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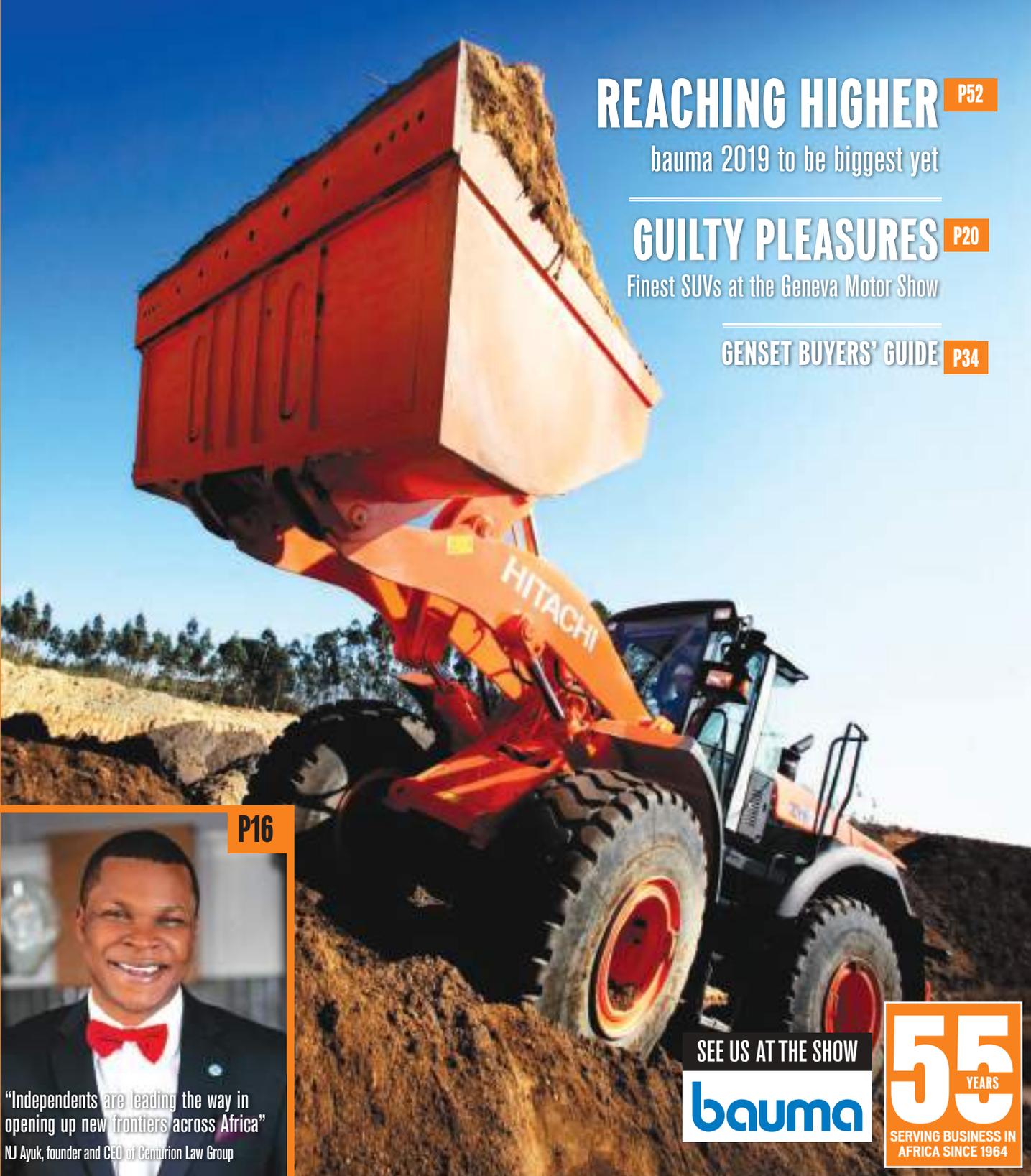
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"Independents are leading the way in opening up new frontiers across Africa"
NJ Ayuk, founder and CEO of Centurion Law Group

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Editor's Note

Welcome to our special construction issue. We hope to see some of you in Munich this month at bauma – the world's most popular event for suppliers of construction machinery and equipment. To see a preview of technologies and products at the show, please turn to page 52.

The mining sector continues to drive demand for diesel gensets in Africa, especially in remote locations and tough working environments. The strongest sales of gensets were in the mid-range between 375-750 kVA in 2018, according to latest research by Powergen-statistics, page 30. A full list of genset suppliers can be found in our unique guide on pages 34 to 44.

Finally, don't forget to look at the top SUV and electric models, which were on display at the 89th Geneva Motor Show. The Mitsubishi 2020 ASX and Miserati's Levante Trofeo are both solid choices for people looking to use as everyday vehicles or to show off their adventurous side, pages 20-21.

Samantha Payne, Editor

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NJ Ayuk, founder and CEO of Centurion Law Group, shares major developments that will be shaping the energy sector in 2019.



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20 Geneva Motor Show
Take a look at the finest cars showcased at the 89th Geneva Motor Show on 7-17 March.



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30 Power
Africa's natural resources sector continues to present opportunities for genset manufacturers and suppliers. The market for diesel gensets grew by 3 per cent in 2018 from the previous year, reaching US\$1.1bn.

48 Construction
The transport boom in West Africa is fuelling the West African construction industry. One flagship project includes a 1,000km highway linking Côte d'Ivoire capital, Abidjan to Lagos in Nigeria, which will increase regional integration and trade.

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An overview of some of the products and technologies revealed at the world's leading show for manufacturers of construction machinery and equipment.



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62 Mining
Exclusive interview with Richard Musukwa MP, Zambia's Minister of Mines and Minerals Development on diversifying their mining portfolio from copper to other minerals such as manganese and industrial minerals such as nickel.

African Development Bank releases African Economic Outlook 2019 in seven languages

The African Development Bank has published highlights of its flagship publication African Economic Outlook (AEO), in local languages, ensuring their reach to new stakeholders at the local levels.

Amharic, Pidgin English, Yoruba and Zulu are among the most widely spoken languages on the continent. It follows the successful launch of the highlights report in Arabic, Hausa and Kiswahili for the 2018 edition.

The main objective of the AEO highlights in local African languages is to ensure accessibility to the information it contains, promoting inclusiveness, widespread coverage and relevance of the publication within stakeholder communities at the district and local levels.

The highlights report follows the main 2019 AEO report in January, which focuses on regional integration – one of the Bank’s High 5 priority areas – and explores how it can spur economic prosperity in Africa. To achieve this objective, the report highlights certain actions that need to be taken. These include reducing tariffs and non-tariff barriers, increasing labour mobility, integrating financial markets and enhancing cooperation for regional public goods.

“The special theme this year is regional integration for Africa’s economic prosperity, not just for trade and economic cooperation, but for the delivery of regional public goods. Having these highlights in the different languages ties in with that, by promoting greater inclusiveness,” said Celestin Monga, the bank’s chief economist.

Following the debut of regional economic outlook reports for the five African regions last year, regional AEOs have been completed for 2019. Each report is a stand-alone document, zooming in on each region’s macroeconomic and structural issues as well as regional integration.

In Central Africa, the focus is on regional integration and fragility. In East and North Africa, the political economy of regional integration is considered. Southern Africa looks at regional integration and private sector development, while in West Africa, regional integration and structural transformation are the focus.



The African Development Bank has released an economic outlook report in seven local languages.

ENI VENTURES INTO SOLAR IN TUNISIA AND PAKISTAN

In an effort to promote sustainable development, Eni has begun the construction of two solar projects in Tunisia and Pakistan.

With a presence in Tunisia since 1961, the ADAM photovoltaic project is situated in the Tataouine Governorate, with all energy produced being used onsite in order to reduce gas consumption and avoid around 6,500 tonnes of carbon dioxide emissions each year. The solar plant is expected to be completed by the end of this year, in agreement with the State Company Entreprise Tunisienne d’Activités Pétrolières (ETAP), an active player in the advancement of renewable energy projects across the country. Boasting a 5MW peak capacity and built at the Eni-operated ADAM oil concession, the project hopes to create a cutting-edge hybrid electricity production system with battery storage devices in order to enable efficient integration with the existing turbines.

Likewise, the Pakistan photovoltaic project of Bhit will be built in close proximity to the Eni-operated Bhit gas field and is expected to provide around 20 Gigawatts-per-hour annually with a peak capacity of 10MW. Output energy will be used onsite to reduce gas consumption and avoid an estimated 140,000 tonnes of carbon dioxide emissions in the next decade. Built through Eni’s subsidiary Eni New Energy Pakistan, the project is expected to be completed by October, allowing the shutdown of one of the existing turbines in order to cut down on operational costs.

Eni says these projects are among the first of their kind globally. With high hopes of creating value with the gas saved in the process, the company hopes to strengthen its position within its operating countries – technically and economically – through renewable energy installations to promote sustainable development.

AL RAJHI PAIRS WITH TEMENOS FOR A FACE-LIFT

Al Rajhi, Saudi Arabia’s second largest bank, has paired up with banking software company Temenos to power its digital transformation journey. Through the collaboration, Al Rajhi hopes to enhance its Islamic lending and financing capabilities, opting for a complete online revamp with the help of Temenos T24 Transact, as well as other digital-oriented solutions.

The signing ceremony, which took place in Riyadh on 26 February, was attended by Waleed Al Mogbel, Deputy CEO at Al Rajhi, Colin Jarrett, head of Global Development at Temenos, and Jean-Paul Mergeai, managing director Middle East & Africa at Temenos. With a network of over 570 branches across Saudi Arabia, Kuwait, Jordan and Malaysia, Al Rajhi is the largest Islamic bank in the world, boasting US\$97bn in assets. The bank now will be able to provide service to more customers at a faster rate through adopting Temenos’ software, supporting its growth ambitions while maintaining its traditional Islamic values.

BRIEFS

Algeria reaches top 10 list of countries hacked



Four African countries were affected by mobile malware in 2018.

Four African countries made the list of top 10 countries by share of users attacked by mobile malware in 2018, according to research by Kaspersky Lab. Nigeria came 3rd with 37.7 per cent, Algeria was 5th (35.06 per cent), Tanzania reached 8th place (31.34 per cent) then Kenya with 29.7 per cent. “In 2018, mobile device users faced what could have been the fiercest cybercriminal onslaught ever seen,” said Victor Chebyshev, security expert at Kaspersky Lab.

Averda launches waste treatment services in Tangier



Averda has released preliminary plans for a waste treatment facility in Tangier.

After years of operating in Morocco, Averda has been given a 20-year contract to launch advanced waste treatment services across Tangier City. During this time, engineers plan to develop and install a new waste treatment facility; as well as carry out the construction of an organic waste composting centre, a sanitary landfill, and a gas recovery and leachate treatment units within the city in order to benefit communities and boost the local economy.

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East African manufacturer prepares for Industry 4.0 with HANA Database migration

A leading manufacturer in East Africa plans to speed up its operational processes by moving its data to a cloud platform to improve product deliveries to customers.

Alkane Patel, the chief information officer at Bidco Africa, which has operated in Tanzania, Madagascar, Uganda and Kenya over the past 30 years, said it was a fundamental response to their growing business.

He said, "With the world on the cusp of the Fourth Industrial Revolution, we wanted to migrate our data to an in-memory computing platform that could seamlessly integrate with legacy and non-legacy systems to enable us to make accurate business decisions quickly and at scale. We had started using SAP technologies in 2010 and felt it was the right time to make the shift to the SAP HANA Platform." Bidco Africa, with the support of its implementation partner, Seal Infotech, completed the migration to SAP HANA in two months.

Satya Devaki, the associate director at Seal Infotech, said that the implementation team managed to complete the entire landscape migration in record time, including time needed for testing. "We achieved the migration of production systems data and processes in 24 hours after a rigorous testing and Quality Assurance process."

Patel and his team also needed to provide real-time visibility over critical business and operational data, regardless of geographic location. "Whether for our operations in Kenya, Uganda or Madagascar, we needed to stay connected to on-the-ground data and get an accurate view over the total business at any point in time. SAP HANA has real-time capabilities that will enable us to run our largest reports on-demand, while our overall data size has been reduced three-fold, greatly reducing backup times. Vivaly, we now have complete visibility over the market dynamics impacting our various operations, and can make informed business decisions based on accurate, real-time information."

Bidco Africa is the leading manufacturer of fast-moving consumer goods in East Africa, with 50 brands across categories including edible oils and fats, hygiene and personal care and food and beverages.

Image Credit: Bidco Africa



Bidco Africa operates across Tanzania, Madagascar, Uganda and Kenya.

IVECO INAUGURATES SHOWROOM IN NAIROBI

IVECO, in partnership with its dealer Global Motors Centre (GMC) has inaugurated a showroom and service centre in Nairobi. The ceremony was hosted by Farooq Sheikh, managing director of GMC and by Marco Torta, area manager for East Africa at IVECO.

Located on the ICD Road, next to Mombasa Road, the new IVECO showroom and service centre has been designed to provide IVECO customers with the '3S' approach: sales, service and spare parts. The showroom welcomes visitors in a comfortable and eye-catching environment. The workshop is staffed with qualified service technicians and well-stocked with spare parts to offer efficient support.



IVECO and Global Motors Centre have inaugurated a new showroom in Nairobi.

GMC was appointed as IVECO's dealer in Kenya in 2017 and assembles the Eurocargo medium truck and the Trakker heavy tipper version at its assembly plant in Mombasa.

IVECO and GMC plan to start production of the new Stralis X-Way truck designed for construction logistics at the Mombasa facility later in the year.

GMC also sells and provides assistance for the line-up of IVECO Daily light duty vehicles, offering an extensive product offer ranging from 3.5 tonnes to 7 tonnes GVW, available in 4x2 and 4x4 configuration.

IVECO and GMC are currently supplying specialised heavy vehicles to Kenya's Government.

