based features which we have never had before. It is more manageable and we are working smarter instead of harder."

Ahmed Farghal, sales manager at Mantrac Sierra Leone & Liberia, commented, "As we say, this is a partnership. We support them and make sure all machines are working without any problems. We try to minimise costs as much as we can by good planning between us and them. Whatever they want, whatever the response needed, we can do it." ■

“ It is more manageable now, and we are working smarter instead of harder.”

MILES VAN EEDEN, DEPUTY GENERAL MANAGER OF KOIDU LTD.

Minerals such as copper are critical to renewable energy systems and electricity networks.

Squaring up to the net zero challenge

Mining companies look set to reap the benefits of increased renewable power and other energy alternatives in southern Africa, opening up more options for driving site operations.

UK-based firm greenCrowd sees good opportunities for growth in Africa's mining sector as attention to climate change intensifies. This means a widening choice of energy systems to power mines as renewables and other technologies come to the fore.

Founded back in 2017, greenCrowd is an international partnership with expertise in finance and deal-making focused exclusively on the energy infrastructure sector. It is committed to environmental, social and corporate governance goals (ESGs).

It recently released a report as part of its Net Zero Mining Strategy for Southern Africa, a region endowed with abundant mineral resources, including gold, copper, uranium, cobalt – and where production is rising fast. Many of these metals will be key to the development of a future sustainable energy system.

Opportunities in energy

According to greenCrowd, the region's power sector is set to become more diverse and dynamic, providing mining operators with greater choice regarding clean energy procurement. "This provides mining companies with greater optionality regarding energy procurement," its report states.

“Global demand for Africa's metals is driving a rapid acceleration in production.”

Increased investment in infrastructure such as interconnectors is also opening up markets, alongside new regulatory developments.

It is positive news for an industry of strategic importance to the region, one that brings in huge foreign exchange income. Mining amounted to 77% of Zambia's total exports in 2019, and over 99% of those in the Democratic Republic of Congo (DRC) in 2017, according to the Extractive Industries Transparency Initiative (EITI).

An obvious part of a mining firm's eco strategy is to reduce emissions associated with its power consumption. Yet, while the economics of on-site renewable power generation are improving each year, at present it often remains uneconomic to do so for 100% of a mine's operations.

"Access to renewable power sourced from state-owned utilities or via a sleeved or virtual power purchase agreement (PPA) with a renewable energy independent power producer (IPP) provides a clear means with which to fulfil

Scope 2 Carbon Reduction objectives," the greenCrowd report notes. "Emerging energy regulatory frameworks in countries like Zambia and South Africa consequently enable IPPs to produce power and wheel it through existing grid infrastructure."

Countries with high penetration of renewables enjoy favourable conditions for ESG-focused investments, an emerging trend in the financial industry.

Rising demand

Global demand for Africa's metals is meanwhile driving a rapid acceleration in production.

According to analysts CRU Group, the DRC could be producing more than 2mn metric tonnes (MT) p.a. of copper by 2026, compared with 1.6mn MT in 2020.

Over the last decade, Zambian copper output increased more than threefold from around 250,000 MT in 2000 to 880,000 MT in 2020, with a government target to grow this to 3mn MT by 2032.

Moreover, the switch to solar and wind results in higher requirements

for copper per MW of power compared to gas or nuclear power, the greenCrowd report notes. Electric vehicles (EV) also contain five times more copper than their combustion equivalent, with EVs and battery storage estimated to account for about half of the mineral demand growth by 2040.

It means demand for key metals such as copper, lithium, nickel and cobalt – and subsequently prices – are set to remain attractive for the long-term compared to 2020 prices.

At the same time, aggregate energy demand from all sectors within the region will increase from 400 terawatt hours (TWhs) per annum to 565TWhs between 2017 levels and 2030 – a jump of 41%. Mining accounts for between 18-25% of this total demand.

It presents a challenge, especially given that this growth comes against a background of constrained power provision in South Africa, forecast to have a deficit of 4GW according to Eskom through to 2025.

Demand for competitively priced high-quality power will therefore remain strong, both among mining companies and other industries. The roll-out of clean, renewable energy technologies could well have a decisive role in helping to fill the gap, and assist mining operators tap into new sources of finance. ■

Mining Indaba prepares for executive attendees

Excitement is building for Investing in Mining Indaba, taking place in Cape Town 9-12 May 2022, as the Presidents of both Zambia and Botswana have confirmed their attendance.

Dedicated to the successful capitalisation and development of mining interest in Africa, Mining Indaba consistently attracts more than 6,500 experts, eager to experience the networking opportunities and informative speaker sessions on offer. Anticipation for this year's edition has now been heightened following the announcement that the newly elected President of the Republic of Zambia, Hakainde Hichilema, and The President of the Botswana, Dr Mokgweetsi Eric Keabetswe Masisi, will be in attendance.

Botswana branches out

Accounting for around 85% of national foreign exchange earning, one-third of government revenue, and one-fifth of GDP, mining remains Botswana's biggest revenue earner. The country is one of the world's largest diamond producers by volume and the reliance on this resource has led President Masisi to advocate for the expansion and development of coal, copper, silver and gold as well.

Encouraging greater local participation in the economy led the Government to launch its Middle Income Strategy at the end of 2021. The objective of this is to facilitate the middle class to effectively participate in the economy by creating globally competitive businesses and by boosting employment opportunities.

President Masisi will share his insights on the diversification of the mining industry and elaborate on his push for greater innovation within

“**President Hichilema is aiming to restore confidence in the country as a mining investment destination, believing that it can be an important catalyst for national development.**”



Hakainde Hichilema, the President of Zambia, is aiming to restore confidence in the country as a mining investment destination.

the sector. He is expected to discuss the country's progress and his ambition to develop a vibrant and diversified mineral sector that will contribute to the sustainable development of the economy. The Government wants to ensure that investments in its economy offer mutually beneficial upside to both the investor and local partners.

Restoring confidence in Zambia

According to the Zambia Extractive Industries Transparency Initiative, mining accounted for 79.5% of Zambia's total exports and nearly 31.4% of Government revenues in 2020. However, after years of regression within the mining sector due to resource nationalism and poor investor relations under the previous administration, faith in the industry has waned.

After coming to power in 2021, President Hichilema is aiming to restore confidence in the country as a mining investment destination, believing that it can be an important catalyst for national development.

The newly elected President is expected to share his vision of a new dawn for Zambia in which macroeconomic stability is restored and sustainable and inclusive economic growth is promoted. His Government is looking to



The President of the Botswana, Dr Mokgweetsi Eric Keabetswe Masisi is expected to share his thoughts on the diversification of the mining industry.

significantly increase the production of copper and other minerals and, to support these ambitions, the President has already introduced a friendlier mining tax regime and made clear his intention to bring stability to the sector.

The evolution of African mining

After the event was held virtually in 2021, the May Mining Indaba is back live and in-person with organisers ready to continue the event's illustrious 27 year history. Under the overarching theme 'Evolution of African Mining: Investing in the Energy Transition, ESG and the Economies' the programme content is geared towards exploring key drivers of investment decisions within the African mining market and forging the direction of the continent's mining industry.

Ministers, senior government representatives, mining companies, mid and junior miners, investors, professional services as well as a host of mining equipment and service providers are expected to be present at the event. Attendees will no doubt be looking ahead to hearing the two Presidents present their views on the topics under focus; observe and interact with the mining solutions that will be on display; and make the most of networking opportunities available. ■

SANDVIK UNVEILS LARGE-CAPACITY BEV TRUCK FOR UNDERGROUND MINING

With a 65-tonne payload capacity, the Sandvik TH665B prototype is currently completing factory testing before, subject to the finalisation of a trial agreement, it is trialled to prove its viability in a long ramp haulage application. Once completed, and providing all goes as expected, commercial production of the Sandvik TH665B is expected to commence in late 2023.