Image Credit: IVECO

TRILLIONS LOST TO GENDER INEQUALITY, SAYS ECA

"When you have women in positions of leadership, business does better and there's more innovation, more value creation and more profit," said Vera Songwe, executive secretary of the Economic Commission of Africa (ECA). Speaking at the launch of the Global Health 50/50 2019 Report – titled Equality Works – in Addis Ababa on the eve of the International Women's Day, she said the world's economy loses US\$160 trn in wealth due to gender inequality.

She said political empowerment is one of the areas in which the least progress in closing gender gaps has been made, adding, "we know that policy and politics are where decisions that affect women are made."

Songwe pointed out that gender gap in health and survival has reduced by 96 per cent. Meanwhile, in the areas of economic participation and education, progress in bridging gender gaps stands at 58 per cent and 95 per cent respectively.

Image Credit: Pierre Meininger/Flickr

Macron's climate change rallying cry at eco summit



President Macron urges summit delegates to act against climate change.

French President Emmanuel Macron rallied delegates at the One Planet Summit on 14 March in Kenya to tackle climate change together. Macron first launched the summit in 2017 and attended alongside his host, President Uhuru Kenyatta. "We need to put biodiversity at the heart of each of our actions. We make new commitments and invent a new model together. Thank you for this One Planet Summit in Africa," Macron said. "We all must act."

Ethiopian Airlines black boxes probed after crash



Flight recorders from the ETH961 were being investigated.

Investigators in France have begun analysing the flight recorders found at the wreckage of Ethiopian Airlines flight 961, which claimed 189 lives on board, according to The Guardian.

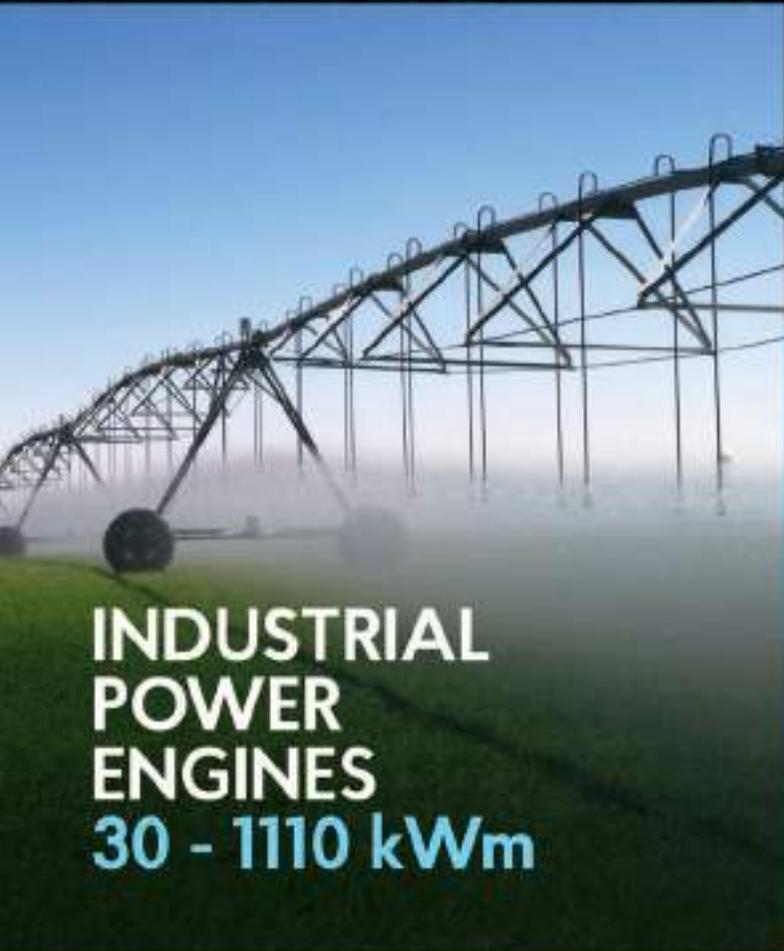
A spokesman for France's bureau of civil aviation safety (BEA), said, "First we will try to read the data," adding that the first analyses could take between half a day and several days. US President Donald Trump has grounded all Boeing 737 Max aircraft following the tragedy on 10 March.

Image Credit: Adobe Stock



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Tool kits for midwives in Zambia wins innovation prize

A Zambia-based entrepreneur was announced as the winner of Pitch@Palace Africa 3.0, hosted by The Duke of York at St James's Palace in London, last month.

Muzalema Mwanza won the most public votes for her pitch about social enterprise, Safe Motherhood Alliance. It provides tool kits for midwives in Zambia delivering babies in under-resourced clinics or at home births.

Each kit includes basic items like a scalpel, sanitary pads, a hygienic sheet and cotton swabs, a list often given to prospective mothers to provide themselves when they arrive at hospitals to give birth. Inspired by Mwanza's own experience of giving birth to her first child, Safe Motherhood Alliance now produce thousands of kits each month, selling them through twenty clinics directly to prospective mothers and midwives in an effort to reduce infections among newborns.

Chelmis Thiong'o, from Kenya, came second with Sign-IO, a smart-glove that tracks and translates sign language movements into speech in real time. The team behind Sign-IO were also selected as winners of the public vote, the platform's People's Choice Award. Third place was presented to Anne Rweyora from Uganda with Smart Havens Africa, a social enterprise which aims to end housing poverty through the development of sustainable, eco-friendly affordable housing for women.

The event's winning entrepreneur will take part in Pitch@Palace Global 4.0 at St James's Palace on 11 December. The event aims to bring together entrepreneurs from all Pitch@Palace events that take place through the year.

Pitch@Palace Africa is a collaboration between the Royal Academy of Engineering's Africa Prize for Engineering Innovation and Pitch@Palace, an initiative founded by The Duke of York in 2014 as a platform to accelerate the work of entrepreneurs. The initiative aims to support entrepreneurs by providing them with the opportunity to access mentors and advisers, distribution systems and supply chains, connections and investment.



Image Credit: Royal Academy of Engineering

Pitch@Palace Africa has been providing a platform for entrepreneurs since December 2015.

NEW WATER TREATMENT SOLUTIONS IN MBOMBELA

Veolia Water Technologies South Africa has supplied three potable water treatment plants (PTWP), aiming to alleviate Mbombela's water constraints.

Nishaal Rooplall, project engineer at Veolia Water Technologies South Africa, said that the solutions focus on providing a cost-effective alternative to in-ground plants.

"These plants are packaged and movable by nature and can be transported elsewhere if the city's water requirements change," Rooplall added.

Water Techno Packages are designed to supply treated water to isolated communities and in compliance with SANS 241 and WHO requirements.

First project

In the first project Veolia installed a packaged PTWP to the Makoko Village, a remote village situated 30 minutes from the city. The PTWP is equipped with clarification and sand filter technologies to treat 0.75 megalitres of potable water per day.

Second project

In the second project, Veolia upgraded the existing 30-year old water treatment plant at the Mshadza Village, another remote village outside the city of Mbombela.

In this installation, raw water was diverted from the old plant to Veolia's packaged PTWP where it used clarification, sand filtration and carbon filtration technologies to treat one megalitre of potable water per day.

Third project

Veolia supplied a containerised water treatment plant that is set to treat 58 cu/m per hour of potable water for the estate. It features clarification, sand filtration and carbon filtration technologies.

The Mbombela water treatment plants are operated locally and Veolia remained on site to provide operator and best-practice training for all three installations.

GE TO PROVIDE AFFORDABLE HEALTHCARE IN SOUTH AFRICA

GE Healthcare has launched Versana Premier in South Africa as part of the Versana ultrasound family, which provides solutions for general practice clinics, physical check-up centres, community health clinics and other facilities offering basic medical care.

Part of GE's new Versana Ultrasound range, affordable care Versana Premier is designed to making healthcare accessible to all. It comes with the local product and clinical training to help healthcare professionals gain comfort and proficiency with the system to enhance patient care.

"As players in South Africa's healthcare industry, each one of us has a responsibility to lead the way in improving the quality of healthcare and support the country's vision in achieving Universal Health Coverage (UHC) for all," said Graham Maritz, general manager, GE Healthcare Southern Africa.

► BRIEFS

SA's solar plant starts operation



Image Credit: Engie

Kathu is the first concentrated solar power (CSP) development for Engie.

Engie, a French multinational electric utility company, said commercial operation for the 100MW Kathu Solar Park in South Africa was achieved on 30 January 2019.

The solar park will provide 179,000 homes to communities within the John Taolo Gaetsewe District Municipality, Northern Cape and South Africa with clean and reliable energy, saving six million tonnes of CO₂ emissions over the next 20 years.



Image Credit: United Nations Photo/Flickr

Hage Geingob, President of Namibia.

Namibia to promote bilateral relations with Kenya

Namibia and Kenya have joined hands to strengthen their economic ties.

As reported in the *African Daily Voice*, Benjamin Langat, Kenya's ambassador to Namibia, said that the countries are improving the bilateral relations through the continental African free trade agreement, with an aim to boost intra-continental trade.

Kenyan President Uhuru Kenyatta will be visiting Namibia to explore further development opportunities.

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Vista Bank partners with Temenos for growth-focused digital revamp

On a mission to improve customer-centered banking in Africa, Vista Bank has selected Temenos Infinity and Temenos T24 as its software company, supporting the challenger bank as it undergoes a digital transformation.

With the help of Temenos Infinity, a digital front office; and T24 Transact, a core banking product, Vista Bank is upgrading its IT systems in order to meet the needs of retail and commercial customers. Alongside this software, the bank has also selected the advanced analytics and reporting, risk and compliance modules as well as the Temenos Payments Hub product.

Established in 2015, VistaBank's digital approach to banking caters to members of the public and SMEs to put customers at the steering wheel of their own financial journey. Through adopting Temenos' regional model bank approach, Vista Bank will be able to cater for regulatory requirements during its expansion, focusing primarily on local functionality and best practices. Clients will also be able to take advantage of digital channels when conducting banking transactions in order to streamline service provision and meet customer expectations.

With 43 networks across Sierra Leone, Guinea and The Gambia, the bank will be able to introduce products and services quickly and support its plans to expand into the West African Monetary Union and the Central African market, with plans to gain a presence in 15 countries by 2025. Vista Bank will be able to take advantage of Temenos' commitment to invest 20 per cent of revenues into research and development every year – the highest in the industry.

“As a challenger bank we are investing in our technology to ensure that we provide cutting edge products and services to our customers,” said Simon Tientore, group chairman at Vista Bank. “I am delighted that, through our partnership with Temenos which leverages their 25 years of industry expertise, we now have a more sophisticated, innovative, cloud-native banking platform.

“This will help us realise our vision of building a truly pan-African financial institution group that will add value to the African economy and promote financial inclusion. Temenos is our trusted strategic technology partner and our customers will reap the rewards of its innovative API-first, cloud-native and cloud agnostic software.”



Image Credit: Adobe Stock
Vista Bank hopes to become the financial institution of choice through innovative banking.

BANKING SUMMIT FOCUSES ON DIGITISING SERVICES

More than 40 of West Africa's banking industry leaders are headed to Lagos, Nigeria to attend the Future Banking Tech West Africa Summit on 23-24 April.

With automated banking systems, tailored credit facilities and crypto-currencies on the rise, stakeholders are scratching their heads over how best to achieve financial inclusion. Therefore the Future Banking Tech West Africa Summit, which is the first of its kind, focuses on innovation in regulation and improving credit facilities in an effort to increase financial inclusion across central banks in the region by next year. Taking into account the experiences of other banks in similar regions, the summit, which will be attended by ministries of finance, banks and telecommunications, FinTech and e-commerce operators in West African countries, will feature a range of showcases and panel discussions to give industry leaders further insight into how best to achieve growth.

The Central Bank of West African States (BCEAO) members include Mali, Senegal, Côte d'Ivoire, Benin, Burkina Faso, Guinea-Bissau, Niger and Togo.

A 2018 survey by McKinsey's found that almost 40 per cent of all African banking customers preferred digital channels for transactions – a statistic amplified by Africa's status as the second leading banking market in terms of growth and profitability.

Stanley Jacob, chairman of the eBusiness Industry Heads committee in Nigeria and head of consumer distribution for Ecobank Nigeria, said, “Technology in banking and payments has evolved significantly and Nigeria as a major actor has become the critical factor to be considered in setting the pace in creating digital ideas, innovation and the application of enterprise payment systems to transform businesses and lifestyle.”

CONTINENTAL TRADE AGREEMENT UNDERWAY

Experts from the Economic Commission for Africa's (ECA) and African Trade Policy Centre (ATPC) met in Libreville, Gabon in order to review guidelines for the African Continental Free Trade Agreement (AfCFTA).

The meeting saw specialists review current production and trade, competitive issues faced by businesses and strategic actions to boost priority sectors to produce guidelines suitable to support 30 countries expected to implement the trade agreement.

ATPC believes the agreement has the potential to lower tariff revenue in the short-term, but states issues such as climate change and new technologies need to be taken into consideration moving forward.

David Luke, coordinator of the African Trade Policy Centre (ATPC) said, “Country strategies will not be developed from scratch. African countries have in place a number of well-grounded knowledge products and frameworks, national development plans, trade and export policies that will inform the AfCFTA strategies.”

► BRIEFS



Image Credit: Dangote Group

Dangote owns a cement production plant in Kogi State.

Dangote: Africa's richest man

With a net worth of US\$17bn, Nigerian businessman Aliko Dangote has been labelled the richest man in Africa, according to the Bloomberg Wealth Index. Dangote is one in six Africans ranking in the world's 500 richest people, with most billionaires from the continent gaining their wealth by coming into possession of oil blocks. Roughly half of Nigeria's 190.9 million population live on less than US\$1.90 a day, making Dangote's considerable fortune all the more startling.

BBOX customers in Togo receive subsidy for solar energy



Image Credit: Adobe Stock

BBOX has been operating in Togo since December 2017.

BBOX customers in Togo are set to receive a monthly subsidy of 2,000 FCFA (US\$4) to spend on solar energy, marking the government's first subsidy for solar energy payments in Africa. Determined to install 300,000 solar homes by 2022 to largely urban areas, the subsidy is encouraging people to opt for clean solar energy instead of kerosene, in keeping with the UN's Sustainable Development Goal of affordable, reliable energy for all.



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16 - 17

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JUMIA TO BE FIRST AFRICAN START-UP JOINING NEW YORK STOCK EXCHANGE



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Jumia claims to be Africa's only e-commerce business.

Jumia, Africa's largest e-commerce company, has been listed on the New York Stock Exchange.

The IPO is reportedly a landmark move for e-commerce and tech companies on the continent.

The company is valued at US\$1bn and cites itself as "the only e-commerce business successfully operating across multiple regions in Africa."

However, last year Jumia's losses of US\$195.2 mn outweighed its revenue of US\$149.6mn.

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ISLAMIC BANKING SET TO GROW IN AFRICA



Image Credit: Adobe Stock

Moody's has predicted a 10 per cent rise in Islamic banking assets in the next five years.

Islamic banking assets are set to increase 10 per cent over the next five years in total African banking assets, according to Moody's Investors Service.

Sudan and Djibouti so far exhibit meaningful levels of Islamic banking assets as a proportion of total banking assets, at 100 per cent and 20 per cent respectively. There are more than 80 Islamic financial institutions in Africa, many of which have been licensed in the last five years. The greatest numbers are in northern Africa, especially Sudan. Nigeria, Senegal and Kenya have implemented banking, legal and regulatory frameworks to spur growth in their Islamic banking sectors.

Nigeria's only Islamic bank, Jaiz Bank, has grown its assets by 519 per cent over the last five years, expanding its branch network from just three branches in 2013 to 33 and serving 230,000 customers across the country.

According to Moody's, Africa's large Muslim population, which is predominantly unbanked or underserved, are expected to provide a solid foundation in which Islamic banking assets can grow rapidly.

In addition to Islamic financial institutions, a number of well-established conventional banks across Africa have set up Islamic departments in which they provide Shari'ah-compliant products. These include Absa Bank of South Africa, Ecobank Chad and Sterling Bank Plc of Nigeria.

DP WORLD INTRODUCES MOBILE HARBOUR CRANES AT BERBERA PORT



Image Credit: DP World

The Port of Berbera is the official seaport of Somaliland's capital.

DP World, one of the leading global port operators, has commissioned first mobile harbour cranes (MHCs) at the Port of Berbera, Somaliland.

The port will provide shoreside crane support, which will be improving vessel operations. The US\$12mn investment on the three new cranes is expected to double productivity at the port, reducing vessel turn-around time, stabilising operations during monsoon season and providing secure conditions at the port.

Suhail Al Banna, CEO and managing director of DP World Middle East and Africa, said, "The three mobile harbour cranes being commissioned are strategically important for the development of the Port of Berbera. They will enable more ships to be served at and increase the flow of trade to both the country and the region."

"As construction work for the expansion of the port progresses, we are witnessing a transformation in the capacity of this major infrastructure asset, benefitting people here and across the Horn of Africa," Al Banna added.

With this investment, DP World aims to provide an alternative gateway to international markets that is beneficial to Somaliland people. In the port, DP World introduced container handling equipment, vehicles and systems.

Securex West Africa set to be biggest edition yet in Lagos

Businesses will be able to find out how to protect their assets at the next edition of Securex West Africa 2019 – the region’s largest exhibition for security, fire and safety.

Taking place at the Landmark Centre on Victoria Island in Lagos, on 16-17 April, the eighth show is set to be the biggest edition to date with over 3,000 attendees and more than 80 of the industry’s leading brands expected.

Among the exhibitors that will be attending this year, include Afrisec, Aluroll, Chiguard Services Nigeria, Net Global System, Kontz Engineering, Mitobi Integrated Services and Gil Automations.

Sheldon Blom of Stafix Electric Fence and Security Centres, which was one of the exhibitors last year, said, “Securex is a great opportunity to showcase your brand and company, to interact with various people from all aspects of security, globally.”



Image Credit: Adobe Stock

Securex West Africa 2019 is set to be the show’s biggest edition to date.

2019 will also see the return of the West African Cyber Security Summit (WACSS), a full-day conference for up to 300 cyber security professionals in the region, which will focus on analysing the most effective

methods of cyber protection from growing threats posed by the Internet of Things.

Additionally Firexpo will be running alongside Securex West Africa as a dedicated fire and safety pavilion, which organisers

say will be a good opportunity for business owners to explore crossover interests in fire and safety measurements.

For more information visit www.securexwestafrica.com

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An artist's impression of the Coral South FLNG vessel, the world's fourth-largest FLNG project.

Image Credit: Eni



Top trends shaping the energy sector in 2019

NJ Ayuk, founder and CEO of Centurion Law Group, once listed in Forbes Magazine as one of the top 10 most influential men in Africa, shares the trends and developments to watch out for in the oil and gas industry this year.

After a year of rebound and recovery, Africa's old and new hydrocarbons markets have an opportunity to further entrench the continent's position as the world's hottest oil and gas frontier in 2019. However, the new year also brings a new set of dynamics and challenges set to influence the future of the industry, from presidential elections to megaprojects developments, amid intensifying international competition.

New frontiers opening up

Independents are leading the way in exploring and opening up new frontiers across Africa. This year will be critical for the advancement of new exploration and production development projects from West to East Africa. Developments to watch notably include Senegal's SNE field development, Woodside Petroleum has finalised the FEED contract for the first phase; Niger's Amdigh

oilfield project, where Savannah Petroleum's US\$5m early production scheme is set to start anytime soon; and the opening up of Kenya's South Lokichar Basin by Tullow Oil, where FID is also expected before year end amid rising tensions with the Turkana local community.

A year to confirm Africa as a global exploration hotspot

Ongoing bidding rounds in major existing and new African hydrocarbons markets will tell if Africa further confirms its position as the world's new exploration hotspot and manages to attract necessary investment in its oil and gas acreages.

Among well-established African producers, OPEC members Gabon and Congo-Brazzaville each have ongoing bidding rounds. Gabon's 12th shallow and deep-water licensing round is set to close this month and Congo-Brazzaville's License round phase II in June.

With both countries struggling to implement their new Hydrocarbons Codes, the success of these rounds will tell if investors have been convinced by policy reforms developed over the past two years.

Two bigger African producers and also OPEC members, Nigeria and Angola, will launch landmark and out-of-the-ordinary bidding rounds this year. Nigeria will auction its gas flare sites under the Nigerian Gas Flare Commercialisation Programme, and Angola will hold its Marginal Fields Bidding Round, result of a new May 2018 policy enacted by President Lourenço, and to be launched at the Africa Oil and Power conference in Luanda in June. With the Nigerian Petroleum Industry Bill yet to be signed and the ink still fresh on Angola's new policy regime, both rounds will also be critical in assessing investors' interest for both countries' business environments.

Also attracting interest is the

newest and arguably one of the upcoming entrants – Ghana – holding its 1st formal licensing round set to close in May which has reportedly got the attention of 16 oil companies, including majors ExxonMobil, BP, Total and ENI. As a hopeful new East African offshore frontier, Madagascar is also putting 44 concessions on offer until May, none of which has ever been tendered or explored before.

Africa's struggling FLNG industry

After the start of commercial operations at Golar LNG's Hilli Episeyo FLNG vessel in Cameroon in June 2018, hopes were high that Equatorial Guinea would soon move forward with its own Fortuna FLNG project, set to be Africa's first deep-water FLNG development. While Fortuna was to be game changing for the gas industry of Equatorial Guinea and the rest of the continent, the development of the

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US\$2bn project has stalled due to a lack of financing. And the clock has been ticking since. The lack of progress on this plan has been so slow that operator Ophir Energy has been denied the extension of its license to operate block R, which contains the giant Fortuna gas discovery. While Equatorial Guinea's FLNG aspirations look more uncertain than ever, 2019 will tell if the country can find the right partners to put the project back on Africa's FLNG map.

Meanwhile, new entrants in Africa's hydrocarbons stage are making remarkable advances towards the development of their own FLNG industry. On December 21st last year, BP finally announced its FID for phase 1 of the cross-border Greater Tortue Ahmeyim development between Senegal and Mauritania, which involves the installation of a 2.5MTPA FLNG



NJ Ayuk, founder and CEO of Centurion Law Group.

facility. It became the third African FLNG project to reach FID after Cameroon's 2.4MTPA Hilli Episeyo and Mozambique's 3.4MTPA Coral South FLNG.

Mega projects on the move

Africa's comeback on the global oil and gas map is not only due to the vast natural resources found in its soil and waters, but also to the continent being home to mega

energy projects set to transform the future of the industry.

On the upstream side, the recent inter-governmental cooperation agreement between Senegal and Mauritania, and BP's FID on its cross-border Greater Tortue Ahmeyim development, bodes well for the future of West Africa's hydrocarbons industry. The project aims at extracting the 15Tcf of gas estimated to be held in the Tortue gas field, at a depth of 2,850m. However, the ability of both Senegal and Mauritania to work out their differences to ensure a more sustainable development of their offshore reserves and facilities around the MSGBC Basin is a factor to watch out for.

African mega gas projects are not the sole property of the continent's West coast, with Mozambique moving forward with two landmark projects putting the southern

African nation on the global LNG map. Following the launch of the Coral South FLNG project by ENI in June 2017, a FID is expected in for the Anardarko-led Mozambique LNG project, an onshore LNG development initially consisting of two LNG trains totaling 12.88MTPA to export the gas extracted from the offshore Area 1, estimated to contain a whopping 75Tcf.

Sub-Saharan Africa's biggest petroleum producer, Nigeria, is also moving forward with massive oil development projects in 2019. Last year already saw the launch of Total's \$3.3bn Egina FPSO in Nigeria, where production officially started in the first days this year and is set to peak at 200,000 bopd. FID is now expected on Shell's Bonga Southwest offshore field in Nigeria early this year, a multibillion-dollar development whose production is expected to reach 180,000 bopd. ■

Image Credit: Centurion Law Group



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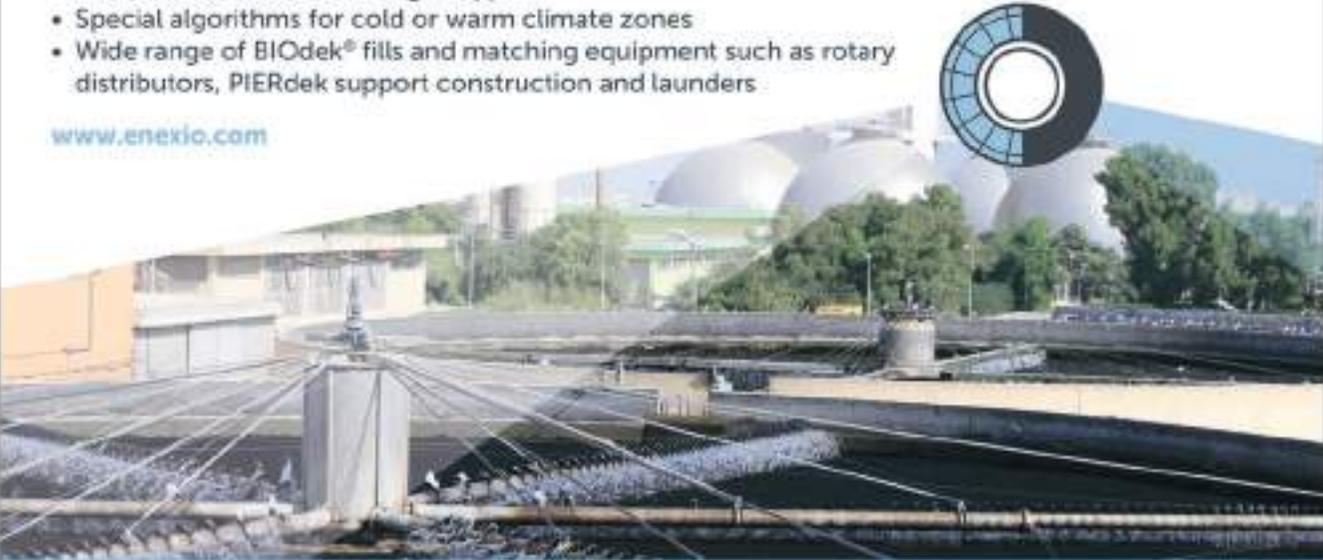
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Remittances in Africa: A quiet revolution, from household to handset

As a young boy in Benin, as a student in Paris, as a professional in New York, and as an entrepreneur in South Africa, I have been on every side of the remittances experience. Like millions of Africans on the continent and in the diaspora, I know well the frustrations and urgency of sending and receiving funds from abroad. The frantic phone calls to check if the money had been received. The days-long wait for bank transfers. The agonising and expensive trip from the village to the city, followed by endless queues at the pick-up counter. Today, as the founder and CEO of MFS Africa, I am proud to be part of a revolution in remittances.

Remittances are a big business, with big impacts and big hurdles: remittances to sub-Saharan Africa will reach US\$47bn in 2019, according to the World Bank. Families rely on remittances to support education, household expenses, healthcare, and other needs that improve lives and drive economic development. But sub-Saharan Africa remains the most expensive place to send money, where the average cost is 9.4 per cent, over 32 per cent higher than the global average.

“MFS Africa is driving a revolution in digital payments that extends beyond remittances”

MFS AFRICA

Sending money within Africa is even more expensive – up to 20 per cent in some corridors. That is right – the poorest countries are paying the highest prices to send money. And they are sending quite a lot. We tend to think of remittances in terms of flows from the “north” – the developed countries where migrants go in pursuit of opportunities for work and education – to the “south” – the former colonies that largely “export” labour to the global north. In reality, there is nearly as much money sent among developing countries (34 per cent of global remittance stocks, per the World Bank) as there is



sent to these countries (37 per cent). That is why it is critical that we reduce remittance costs for Africans – whether at home on the continent or in the global diaspora. Our mission at MFS Africa is to connect every African consumer to the global digital economy, starting with the ability to make simple cross-border payments.