Following the introduction of the Sandvik TH550B 50 tonne BEV at MINExpo INTERNATIONAL 2021 last September, Sandvik is continuing to execute on its BEV strategy by expanding its line of battery-electric trucks and loaders to include both larger and smaller size classes. The Sandvik TH665B is engineered to improve productivity, sustainability and cost efficiency in bulk mining operations.

“With more than 50 years’ experience in the design and manufacture of underground mining equipment, we’re proud to continue to lead the way in helping customers embrace more sustainable solutions,” said Henrik Ager, president of Sandvik Mining and Rock Solutions.

“Our 65-tonne battery-electric truck is our latest development in helping mass hard rock miners and contractors to make the shift towards more productive, emission-free mining.”

Sandvik TH665B blends proven Sandvik design and advanced technology built around electric drivelines and battery systems. Due to an extremely efficient electric driveline, a fully loaded Sandvik TH665B is expected to be up to 30% faster on a 1:7 ramp than a comparable conventional diesel underground truck. Each of the truck’s four wheels is equipped with independent drives, resulting in a simpler driveline, improved overall efficiency and maximum power output.

The truck is equipped with Sandvik’s patented self-swapping system, including the AutoSwap and AutoConnect functions, which enables quick and easy battery swap in a matter of minutes, and without any major infrastructure like overhead cranes or other heavy handling equipment. Sandvik TH665B also features a new battery lifting system for improved reliability. Sandvik has redesigned the battery cage design to improve serviceability, enabling battery module changes without a need to remove the battery packs from the cage for service.



Sandvik TH665B is engineered to improve productivity, sustainability and cost efficiency in bulk mining operations.

Image Credit: Sandvik

MODULAR WASTEWATER TREATMENT PLANT DELIVERS IN MALI

WEC Projects, in conjunction with its partner, Multotec, has designed and custom engineered a wastewater treatment plant for a gold mine in Mali, West Africa.

The plant, used to remove arsenic from the mine’s wastewater stream, incorporates a modular design which simplifies the logistics and reduces the costs of transport and installation.

WEC Projects and Multotec were approached to jointly develop a customised solution to remove toxic arsenic from the mine’s wastewater. A multi-stage removal system was required to meet the strict standards for the mine’s discharge. However, the system also required a modular design which would facilitate the transportation, installation and commissioning of the plant.



Image Credit: WEC Projects

WEC Projects custom engineered a modular wastewater treatment plant for a gold mine in Mali.

In the treatment process, the mine’s wastewater undergoes primary solid/water separation using coagulation and flocculation and the primary clarifier. From there it enters a two-stage chemical precipitation and secondary clarification process to reduce the arsenic levels. The final stage sees the sludge undergo dewatering before disposal. The treated water, although not potable, is then reused by the mine for process applications.

The plant has a processing capacity of 150 cu m/hr and is capable of reducing the arsenic levels from around 13mg per litre to less than 0.1mg per litre.

EXYN’S EXPANDED MULTI-SENSING CAPABILITIES FOR MINE SAFETY

Exyn Technologies, a pioneer in multi-platform autonomy for complex, GPS-denied industrial environments, has announced a partnership with Maestro Digital Mine, a manufacturer specialising in Industrial Internet of Things (IIoT) devices, to give mining teams up-to-the-minute information about worker safety underground by integrating critical gas sensors onto the ExynAero and ExynPak.

Hazardous gasses underground are an invisible threat to mining teams, who often don’t know they are in danger until it’s too late.

Now the ExynAero, a fully autonomous drone for exploring and mapping GPS-denied environments, equipped with Maestro’s IIoT gas sensor can be flown down drifts or into stopes to detect and localise any hazardous gasses without putting mining and survey teams in danger. Survey teams can easily add different gas sensors onto an ExynPak and mount it to the front of a truck or loader to capture the same gas sensor data while mapping drifts or moving ore.

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Enabling green finance

Yinka Adelekan, MD and CEO of Agosto & Co. Ltd., spoke to *African Review* to discuss the potential of green finance on the continent.