Mobile payments are revolutionising remittances, and remittances are revolutionising mobile payments. Most readers will be familiar with mobile money, the bankless mobile payment innovation that was developed and perfected in Africa. Mobile money makes remittances easier, cheaper, more transparent, more secure, and more accessible than traditional money transfer services. Instead of travelling to and queuing at banks or counter services, recipients can receive the funds directly onto their mobile phones. While counter services deliver the full amount in cash, mobile money allows the recipient control and discretion – using a private PIN, they can decide how much to withdraw and how much to keep in the wallet for later use. Receiving funds onto the mobile wallet also means the beneficiary can immediately make payments and transfers within the mobile money ecosystem.

But it can be complex and costly for money transfer companies to connect to each of the dozens of mobile money networks across the continent. High fragmentation of networks and platforms make it expensive and daunting for money transfer companies to enter this space. MFS Africa simplifies this by connecting mobile wallet, banking, and other payment systems across the continent to one API – enabling real-

time, accessible, and secure transfers to and from mobile wallets. Partners who are connected to the hub can enable their customers to send and receive money from any other connected partner, trusting that all connected networks are compliant, licensed, and vetted.

MFS Africa is driving a revolution in digital payments that extends beyond remittances. MFS Africa is reducing remittance costs by connecting mobile money systems to each other and to money transfer companies globally, through a single API. And by offering a “one stop shop” to reach mobile wallets across Africa, MFS Africa enables possibilities in digital financial services beyond money transfer. From e-commerce to microfinance, disbursements to crowdfunding, interoperability is the key to attaining scale. Our hub model makes interoperability a reality, connecting more than 180 million mobile wallets and tens of millions of bank accounts across the continent.

Today, when I send money back to my mother in Benin, it is as simple as a few taps on a mobile phone. She is then able to use that money to pay for services locally on mobile money, and she can even send money to cousins in Senegal, or to friends in Côte d'Ivoire. I am proud to be part of the technological revolution in payments in Africa that solves real problems that I know from personal experience. I am also proud that our solution to the remittance challenge has become a springboard for further revolutions in Africa's digital economy. ■

by Dare Okoudjou, founder and CEO of MFS Africa

Luxury cars from the Geneva Motor Show 2019

The finest quality cars were showcased at the 89th Geneva Motor Show on 7-17 March. Here is an overview of the latest brands in the executive market.



Image Credit: Maserati

MASERATI - LEVANTE TROFEO

The Levante Trofeo is equipped with one of the most powerful engines ever fitted in a Maserati road car:

- A 3.8-litre Twin Turbo V8, calibrated to mate perfectly with the Q4 Intelligent All-Wheel Drive system, providing it with a new crankcase design, specific crankshaft assembly, new oil pump and auxiliary belt and a different wiring layout.
- In terms of 0-100km/h acceleration, it stops the chronometer at 4.1 seconds, while the maximum speed is close to 300 km/h.
- It is fitted with the eight-speed ZF automatic gearbox
- The car will be initially available in Morocco and Egypt, followed by South Africa at a later date.

'IMAGINE BY KIA'

It is Kia's first fully electric four-door passenger car:

- The layout of the powertrain created a chassis architecture that is distinctly different to that of a vehicle powered by an internal combustion engine. It's a layout that has been exploited to maximise cabin space and create an airy and spacious interior.
- Twenty-one individual ultra high-resolution screens curve their synchronised way across the top of the dashboard in a layout.
- The doors – rear-hinged at the back for greater access – are swathed in a metallic fabric and leather, visually splitting the cabin into two distinct upper and lower levels.
- It boasts two capacious loadbays: a 'frunk' front trunk and a traditional rear storage area accessed through the glass hatch.
- The wheels are shod with bespoke Goodyear 255/35 R22 Intelligrip EV concept tyres.



Image Credit: Kia

MERCEDES-BENZ CLA SHOOTING BRAKE

Attractive, intelligent – and, at the same time, practical: The Mercedes-Benz CLA will be available in a shooting brake body type from September. Features:

- At 871 millimetres, the boot opening is wider than in the previous model (635mm).
- The tailgate can be opened contactlessly with easy-pack and hands-free access.
- An Adaptive Damping System is available on request.
- A range of diesel and petrol engines with manual or dual clutch transmission, front-wheel or all-wheel drive 4MATIC are available.



Image Credit: Mercedes-Benz



Image Credit: Mitsubishi

MITSUBISHI 2020 ASX

The Mitsubishi ASX is a compact SUV designed for the city, offering wide-ranging versatility, making it a solid choice from everyday use to exciting adventures:

- ASX is powered by a 2.0L MIVEC 16-valve engine equipped with a five-speed manual transmission or the INVECS-III CVT with six-speed Sports Mode. Two and four-wheel-drive versions are available.
- It features a RISE impact safety body and a Forward Collision Mitigation (FCM) braking system.
- The new styling makes the bonnet deeper, adding to the presence projected by the front end
- It uses LED rear combination lamps (except indicators) in a sharp-looking design that stretches across the width of the car and accentuates the wide stance.



Image Credit: Jeep

JEEP GRAND CHEROKEE S-LIMITED

Grand Cherokee S-Limited will offer all the presence of Jeep's legendary muscular sports styling, without the thirsty petrol engines seen in the 6.4-litre V8-powered Grand Cherokee SRTsystem:

- Powered by Jeep's proven 237bhp, 2987cc V6 CRD diesel engine with new-generation, 1,800-bar injectors and MultiJet II technology developed by Fiat Powertrain.
- Interior of the new S-Limited features a leather-wrapped heated steering wheel and ventilated sports-styled Nappa leather seats.
- Bright, racing-style pedal pads add to the sporty, performance-oriented look inside the cabin.
- It went on sale in March.



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Absa Group reports increase in 2018 earnings

Absa Group, one of Africa's largest financial services providers, reported an increase in revenue and earnings for 2018, a year of almost unprecedented corporate activity as the group repositioned itself as an independent bank after splitting from Barclays.

Normalised headline earnings increased four per cent to R16.1 billion compared with 2017 and revenue increased four per cent to R75.7 billion. Shareholders will receive a final dividend of R11.10 per share, a four per cent increase from the final 2017 dividend.

"Despite a challenging backdrop, we are particularly pleased with our improved momentum as we embark on our new growth strategy. This was evident in our gross loans to customers which increased by 13 per cent," said Jason Quinn, Absa Group financial director.

In its largest business, retail in South Africa, lending momentum outpaced the market showing good new business growth across home loans, vehicle and asset finance and personal loans. Absa also gained market share in deposits which grew by 11 per cent with strong growth in fixed and notice deposits.

"Last year was a year of almost unprecedented activity for Absa Group as the business was re-set as an independent bank after Barclays reduced its shareholding to a minority stake in 2017," said René van Wyk, CEO of Absa Group.

In July 2018, the group started trading as Absa Group and launched the new brand in South Africa. Since then, the company has introduced Chatbanking on WhatsApp, enabling customers to conduct basic banking; a mobile banking saving app called Timiza, which was kickstarted in Kenya; and the group was first in South Africa to launch Samsung Pay.

"With major changes bedded down in 2018, the framework for the



Image Credit: Absa Group

René van Wyk, CEO of Absa Group, said 2018 was a year of "almost unprecedented activity" for the company.

business has been re-set," said Van Wyk. "The strong leadership team and structure that was put in place over the past year can now deepen the efforts within their business units to deliver against our ambitious growth strategy."

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JUMEME implements first phase of Lake Victoria hybrid solar mini-grid project

RP Global, a majority shareholder of JUMEME Rural Power Supply, has announced that construction of the first phase of its solar-hybrid mini-grid project in Tanzania is in progress. In this first scaling phase, 11 new mini-grids are being constructed to bring 24/7 electricity supply to 80,000 people. Built on a cluster of islands in Lake Victoria, these solar-hybrid mini-grids, equipped with battery storage technology, will electrify 20 villages. The EU provided the co-financing for the project through the ACP-EU Energy Facility. Commissioning is due in June.



JUMEME aims to build up to 11 more mini-grids to electrify 23 additional villages.

In the second scaling phase of the project, JUMEME aims to build up to 11 more mini-grids to electrify 23 additional villages, bringing energy services to more than 160,000 people.

Leo Schiefermüller, director of RP Global Africa, commented on the development conditions in the country, “Besides the existing legal framework and the favourable solar resources, our decision to invest in Tanzania is a direct consequence of the low electrification rate in the country. Solar hybrid mini-grids are the least-cost electrification option, especially in rural areas, and the pay-as-you-go business model of JUMEME makes electricity consumption for the customer affordable.”

JUMEME's first mini-grid system, which has been in operation since 2016, confirms the great potential for increased rural economic growth when clean energy starts powering people's lives and business ventures. This is especially true for women, who are provided with new means to gain economic independence by founding electricity-reliant businesses. Access to electricity will also enable the installation of irrigation systems and water pumps, thereby reducing the impact of droughts.

“Many of the remote communities in Tanzania are still without access to electricity. So far, our regions of operation show some of the lowest rural electrification rates in Tanzania, ranging between 3 per cent to five per cent. The population is dispersed across distant villages and small towns making it hard to connect them through the grid. By 2023, JUMEME could supply high quality and reliable electricity to one million Tanzanians, making this company the largest mini-grid operator in sub-Saharan Africa, if the political and regulatory situation improves for investors,” concluded Schiefermüller.

GERMANY-AFRICA DEALS MADE AT ENERGY FORUM

The 13th German-African Energy Forum set the stage for German and Africa businesses to expand their economic ties, do deals, create jobs and combat energy poverty. The forum was in Hamburg from March 27 to 28 and organised by the Afrika-Verein der deutschen Wirtschaft.

African governments and companies networked and discussed deals with leading German and European companies and investors such as ABB, Siemens, Allianz, Voith, Lucas Nülle, Inzag and Gauf Engineering. Under the theme “Realising & Financing Africa's Energy Revolution”, the forum highlighted areas for investment opportunities and energy cooperation including smart energy systems and renewable energies.

“African countries must continue creating an enabling environment for German investors. It is critical for job creation. Germany is a major partner for Africa, and German technology and know-how will be key in addressing Africa's energy challenges,” said NJ Ayuk, executive chairman at the African Energy Chamber.

PERKINS APPOINTS SECO POWER AS DISTRIBUTOR IN WEST AND CENTRAL AFRICA

Perkins Engines Company has appointed Seco Power an authorised Perkins distributor for 21 countries in West and Central Africa. Seco Power, which is part of the Secodi group, will provide sales, parts and service support to Perkins customers.

A regional headquarters in Mauritius will be complemented by regional offices first in the Côte d'Ivoire, then in Senegal and Cameroon. In addition, Seco Power will serve customers and second level dealers from facilities in multiple places throughout the service area.

Seco Power has distribution responsibilities for the following countries: Côte d'Ivoire, Rwanda, Benin, Democratic Republic of the Congo, Burkina Faso, Niger, Togo, Guinea-Bissau, Senegal, Chad, Morocco, Mauritania, Cameroon, Gambia, Gabon, Burundi, Equatorial Guinea, Mali, Liberia, Central African Republic, and Congo.

Owned by the Fetis family, Secodi was established in 1978, and over the years has expanded its offering to become the appointed Perkins distributor in France, Finland, Estonia and Spain, as well as in Turkey through Power TK.

“I'm excited to be working with Seco Power across these major countries in West and Central Africa,” said Jaz Gill, vice president of global sales, marketing, service and parts at Perkins. “I'm confident Seco Power, which can leverage the experience of the Secodi distribution group, will deliver a consistent and quality service for our customers.”

Yannick Billy, CEO of Secodi said, “We're pleased to have been appointed to manage Perkins distribution activities across West and Central Africa. This is a natural growth path for Secodi as we've been supporting our French and Turkish customers in Africa. Product support and a local presence, have been our drivers to meet customers' needs.”

► BRIEFS

Azuri and FirstBank partner to bring solar to millions

Image Credit: Azuri Technologies



Simon Bransfield-Garth CEO of Azuri (left) and on the right is Tunde Owolabi, Group Executive, Retail Banking Group (Lagos and West).

Azuri Technologies, a leader in pay-as-you-go solar technology in Africa, and FirstBank of Nigeria Limited announced a partnership that will help deepen financial inclusion in Nigeria while bringing affordable, reliable and clean power to millions of Nigerians. Azuri's solar home TV product will be co-branded and co-marketed by FirstBank and Azuri. Pay-as-you-go customers will be able to pay for their solar via FirstBank's Firstmonie agent network and mobile payment solution.



Power Africa has committed US\$5mn to the solar home system programme in Malawi.

US\$5mn support for Malawi

USAID in support of the US government-led “Power Africa” initiative, launched a “Solar Home System Kick-Start Programme for Malawi” to expand energy access in the country. Power Africa will commit US\$5mn of support to the programme, with US\$1.5mn going towards results-based grants for SHS companies. Starting in early 2019, the programme will offer support to applicants: results-based grant finance, operational support and access to working capital financiers.

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- 4) Investment sector:** independent power producers (IPPs) and utilities development;
- 5) Development sector:** industrial, logistical & commercial.

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INTEGRATED ENERGY SOLUTIONS



Moving into hybrid solutions

Altaaqa Global Energy Services has joined forces with Greencells Group to provide cost-effective, reliable and sustainable hybrid power for mines. *African Review* caught up with Steven Murdock, sales director, Global Mining and Nalen Alwar, business development director, sub-Saharan Africa to talk about this partnership that will allow the company to offer mine operations a technology that provides optimal efficiency and significant operational savings.

Tell us about your new partnership with Greencells Group – what does this mean for Altaaqa Global Energy Services?

Steven Murdock: Our partnership with our sister company Greencells Group puts us at the front of the queue in providing hybrid solutions. Traditionally, we used to offer power plants running on diesel, HFO or gas, but the market preference has progressively moved towards green technologies. In order to serve the market's evolving power requirements, the Zahid Group decided to acquire a 50 per cent stake in Greencells, which is a leading global solar PV and EPC solutions provider.

How do these hybrid solutions work?

SM: These hybrid solutions enable fossil fuel generators to operate at lower loads, thereby significantly reducing the costs related to fuel usage, operation and maintenance. They generate solar power but once the capacity drops or becomes intermittent, the generators power on to take up the load.

What's driving this change towards these technological solutions?

SM: I don't think it's a surprise to anybody that the world, not just the mining sector, is looking towards renewable solutions to help the environment. Turning to hybrid solutions allows mines to improve their environmental footprint. This move towards renewable technology is market-driven; if you don't go where the market goes you will soon find it harder to compete.

Nalen Alwar: Climate change



Nalen Alwar, business development director, sub-Saharan Africa.

objectives are also having an influential effect on what technologies need to be in the marketplace. Hybrid solutions enable end-users to operate within both cost and environmental constraints. Incorporating cleaner sources of energy are key towards achieving triple bottom line objectives of profit maximisation and operating responsibly for sustainability of both the environment and people within and outside of the mining operations.

Why are hybrid solutions important for mines and utilities to consider to reduce their operating costs?

NA: Hybrid solutions can reduce tariffs so that companies can become competitive, which fits in with our goal of trying to deliver the lowest total cost of energy for customers. The customer can reduce their cost structure to be able to operate regionally and globally, especially in the mining environment where companies are faced with stiff global competition. Without a hybrid solution you are not going to help the customer with their cost strategies and for now,



Steven Murdock, sales director, global mining.

hybrid solutions make sense towards reduction of input costs in order to be competitive in the global arena.

SM: Global mining houses are about efficiency, cost-control and expense reduction. Where we are able to assist them in reducing costs, in turn, makes them an efficient producer of whatever mineral it is that they are mining.

How do hybrid power plants fit in with the rest of the company's energy services?

SM: It complements it. We are moving from being a temporary power provider of gas and diesel generators to now offering power plants on a short-, medium- and long-term through a variety of financial and contractual arrangements, such as the Build-Operate-Own-Transfer (BOOT) model. On the technological side,

we have expanded our product offering from high-speed to medium-speed engines, gas turbines and now in cooperation with Greencells, we can provide thermal and solar hybrid systems.

What makes Altaaqa Global Energy Services unique?

SM: We can go anywhere on the planet within reason. We are part of the Zahid Group, a global conglomerate and a trusted partner of internationally renowned brands, and therefore have strong financial support. The group has more than a century of history in the energy and interrelated business segments that include mining and oil and gas. We belong to the Zahid Energy Group, which also includes Greencells; Altaaqa Alternative Solutions KSA, Saudi Arabia's leading provider of total utility solutions, and Operations and Maintenance Alternative Solutions (OMAS), which specialises in the design, installation, operation and maintenance of mechanical and electrical systems. While we are all experts in our fields, we can come together and use our expertise in creating hybrid solutions.

Would you like to add anything else?

We are not just technology partners, we have physical assets with power plants located across the world. ■

Greencells Group develops utility-scale solar projects globally. The company builds more than 1.3 GW of capacity in more than 100 individual projects in 25 countries. It has built a substantial presence expanding into the US, Asia Pacific and the Middle East including the supply of the mounting system and construction services for the world's largest solar power plant, the 1.2 GW Sweihan project in Abu Dhabi, which is currently under construction.



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What's next for Africa's energy sector?

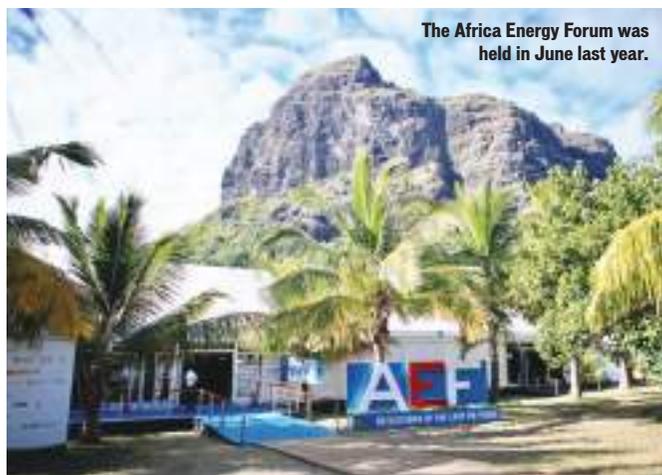
The last 20 years have seen a shifting energy landscape across the African continent, but what lessons can be learnt for the future?

After a disappointing decade in the 1990s, where very little new capacity was added, the past decade and a half has seen around 20 GW of new generation capacity (excluding South Africa), concentrated in Nigeria (4,6 GW), Côte d'Ivoire (0,8 GW), Sudan (3 GW), Cameroon (0,7 GW), Ethiopia (2,2 GW), Zambia (0,7 GW), Ghana (1,7 GW), Senegal (0,7 GW), Kenya (1,3 GW), Uganda (0,6 GW) and Angola (1,1 GW).

While the current macroeconomic environment is turbulent for many developing countries, in the long term, Africa will continue to grow. It will offer investment returns that are attractive to foreign investors compared to alternatives elsewhere. In the power sector this should be obvious – everybody is hungry for power, it has a multiplier effect on economic growth, and there have to be ways to structure the sector to allow profitable investment. Yet governments are still struggling to get people to the table. What needs to change?

One of the stumbling blocks for deals to close is the process of procurement, and the integrity concerns that often surround it. For an increasing number of deals and countries, competitive and transparent procurement, the South African Renewable Energy Independent Power Producer Procurement Programme and Scaling Solar, is the way to go. In the future, organising bidding processes for solar deals should be de rigueur. Wind would also benefit from an organised bidding process, especially given the land issues that often delay these projects.

And given the prices that these products are delivering, the availability of subsidies for and increased focus on renewables,



The Africa Energy Forum was held in June last year.

Image Credit: EnergyNet

solar, wind and storage are clearly the energy products of the future. Unit prices of storage, in particular, are falling rapidly and the fall is accelerating – some estimates put the current unit rate of decrease at 20 per cent a year. Has Africa financed its last peaking plant? Possibly not – but the day cannot be far off when it does.

developers, bankers and investors who turn out to the Africa Energy Forum every year. We obviously need to do better – but the technological revolution involving household solar and storage, and smart metering and billing will do the same for the power sector that the mobile phone did for telecommunications. Household off-

“ A striking verdict on the last twenty years is the number of Africans without power ”

A striking verdict on the last twenty years is that the absolute number of Africans without power has not diminished – it's still close to 600 million – despite all the

grid and mini-grid is the wave of the future, and figuring out the interface with grid-based power is the Holy Grail.

Meanwhile, we, and government

clients, need to be more inventive about bringing the private sector into other parts of the business, including distribution and transmission. Private transmission is commonplace in Latin America, for example, and there is no reason why it cannot be a feature of African economies. Even across borders; if a railway line can be built across Malawi to Nacala in Mozambique, there is no reason for a transmission line to be publicly-funded.

Against this background it is clear that IPPs can continue to make an important and growing contribution to meeting sub-Saharan Africa's power needs. Projects are concentrated in a few countries, but there is scope to widen private investment across the continent. Current experience with IPPs on the continent offers important lessons around the enabling environment to accelerate private investment. The key is having a dynamic, least-cost power plan that is translated into a (competitive) procurement programme in a timely manner. Using competitive bidding or auctions further ensures that this investment is affordable (i.e. that prices are low), and that the procurement process is transparent and predictable. ■



Delegates at last year's Africa Energy Forum.

Image Credit: EnergyNet

The 21st Africa Energy Forum will take place in Lisbon, Portugal from 11-14th June. To find out more visit www.africa-energy-forum.com

Source: An extract from the report "The reflections on the last 20 years: How far have we come?" by David Donaldson, Head, InfraVentures, Africa, IFC and Professor Anton Eberhard, Graduate School of Business, University of Cape Town.



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Africa's genset demand bouncing back

The natural resources sector is driving a return to growth for diesel gensets in Africa, providing power for tough environments and remote locations.

Africa's natural resources sector continues to present good opportunities for genset manufacturers and suppliers.

Despite the emergence of alternatives, including renewable and hybrid power options, diesel-based genset electricity remains a proven and still very much in-demand asset, especially for remote installations in the energy and mining industries.

Gensets continue to serve as a stalwart of the mining sector, for instance, supporting lighting systems, ground water pumping, air circulation, conveyor belt systems, underground transport and even mining face equipment.

Diesel gensets likewise remain a popular means to guarantee power in the event of interruptions from other sources, in applications as diverse as tourism and healthcare, for instance.

Mining demand

Canada's Teranga Gold Corporation is currently building out its Wahgnion mine in southwestern Burkina Faso, which boasts several gold deposits across a broad area. YorPower recently supplied a 100kVA (P110GW) Perkins canopied generator to the West African mine, which will provide back-up for a larger power plant and potential grid-based supply.

The remote mine sits on the border with neighbouring Côte d'Ivoire and is about 510 km southwest of Ouagadougou, Burkina Faso's

capital. "Considering the remote location of the new mine, the generator will be used as standby power in case of cut-off from the grid, coming from the Côte d'Ivoire through an existing power line," YorPower said.

A major 225 kV transmission line passes to within 35 km east of the project site from the Côte d'Ivoire. Limited grid power has been installed in the village of Sindou, which is about 10 km to the north of the Dierisso licence boundary.

Site-wide operations will also be supported through a large on-site HFO (heavy fuel oil) power station, with emergency electricity from a standby diesel generator in the process plant. The YorPower generator will be located at the mine's Nianka site. Teranga says consideration has also been given to

a future interconnection with the Sonabel (Burkina Faso national electricity supplier) network.

Across a mining licence area that stretches 86 square kilometres, construction is now fully underway on-site, with first gold pour expected around the end of 2019.

Teranga Gold also operates another mine in the area, Sabodola in Senegal, which houses its own large 36 MW power source from multiple low speed heavy fuel generators.

Return to growth

The oil and gas industry similarly continues to provide a steady stream of work for genset companies. Indeed, growth has returned following years of decline, according to Powergen Statistics. It says the Africa market for diesel gensets grew by 3 per cent in 2018, from a year earlier, reaching US\$1.1bn. This mirrors average global growth rates.

Nigeria increased by 2 per

Image Credit: Scania



Scania genset SG550

cent and South Africa remain stable, but North Africa showed the brightest potential, with strong demand from the oil and gas economies of Algeria and a recovering Libya. In these and other markets, firmer oil prices had a positive impact on new investments and projects. Algeria recorded growth of 7 per cent (US\$120mn) in 2018, it noted, while Libya's volumes doubled with nearly US\$30mn in sales, in large part, due to reconstruction efforts and improved political stability.

However, it is too early to say whether any growth will be sustainable given the volatility of oil prices and the fragility of some of Africa's energy-led economies.

Significantly, the strongest growth was in the mid-range, with sales of generators between 375-750 kVA increasing by 35 per cent compared to last year, reaching nearly US\$200mn.

"This growth has been recorded in almost all countries of the African

continent," the statistics source noted, with particularly strong uptake in the construction and industry segment.

Conversely, sales of larger units, above 2,000 kVA, decreased by 35 per cent in the same period.

The share of gas generators versus diesel generators still remains low, it added, with around 6 per cent share of the total Africa market. This is focused on larger units, above 750+ kVA, and mainly used for gas power plants. Nigeria and Algeria recorded significant gas generator sales of

US\$18mn and US\$8mn respectively over the last few years, but "Ghana, Tanzania, Morocco and Côte d'Ivoire had some gas generator projects in 2018, but business opportunities are still sporadic," it added.

Competition

There remains intense competition for business, not only from other manufacturers and suppliers, but from emerging technologies too. Australia's Resolute Mining unveiled recently the world's largest mine-based off-grid power plant at its Syama gold mine in Mali. Its power supply comes from a mix of hybrid solar, battery and HFO plant, providing 50MW (40MW peak demand with 10MW reserve capacity). The guts of the HFO power plant comes from a pack of W20V32 Wartsila engines. Location matters too: Resolute's other mine in West Africa, Bibiani in Ghana,

is hooked up to the main electric grid, a major benefit for any mining development.

Nonetheless, diesel genset technology remains a default choice for buyers across Africa, and in many applications, from industry and construction through to natural resources. Amid expectations of growth in the years ahead, Scania launched its 250-770 kVA generators with engine ranges of 50Hz and 60Hz for the East African market. Manufactured in Sweden, the gensets are intended to provide prime power for construction sites and remote mining areas.

For smaller genset sizes, the market is opening up to embrace more industries and clients, including small and mid-size business users in the cities seeking uninterrupted power, from hospitals to hotels. Also in Burkina Faso, Himoinsa has supplied its HYW-35 T5 generator sets to provide standby power to guarantee electricity at a hotel in Ouagadougou. Hotel Poko is located to the west of the city centre. In this case, the HYW-35 T5 model is fitted with a Yanmar engine and a Stamford alternator, which generates 37 kVA power; in the event of a power outage, the generator kicks in to supply electricity to the whole complex to ensure smooth running.