African Review: Can you explain your company's role in the African investment environment?

Yinka Adelekan: Agosto & Co. is a leading pan African credit rating agency and business information provider, with operating offices in Nigeria (Lagos), Kenya (Nairobi) and Rwanda (Kigali). Over the last 30 years, the company has built a strong reputation for producing credit rating opinions on some of Africa's leading financial institutions, corporate organisations and instruments, and also has a large database on over 60 sectors across sub-Saharan Africa.

As an approved verifier under the Climate Bonds Standard, Agosto & Co. will be able to assess projects of companies and government (including sub-nationals) under the Standard's criteria for solar, wind, marine, geothermal, bioenergy, recycling, forestry, buildings, water, waste, transport, agriculture and shipping sectors and issue pre-issuance and post-issuance verifier reports. Agosto & Co. will provide knowledge and also serve as a reference point for the quick verification of projects in Africa.

We will be able to provide support for issuers who intend to raise funds for environment-friendly projects at a lower cost when compared to foreign counterparts. Also, as part of our advocacy work, we will be championing the development of green finance and a sustainable investments framework in Africa as we collectively seek to rescue our continent from the adverse impacts of climate change.

“ There is a huge potential for climate-related finance activities in Africa.”

YINKA ADELEKAN, MD AND CEO OF AGUSTO & CO.

AR: How much of a market is there for green projects in Africa?

YA: The green bond market globally is estimated to hit US\$1 trillion by the end of 2022 (according to Climate Bonds Initiative). As at end of February 2022, there were more than 220 issuers from 40 countries and more than 480 certified instruments valued at over US\$200bn. However, there were only 13 certified green issuances from five countries valued at US\$2bn from Africa. There is huge potential for climate-related finance activities in Africa and a study conducted by FSD Africa notes that “the emergence of the green bond market in Africa will provide the vital investment needed to fund the rapid and far-reaching transitions required to meet the commitments made in the Paris Climate Accords, and to prevent global temperature rise, across energy, land-use, transport, infrastructure and industrial systems.”

Although there is huge potential for green projects in Africa, the main bottleneck will be the certification of these projects and their alignment with the United Nations Sustainable Development Goals (SDGs) and the Paris Climate Agreement, as there is a lot of ‘greenwashing’ hence the imperative for verification of projects by approved verifiers like Agosto & Co.



Image Credit: Agosto & Co. Ltd.

Yinka Adelekan is the MD and CEO of Agosto & Co.

AR: How important is international investment to facilitate Africa's development across key sectors?

YA: The pandemic has further raised the profile of climate finance discussions globally especially, with regards to the US\$100bn in climate finance that was promised by rich countries in 2009, for which a large portion was earmarked for Africa.

The commitment to fund priority green projects in Africa by international investors is still upbeat given the recent successes of the landmark green bonds issued in Nigeria, Kenya and South Africa. However, the lack of structure and framework for these investments has impacted the level of capital flows to the continent.

AR: What could accelerate the development of green finance and investments into Africa?

YA: Part of the challenges associated with issuing green bonds (and attracting green investments) in Africa has been the knowledge gap and the availability/access to a limited pool of foreign verifiers. Now that Agosto & Co. has become an approved verifier, we will try to bridge the knowledge gap through our advocacy and ultimately support companies and governments (who have the potential to comply with the SDGs and Paris Climate Agreement) towards issuing green compliant instruments. Concurrently, we will champion the development of green finance and sustainable investments framework in Africa.

AR: What are the main African markets to watch for in this environment?

YA: Certified green bonds have been issued by banks, real estate development firms, power companies, county and sovereign governments.

In Nigeria, the solar, hydro and water sectors have been financed; solar, wind and water in South Africa; low carbon residential buildings in Kenya; low carbon commercial buildings in Côte d'Ivoire; and solar and wind in Mauritius. These markets are already receptive to green finance initiatives and we believe that our focus should be on sub-Saharan Africa. ■

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