With sales growth returning over the past year or so, and reliability still the decisive issue for many buyers across all industries, the outlook for small and medium scale diesel gensets seems encouraging. ■

By Martin Clark



Image Credit: Himoinsa

“ The strongest growth of 375-750 kVA generators was recorded in almost all countries of the African continent ”

POWERGEN-STATISTICS

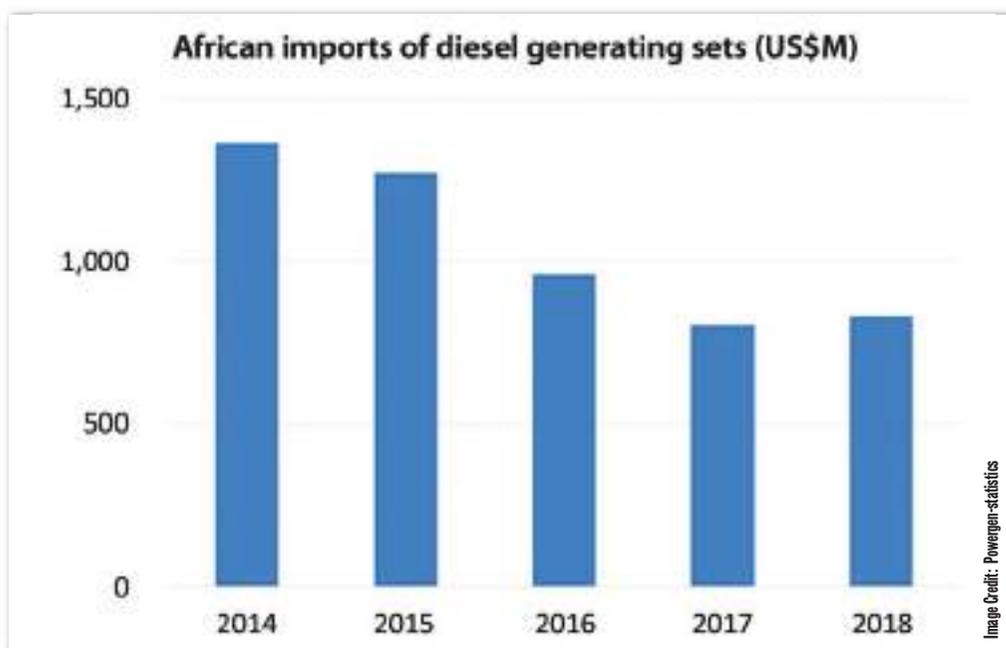


Image Credit: Powergen-statistics

Improving mines with hybrid microgrids

John Lewis, Aggreko's managing director - Africa, talks to *African Review* about how the company is breaking new ground with hybrid battery power solutions.



Aggreko is running its first solar-generated hybrid plant at Bisha copper and zinc mine in Eritrea.

Aggreko is a leading global power solutions provider, with more than 20 years' experience of running power plants in Africa and 50 years in the business overall. It often operates large thermal generation plants for national utilities in countries such as Malawi, Zimbabwe and Burkina Faso which have poorly developed grids.

In the mining sector, Aggreko offers innovative hybrid microgrid solutions to remotely located mines.

John Lewis, managing director for Aggreko in Africa, says, "In the DRC, for example, there are mines connected to the grid in the DRC but the supply is pretty sporadic so they need a specialist provider like Aggreko to run the power on their behalf and provide trained people on site. We have a few mining companies like Banro Corporation that we are working with in the country."

In total, Aggreko has about 600 permanent employees in Africa, operating in more than 40 countries across the continent including Côte d'Ivoire, Kenya, Senegal and Mali.

Lewis said, "We employ and train local people to run our power plants, giving them long-term employment as well as bringing benefits to the community. I was recently at a site in Côte d'Ivoire where my team was from all over Africa. They had started on a site in Kenya, were then redeployed across different countries. We are proud that about 90 per cent of our employees on the continent are

African nationals – we are giving back to communities."

While Aggreko are experts in industrial power generation in Africa, it is also one of the few power providers to now offer hybrid battery powered systems to mining operators. This is largely thanks to its recent acquisition of battery technology specialist Younicos in 2017, which has since been rebranded as Aggreko Storage Solutions, and is making waves in the growing energy storage market.

In February, it won a contract from Gold Fields Australia to design, build and operate a hybrid solar and

battery storage system at the Granny Smith gold mine in Western Australia. It is claimed to be one of the world's largest hybrid off-grid microgrids, with more than 20,000 solar panels, generating 8MWp of solar power and a 2MW/1MWh battery system that will be integrated with 24MW of natural gas generation.

Over the past year, Aggreko has been running its first solar-generated hybrid power plant to Nevsun's Bisha copper and zinc mine in Eritrea. It is a 7.5MW onsite solar plant alongside a 22MW diesel-generated power station that ensures 24/7 uninterrupted power. It has helped Nevsun cut its fuel costs and save the equivalent of 8,500 tonnes of CO₂ annually.

"This is quite a new capability for us but we want to add a battery eventually so that it will take over the work of the diesel generator," Lewis said.

“ We employ and train local people to run our power plants ”

JOHN LEWIS, MANAGING DIRECTOR - AFRICA, AGGREKO

“Battery solutions are still relatively new in mining,” he continued. “There are not many mines where they are deployed due to the cost factor and the life of a mine. They are no use on a mine if it only has three to four years remaining and solar is quite an expensive upfront investment cost. Companies probably need eight to 10 years of initial payback.”

“Many people are, therefore, waiting for proof that the technology is effective before they jump in and get battery solutions. However, we are already speaking to mines and utilities about these solutions to provide power for some rural communities. In the long-term, they are fuel-efficient and environmentally-friendly.”

He stated there will be less appetite to invest in modern transmission lines across countries



Battery solutions are still relatively new in mining.

as technologies evolve in the energy markets and added that renewables will not entirely replace thermal power generation due to issues with the reliability of energy supply.

“But I do think renewables will reduce reliance on thermal power

over time, which is good because of the environmental and cost benefits,” he said. “We see decentralisation and decarbonisation as two real major drivers in our market. But there are still places in Africa which don’t

have the luxury of this choice and just need some power, which is often where gensets come in. We offer different types of thermal generators depending on the fuel options available in a country. We also provide gas generators that are more efficient.”

Explaining why mining operators should choose Aggreko as the power provider of choice, he said, “It does depend on their needs. If companies want certain project financing put in place to make it happen that’s when we’ll come in. Our target market is mainly the smaller miners, the juniors and independent companies rather than the established mining firms.”

He added, “The mood in the industry is quite positive about certain types of mining, so I think the market conditions are heading in the right direction.” ■

INMESOL electronic units improve genset user experience

INMESOL says its DSE6010MKII and DSE6020MKII electronic control units have improved the operability of gensets for their customers, especially in regards to controlling, manoeuvring and programming. The programming controls are similar to the DSE7310 and 20 MKII units in the larger power sets, which have helped this improvement.

The display texts are available in different languages, making it easier and faster to quickly identify the genset status and the causes of possible breakdowns. The event log has now doubled to 100 events. These control units have the option to record how the genset is operating. This makes it possible to display information such as the power usage or other measured values, like the mains voltage recorded in the genset during a given period.

Expansion modules

These control units can connect expansion modules such as the DSE2157 (eight programmable output relays), DSE2130 (eight programmable inputs) and DSE2548 (a display with eight programmable LEDs). Up to three units of each module type can be connected with a maximum installation distance of 1,000 metres. The expansion modules significantly extend the possibilities of adapting the



INMESOL's DSE6010MKII and DSE6020MKII electronic units improve the operability of its gensets.

operation of the gensets to the different current applications.

The units include sleep mode, low load alarm, coolant temperature pre-alarm, option to inhibit start-up by external signal during specific periods, programmable pages on the display with different information about the genset, and more interaction options with the electronic motors ECU.

There is support for other CAN instrumentation (transmit up to five and receive up to 30), which are UL and CSA certified and

compatible with Tier4f motors.

A company spokesman said, “Another outstanding advantage is that these new control units have the same physical size and the same connections as the old control units. This makes it very simple to replace the units and simplifies the upgrade to the 61XX control unit, while benefiting from all the advantages they offer. The new DSE6120MKII control unit is technologically similar to the most advanced and powerful control unit versions available on the market, such as the DSE7320MKII.”

GENSET Buyers' Guide

Section One: Listings by Suppliers

Section Two: Agents & Subsidiaries in Africa

Please mention African Review when contacting your supplier

Section One: Listings by Suppliers

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C.G.M. Gruppi Elettrogeni S.r.l.

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Arzignano (VI)
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Fax: +39 0444 675384
Web: www.cgmitalia.it
E-mail: info@cgmitalia.it

CGM Gruppi Elettrogeni was established in 1980 in Italy. We export to 124 countries in 5 continents through out 51 certified distributors. We manufacture 3 to 2500kVA generators, lighting towers, and motor welding sets and provide an efficient after-sales service, maintenance and hire contracts.

Caterpillar Inc.



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USA
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United Kingdom
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Web: www.clarke-energy.com
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Clarke Energy, a Kohler company, is a multinational specialist in the engineering, installation and maintenance of reciprocating engine based power plants with operations across the African continent. Our offering ranges from supply of an engine, through to turn-key installation of a multi-engine power plant. Delivering fuel efficiency and to help reduce carbon emissions.



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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 3000kVA. 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

Crestchic Loadbanks

Second Avenue
 Centrum 100
 Burton on Trent
 DE14 2WF
 United Kingdom
 Tel: +44 1283 531645
 Fax: +44 1283 510103
 Web: www.crestchicloadbanks.com
 E-mail: sales@crestchic.co.uk

Crestchic manufactures loadbanks which provide accurate and stable electrical test loads for the commissioning and maintenance of power systems including diesel generators, gas turbines and UPS systems, as well as the testing and commissioning of air conditioning systems. Our resistive loadbanks offer capacities as small as 20kW up to 6000kW and resistive-reactive units from 50 to 6250kVA at various voltages 110V-34kV

Deep Sea Electronics Ltd



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 United Kingdom
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 Web: www.deepseaelectronics.com
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Doosan Portable Power (DPP)



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 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.

Eurosystems S.p.A. Divisione Filippini Gruppi Elettrogeni

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Agents:

Morocco - Batifix SARL
 Nigeria - Caltec Ltd.
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FG Wilson



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 Fax: +44 28 28261111
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 E-mail: web_editor@fgwilson.com

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 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 Stamford alternators, soundproof canopies, control panels and transfer switch (ATS) panels and all associated OEM spare parts.

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!

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 Web: www.greenpowergen.com
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- elding machines
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Hatz Great Britain Limited

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Agents:

South Africa - Hatz South Africa

HIMOINSA S.L.

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 E-mail: info@himoinsa.com

HIMOINSA is a global corporation that designs, manufacturers and distributes power generation equipment worldwide. The company adds incomparable application and engineering know-how, excellent design and service capabilities, delivering value beyond the equipment it produces.

The product range that the brand offers includes diesel and gas generator sets, control panels and paralleling systems for standby emergency power, prime power, peak power and distributed power. It also develops hybrid power gensets for the telecom sectors and manufacturers lighting towers for the rental and construction markets.

Agents:

South Africa - HIMOINSA Southern Africa

Huegli Tech Ltd.

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Huegli Tech is an engine and genset control company, a leading supplier and wholesaler of accessories for combustion engines, fuelled by diesel and/or gas. Our core competences are generating set controls, engine governing systems, hydraulic starting system, gas engine management systems, ignition systems, engine protection devices, dual fuel conversions, etc.

Agents:

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INMESOL - Manufacturer of generator sets, lighting towers, parallel systems, and gensets for hybrid electric power generation systems. With more than 25 years in the market, INMESOL S.L. is a Spanish company that designs, manufactures, markets and provides technical support service for technologically leading gensets, in both open and soundproofed versions and from 2.5 to 2,500 kVA (PRP), lighting towers, and parallel systems. INMESOL's highly specialised technical team enables it to meet specific requirements from the most demanding markets, offering optimal solutions for each one of them. It is currently present in more than 80 countries around the world, with equipment installed in all types of applications and uses.

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

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- Zambia - Kemach JCB Zambia
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John Deere Power Systems

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Jubaili Bros

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KOHLER-SDMO



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KOHLER-SDMO is one of the world's leading generating set 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, KOHLER-SDMO devotes its energy to supporting you in the successful completion of each of your projects worldwide.

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Linz Electric S.p.A



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Linz Electric S.p.A is specialised in the production of alternators from 1.7kVA up to 1500kVA and rotating welders up to 500 amps. The main focus of Linz Electric is the customer's satisfaction through the top product quality, quick and complete service.

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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.

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Mantrac Group

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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, automatic transfer switches, natural gas engines and gensets, CAT marine propulsion engines, marine gensets, power modules and solar panels and hybrid systems. 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.

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- Kenya - Mantrac Kenya Ltd. (Nairobi)
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- Nigeria - Mantrac Nigeria Ltd. (Lagos)
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Marelli Motori S.p.A.

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Marelli Motori S.p.A. is a leading manufacturer of synchronous generators in low voltage 10 - 5.000kVA and medium/high voltage 500 - 12.500kVA and generators for Hydropower application in low, medium and high voltage range up to 11.000kVA (4-28 poles). Applications include prime, hydro/marine engines and water/gas turbines. The company offers worldwide support.

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MTU Africa (Pty) Ltd.

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MTU Onsite Energy is one of the core brands of Rolls-Royce Power Systems which is a world-leading provider of high and medium speed diesel and gas engines, complete drive systems and distributed energy systems for the most demanding requirements.

New CTA S.r.l.

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New CTA is an Italian company that designs and manufactures low-voltage transformers since 1986. Our production consists of Transformers, Auto-Transformers, Ballast, Cast Resin. For different fields: Industrial, Civil, Photovoltaic, Lift, Naval, Medical, Panel, Starting Motor. We have obtained quality certification ISO 9001: 2008, and we also have Saudi Aramco Registration Number.

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Nuba Screening Media was founded in 1968 and now is one of Europe's most important manufacturers of screening media and

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ORTEA S.p.A.

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Founded in 1969, ORTEA is now a leading company in manufacturing and engineering Power Quality solutions: voltage stabilizers, sag compensator, power factor correction systems, dry type transformers and active harmonic filters.

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Agents:

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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.

Power Solutions n.v

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Power Solutions has grown from a temporary power provider based out of Belgium to a business now serving customers to all over Europe, Africa, South America and the Middle East. With a custom build fleet we can react quickly to any temporary power demand across a large variety of industrial sectors.

PRAMAC (PR Middle East FZE)

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Pramac develops and manufactures a wide range of power generation equipment from 1 kVA to 3.600 kVA with Perkins, Volvo, MTU, Deutz, Doosan, FPT and Yanmar engines and material Handling equipment. Pramac uses its global network to supply these products to markets throughout the world.

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.

SIEMENS ENGINES S.A.U.

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Siemens develops engines in its Power and Gas division business, Siemens Engine Business is a leading international technology provider in both liquid and gas fuel engines for a wide range of applications and sectors of activity.

The range of power offered by the SEB portfolio ranges from 150 to 2065 kW for gas

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Stodec Trading Ltd specialise in the design and installation of storage and materials handling equipment including mezzanine floors, pallet racking, shelving, industrial partitioning, and general industrial equipment supply worldwide. We are the franchised design and supply distributor for Dexion products which have been the leading storage products throughout the world for more than 60 years. Stodec Trading Ltd can provide layout designs and structural calculations for warehouse interiors based on

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Teksan Generator

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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 - Mohamed Ahmed Ahmed El Tawil and Partners - RICH UNI
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- Libya - Belhaj International Company
- 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 (telecommunications, construction and engineering, industry, hospitals, data centers, etc.). With its network currently present in more than 80 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 almost 60 years.

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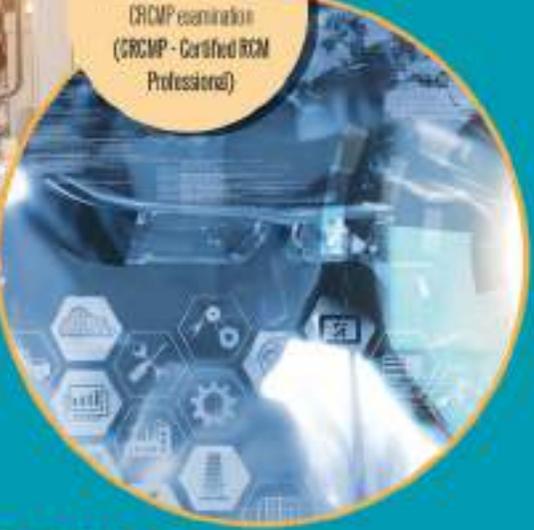
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Blackwood Hodge: 70 powerful years

Blackwood Hodge, a FG Wilson genset distributor, shares why they have had such a long-lasting footprint in East Africa.



Image Credit: FG Wilson

We live in a time when the average lifespan of a Fortune 500 Company is around 15 years and a business which has lasted for decades often attracts attention, as if it can reveal whether there is some secret recipe for commercial longevity.

Distributor of FG Wilson generator sets, Blackwood Hodge, has been part of the Kenyan economic landscape since 1949, 70 years. Since 1993, it has been an official distributor of FG Wilson branded generator sets, covering Kenya and Uganda, in a working relationship which dates back even further. FG Wilson has been around for more than 50 years.

In 2018, Blackwood Hodge came under a new management team from Tamgo International, a Zahid Group Company. The new Blackwood Hodge country manager, Kenya and Uganda, Ahmed Elbehiry, says it has been a time of reflection and renewal.

He said, “We’ve been celebrating the past, conscious of Blackwood Hodge’s great history. Moving into our eighth decade, we’re now

thinking a lot about the future, reflecting on what we’re here for. We’re fortunate in that the generator sets which we sell are of excellent quality. And our role is to surround them with all the service and support that a customer could need. So our starting point as a team is how we can effectively deliver great service for the 21st century.”

The guiding principle is to look after the organisation and team, and they will look after the customer.

First came a complete end-to-end refurbishment of the facilities, and within the industry. It is a place anyone would be proud to call their place of work. But as Ahmed is quick to highlight, “It’s not just about having a good-looking facility, it’s about how efficient and effective we can be in satisfying our customers’ needs.”

Within the team, there was a tightening-up of structure and clear demarcation of roles and responsibilities.

Operations manager, Kenneth Muindi says, “In small- and medium-sized enterprises, sometimes roles evolve organically.

Now we have our people and their expertise all tightly defined. There’s a very clear demarcation of the departments and very good communication between them. We’re seeing a lot more interaction, which of course makes operations very efficient. This is important because the service a customer gets is only as good as the service we give each other within the organisation.”

Customer service functions were given special attention. Judith Wangui from the parts department says, “We restructured our warehouse which means we can access and pick parts faster, and new processes are helping us communicate more quickly with customers. And with additional customer service people, we can follow up more effectively with customers and give better after-sales service and support.”

Technicians are now freed up to spend more time with customers which means more support for more people and they are more able to bring back feedback and learning, which is shared in a structured way

within the organisation.

Customers have started to feel the changes. Joseph Maundu from Joe Invesco Agencies says, “The changes have come with a lot of benefits. We’re getting parts slightly cheaper, from ready stock, which reduces our turnaround period for all the products we are dealing with. In a modern business, time and reliability are of the essence. If we’re getting the parts, and the right parts, then that is a plus for us.”

The vigour and energy in the people at Blackwood Hodge is obvious. Elbehiry is excited for the future, he said, “The team works. Actually we feel like we are in a family. If you look after Blackwood Hodge, the resources, the expertise and the team, everything is possible.”

It is a view echoed by TAMGO International general manager Fadel Hassan, he said, “As a part of our long-term expansion strategy in East Africa, Blackwood Hodge Kenya is the first step in our African journey.” ■

www.blackwoodhodge.com

Nigeria's construction industry expanded by 2.4 per cent in 2018

Nigeria's construction industry continued on a steady recovery path in 2018, despite contracting around 6 per cent in 2016 in the wake of the collapse in oil prices.

It expanded by 2.4 per cent, following on from 1 per cent growth in 2017, and is expected to grow by 6.1 per cent in the medium term, says GlobalData, a leading data and analytics company.

Nigeria's construction industry's performance has been bolstered by the government's focus on developing the country's infrastructure, energy and residential sectors, as well as a general recovery in the economy.

In a bid to improve the infrastructural needs of Nigeria and maximise resources, the federal government signed the Executive Order 007 on Road Infrastructure Development and Refurbishment Investment Tax Credit Scheme. Private companies are able to fund the construction and refurbishment of eligible roads in Nigeria and to recover the project funds by way of tax credits, claimable against Companies Income Tax (CIT). Dangote is set to construct 19 federal roads across the country, in accordance with the Executive Order (007).

Yasmine Ghazzi, economist at GlobalData, said, "This will have a huge impact on Nigeria's construction industry since under federal laws, public roads are constructed and maintained by the government but due to minimal funding, key roads were left in poor conditions.

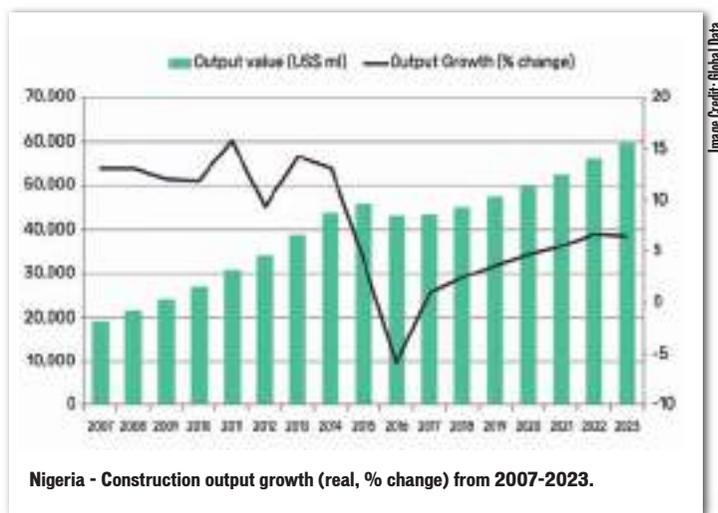
The road project will total to 794.4km and spread across the six geo-political zones and will help reduce the cost of doing business in the country."

"The Power Sector Reform Program, if effectively implemented, could attract private investment. It

targets 10 gigawatts of operational capacity by 2020. But Nigeria needs to adjust its federal budget, currently dominated by persistent spending, toward more capital expenditure and accumulating savings to sustain social spending," she added.

The continued expansion in the economy as well as the construction industry will be dependent on the pace of implementing the Economic Recovery and Growth Plan, which anchors Nigeria's industrialisation by establishing industrial clusters and staple crop processing zones to give firms a competitive edge through access to raw materials, skilled labor, technology, and materials.

The government is targeting 3 per cent economic growth in 2019, while the World Bank says real GDP is projected to grow by 2.2 per cent in 2019 and 2.4 per cent in 2020. However, the slide in oil prices from late 2018, coupled with an output cut imposed on Nigeria by OPEC to 1.685 mbpd, poses a downside risk to the economic outlook.



MURRAY & ROBERTS WINS SHAFT CONTRACT

Murray & Roberts Cementation, Africa's leading mining contractor, has been awarded a contract by Palabora Mining Company for a 1,200 metre ventilation shaft. The shaft, with a lined diameter of 8,5 metres, will reach a final blind sink depth of 1,190 metres before a drop raise takes it to its final depth, according to Braam Blom, project executive at Murray & Roberts Cementation.

"The duration of this project is expected to be just over three years," says Blom. "After mobilisation, site establishment and surface civils have been completed, we expect to conduct pre-sinking until the end of 2019, with the use of our special shaft sinking gantry to a shaft depth of 65 metres." A surface headgear and winder installation will be constructed from January to March 2020. This will facilitate the slow sink to 200 metres and the main sink until February 2022. Canadian shutter and lining methods will be employed. The team is expected to conduct shaft stripping by mid-April 2022 and to dis-establish the site by May 2022.

"There will be no stations or other excavations required, so this will help keep the team in a sinking cycle and optimise production levels," he says. "We will run full calendar operations (Fulco) with 12 hour shifts and cycles of five day shifts, five night shifts and five shifts off."

A relatively small labour force of 123 people is planned for steady main sinking conditions, with some sub-contractors conducting surface piling and civil works for the winder, headgear and other site construction. Shaft drilling itself will be done with two twin-boom Komatsu shaft drill rigs, and mucking by a Komatsu excavator with close to a ton of loading capacity.

"Ground conditions are expected to be a challenge," said Blom, but added that there were "various ways to reduce the risk".

BRIEFS



Image Credit: Adaltes Stock
Non-recyclable plastic could be processed into pellets and used in asphalt mix.

Africa's first plastic road launched

The first plastic road in Africa has been launched at the Kouga Municipality in the Eastern Cape. Engineering and construction firms SP Excel and Scribante Construction are partnering with MacRebur to build a 1km road in Jeffreys Bay. Work is expected to start this month and, if successful, a factory may be built for recycling and producing plastic pallets.



Image Credit: DSC Dredge
Bill Wetta, Senior VP of DSC Dredge was awarded the aggregate's industry's most distinguished prize.

DSC's senior VP wins award

The senior vice president of product development of DSC Dredge was recognised during the National Stone Sand and Gravel Association's annual convention in Indiana on 10-13 February. Bill Wetta won the Barry K. Wendt Commitment Award, the aggregates industry's most distinguished individual prize. In his leadership role at DSC Dredge, he serves as project manager of engineering and construction. "I understand what it means to be on this list," Wetta said.

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RN1 road completed,
Republic of Congo.

Transport boom fuels West African construction industry

According to Deloitte's latest Africa construction trends report, the transport sector in West Africa led the way in the number of construction projects in 2018.

Image Credit: Egis / XU Hai - CS&EC

If you want to prosper, first build roads, says a Chinese proverb. A quick glance across West Africa and there is still plenty of truth in the old adage. In Deloitte's Africa Construction Trends report, the transport sector continued to lead the way with almost 40 per cent of the 482 projects being tracked. But it seems that in 2019 ambitions are even higher than ever.

Projects on the drawing board include some flagship international connections. One envisages a 1,000 km highway linking Côte d'Ivoire's commercial capital Abidjan, to Lagos in Nigeria, providing a massive boost for regional integration and trade.

The African Development Bank and the Economic Community Of West African States Commission (Ecowas) are financing a study into the project, with further grant support from the European Union.

The proposed Abidjan-Lagos Corridor Highway would comprise a six-lane motorway and connect the two countries via Ghana (Accra), Togo (Lomé) and Benin (Cotonou).

The project highlights not only ambition, but the level of interest among financiers in West Africa's roads sector – and not just within the region's larger economies either.

Congolese highways

In the Republic of Congo, French contractor Egis Group is leading three major national road projects:

the RN1 connecting Pointe-Noire to Brazzaville (540 km), the RN1 bis connecting Brazzaville to Mindouli (50 km), the old bypass infrastructure of the Congolese capital, and the RN2 connecting Brazzaville to Ouesso (800 km).

The first sections of the new network were inaugurated by the nation's president Denis Sassou Nguesso at the start of March.

Egis teams will also manage the 11 toll plazas of the RN1, updating equipment and assuming responsibility for weighing operations and traffic management, under a 30-year concession company, La Congolaise des Routes, agreed with the government.

The company is already a prime mover in the country through the engineering and operation of Brazzaville, Pointe-Noire and Ollombo airports.

It played a role in Africa's first high-speed train line in Morocco, which runs 200 km from Tangier to Kenitra, and was opened last year. It is the first stage in the deployment of a high-speed line masterplan to run a network stretching approximately 1,500 km, comprising both an Atlantic corridor (the Tangier-Casablanca-Agadir route) and a Maghreb corridor (Casablanca-Rabat-Fez-Oujda).

Making connections

It's not hard to find more examples of West Africa's transport

renaissance. This year started with the opening of the 942-metre-long bridge linking the Gambia and Senegal, together with border posts at either end.

The bridge is a safer, quicker, and alternative route to the risky ferry crossing or the long detour between the northern and southern parts of both nations. Before, travellers had to wait hours or even days for a ferry, leading to huge losses of perishable goods and market produce.

Senegal is also anticipating the start-up of its new Regional Express Train (TER) service imminently, the first railway to be built in the country for more than a century. The US\$1bn project links Dakar with Blaise Diagne International Airport.

Work on a second phase, linking the new rapidly developing business centre of Diamniadio with the airport, will start immediately after completion of the first section in June this year.

Financed by a collective of donors, it marks the largest ever investment by the Islamic Development Bank in a sub-Saharan Africa project.

And more funds are finding their way to projects throughout the region.

In nearby Liberia, Ecowas has signed off a further US\$50mn for the Sasstown-Klowein road construction project, in the southeastern part of the country.

Construction boost

According to Deloitte, the number of active construction projects in West Africa worth US\$50mn or more increased from 66 in 2014 to 105 by 2018, rising steadily through the years and inflating in value at the same time.

While the largest projects tend to be focused on the energy sector or in utilities, there are also some standout transport developments as well, such as Nigeria's US\$8bn Lagos-Kano rail project.

Overall, the transport sector accounts for about half of all projects tracked within West Africa. It is good news for the region's construction firms, though many projects still end up in the hands of larger international players.

While the region's governments are the main driving force behind most road and rail projects, the financing comes from a much broader split, from multilateral institutions to bilateral support.

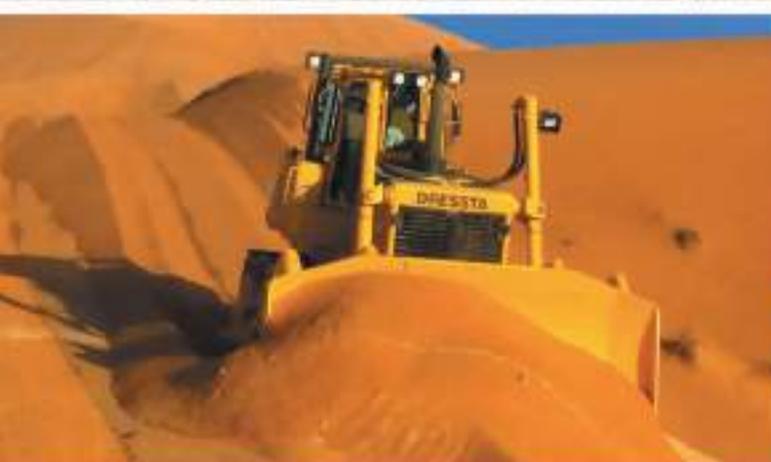
China has emerged as the biggest national financier of transport projects across West Africa, a fact that explains the increasing profile of its contractors rolling out high profile schemes on the ground.

Nigeria's Lagos-Badagry expressway expansion project is one such Chinese-built transport project, valued at US\$1.9bn. In such an active and dynamic market, however, it still leaves plenty of room for all. ■

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Heavy duty... for heavy duties

Four wheel loaders are doing the heavy lifting in Africa's mining and quarrying industry.



Image Credit: Volvo

Volvo L250H Wheel Loader

The L250H from Volvo is a high-production machine designed to increase productivity and profitability in applications including quarry, aggregates, mining and heavy infrastructure. The intention with this heavy-duty machine is to deliver short cycle times, high breakout force and excellent controllability. Volvo's proven Z-bar linkage provides high breakout force for strong, powerful digging in hard materials. The high lift capacity enables fully loaded buckets to be elevated to maximum height. Fast hydraulic speeds deliver quick load cycles, increasing productivity in tough environments. The optional Boom Suspension System boosts productivity by up to 20 per cent by absorbing shock and reducing the bouncing and bucket spillage that occurs when operating on rough ground. This enables faster and more comfortable work cycles and increases machine life. Powered by a premium Volvo engine, it is tailor-made for rigorous duties in Africa's mining sector.



Image Credit: Hitachi

Hitachi ZW Wheel Loader

Africa's mining industry provides a tough test for construction machinery. However, Hitachi equipment is a popular choice across the continent to get the job done safely and efficiently, due to its reliability, durability, low maintenance costs and easily accessible parts. In particular, Hitachi supplies a range of ZW wheel loaders specifically designed for use in this market, the largest being the ZW370-G. This 29-tonne machine features a torque proportional differential (DTP) that prevents wheel slippage on soft ground and allows the wheel loader to travel easily over rough terrain. Smaller Hitachi wheel loaders include the ZW100-G through to the ZW310-5A. All machines contain a number of reliable parts and components to enable them to work continuously – and productively – for lengthy periods in harsh working conditions, remote locations and extreme temperatures.



Image Credit: Caterpillar

Cat 990K Aggregate Handler

One of the latest additions to the Caterpillar portfolio is the 990K Aggregate Handler, designed to handle greater payloads in aggregates yard applications. With as much as a 25 per cent payload increase, compared to the standard 990K, the new machine enables customers to load trucks and railcars faster and to move more material in load-and-carry and stockpile management tasks. The Cat 990K Aggregate Handler has a payload of 22 tons (20 tonnes) and a full turn static tipping load of 96,426 lb (43,738 kg). Additional counterweight maintains machine stability, and robust 990K structures ensure durability in the Aggregate Handler configuration. The loader makes best use of general purpose and coal buckets for increased volume. It complements the smaller 986K and 988K Aggregate Handlers in the Cat large wheel loader line, but is not designed for use in quarry face or other shot rock applications.



Image Credit: Hyundai

Hyundai HL975 Wheel Loader

This is one of more than a dozen Hyundai machines to be presented at the bauma industry trade show in April. The HL900 series of wheel loaders has been designed to reflect customers' needs in the field, gleaned through monitoring, to maximise performance proven by rigorous field tests and quality control. The true value of the HL900 Series, which is now far more powerful, is revealed in tough working environments. With the high-strength design structure and enduring system proven by rigorous road tests at various work sites, Hyundai's wheel loaders can perform any high-load work to maximise productivity. Durability of frames and attachments have been enhanced by 1.5 times compared to the previous generation 9-series.

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Discover innovations at bauma 2019

Don't miss bauma, the world's leading trading fair for construction machinery, mining machines and construction equipment taking place on 8-14 April in Munich.



DOOSAN - DX800LC-5B

Doosan Construction Equipment will be showing the company's new DX800LC-5B 80 tonne crawler excavator for the first time at bauma 2019.

The DX800LC-5B offers optimum value to the end-user thanks to outstanding productivity, high fuel efficiency, superior comfort for the operator, enhanced reliability, durability and maximum uptime. It is designed to meet the needs of heavy duty mining and quarrying applications as well as major infrastructure construction projects.

The long carriage (LC) design, in combination with the undercarriage expanded to its maximum working width, offers optimum stability and safety in all kinds of digging, lifting and loading applications.

Built with high quality, proven main components and offering a robust design, the DX800LC-5B enables customers to work in environments where avoiding downtime is critical. The use of superior components throughout, specifically customised for use in large equipment, ensures this new machine offers best-in-class power, productivity and durability.

Contributing to the best-in-class productivity is the combination of a new 358 kW (480 HP) diesel engine and a comprehensive advanced and intelligent hydraulic system (ecoPower).

The DX800LC-5B incorporates an electronic control unit which serves to

optimise the performance of the diesel engine to achieve the maximum fuel efficiency. The ecoPower technology builds on this by focusing on the role of the hydraulics system and demonstrates Doosan's continuous iteration of all the processes and components used in the company's products to achieve unprecedented levels of diesel energy efficiency.

Doosan's ecoPower technology utilises an electronic pressure-controlled pump within a closed centre hydraulic system to accomplish increases in productivity and fuel consumption improvements. A closed, centred main control valve minimises pressure loss, while the electric pressure-controlled pump manages and optimises engine power more effectively.

Enhanced safety features are intrinsic to the DX800LC-5B. Operators can be more productive and work more effectively at night with high quality LED work lights and an Around View Monitoring (AVM) system provides a 360 degree view from the cab.

The DX800LC-5B is ideal for working on tough applications as the machine is equipped with a reversing fan, to make sure that the cooling systems operate optimally.

Booth number F5 517



BKT - EARTHMAX SR 46

EARTHMAX SR 46, is an innovative tyre solution for rigid dumpers operating under adverse conditions in rocky environments such as mines, dams, and the construction sites of large building structures. Previously available in the 49” version, the pattern will be officially showcased at Bauma in the largest size ever built by BKT, namely 33.00 R 51.

EARTHMAX SR 46 features a diameter of 3,075 centimeters. It is 975 centimeters wide and weighs 2,400 kg.

This tyre is particularly suitable for transporting heavy loads. It is a good choice in terms of cut-and-chip resistance – a quality that turns into an extended product life-cycle. Impact, mechanical stress, and punctures are reduced thanks to the steel-belted casing, which optimises operating hours and maximises productivity.

Another distinguishing mark of EARTHMAX SR 46 is the special tread design showing a block lug pattern with circumferential grooves resulting in reduced wear of its external part plus excellent cornering performance.

Booth number A6 215



CDE'S TECH SOLUTIONS

CDE, a leading wet processing equipment manufacturer, is launching an innovative new range of technology solutions to enable customers to increase the efficiency of their plant, automate processes, and lower their operating costs.

The benefits will be outlined to the market at a masterclass entitled 'The Connected Plant' at CDE's stand on 10 April at bauma. The CDE CORE smart technology suite includes three main features: an easy-to-use monitoring system; a digital tool to manage and simplify operator workflows; and a bespoke 3D catalogue of parts which is tailored for each customer's individual equipment.

It gives customers greater control of their plant, and means, among other things, that resources are being maximised and customers can take immediate action if the efficiency of their plant falls below their desired level.

Booth number B2 119



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BOMAG - ION DUST SHIELD

On construction sites, much visible dust is produced, as well as invisible particulate matter that is harmful to the respiratory tract. This is also the case with cold milling for the removal and subsequent recycling of old road surfaces. With the Ion Dust Shield technology for all cold milling machines from the 1-metre class, Bomag is the first manufacturer to offer a solution that turns dust displacement into dust reduction, and thus protects both the operator and the environment.

Compared to a diesel engine, the milling process produces many times more particulate matter. Systems currently available on the market vacuum the dust from the direct working

environment to protect the operating personnel and then return it to the conveyor belt. Although this protects the driver of the machine, the particulate matter is by no means eliminated, because unlike coarse dust, particulate matter remains in the air like an invisible cloud and only very slowly sinks to the ground. Subsequent construction site personnel as well as residents and passers-by are therefore still at risk.

To reduce this risk, Bomag developed the Ion Dust Shield technology for cold milling machines. The system is installed in a small box directly on the conveyor belt. With the dust extraction system, dust is transported through an electric

field, charged positively, and attracted to the negatively charged housing. In the process, the particulate matter clumps together permanently to form less dangerous coarse dust. The coarser dust can subsequently be transported away together with the removed road surface. The resulting coarse dust can no longer enter the respiratory tract and is therefore harmless for the machine operator and the entire environment. The Ion Dust Shield has been nominated for the bauma Innovation Award in the category of components/digital systems.

Booth number FS 1009.

thyssenkrupp - MOBILE STACKING BRIDGE LIZARD

thyssenkrupp Industrial Solutions will present its new mobile stacking bridge lizard at Bauma 2019. This solution for heap leaching and dry tailings stacking combines two proven technologies – the conveyor bridge and the tripper car – in a new way. The lizard decouples the crawler-mounted tripper car from the conveyor bridge, enabling it to be controlled independently of the bridge.

Decoupling the tripper car from the conveyor bridge has several advantages: The transitions between the bridge segments are easier as there is no stress from a travelling tripper car on top of the bridge. As the loads on the bridge sink, the overall construction of the bridge outweighs the additional chassis and structure of the tripper car. This way the product saves weight and costs accordingly. In addition, a larger dump height and longer outreach are possible.

Operators benefit from a slimmer, lighter bridge structure, lower bridge height, smaller bridge crawlers and lower ground pressure. The same lightweight design can also



be used for the reclaiming bridge. Fatigue issues otherwise caused by cyclic loads from the tripper car are completely eliminated. This significantly reduces maintenance requirements and increases availability.

A major advantage of the lizard is its multi-crawler chassis. thyssenkrupp used its expertise in this area to develop a unique solution that improves productivity: A multi-crawler chassis

with no override control, the so-called “float system”, is attached to the tripper car. The double crawlers with no steering cylinders ensure unrestricted maneuverability in all directions. The system can be attached to any crawler to avoid the large turning circles of conventional gearing systems.

Booth number B2 203.



DOOSAN - ADT TRUCKS

Doosan Construction Equipment will be launching new 30 and 40 tonne Stage V compliant articulated dump trucks (ADTs), replacing the previous DA30-5 and DA40-5 Stage IV models.

In 2018, the DA30 ADT was upgraded with a range of features including a new cab, a new self-levelling front suspension and a tandem bogie system which are all incorporated in the Stage V model. A similar process has been applied in the 40 tonne Stage V machine, with a new cab and a semi-levelling front suspension that adjusts itself independently depending on the operating conditions to ensure a comfortable working environment for the operator.

As well as these changes, the Stage V models offer many more features — one of the most eye-catching is a design for the front frame and bonnet components on the trucks, created by the Doosan Design Team in accordance with the latest trends in the market. The new dynamic look this gives the Stage V ADTs, reflects the high performance, power and robustness of the Doosan ADT range and aligns even more closely with rest of the market-leading range of construction equipment from Doosan.

* New ADT trucks available in African markets with Tier 3 engines.

Booth number FM F5/517

Evonik - DYNAVIS and NUFLUX technologies



Construction machine manufacturers will do almost anything to optimise the productivity and service life of their machines, and lubricants are typically not a factor in this process. “That’s wrong,” says Rolf Fianke, global brand manager DYNAVIS & NUFLUX, technology brands of the business line Oil Additives at Evonik. “The Oil Additives specialists at Evonik will help visitors at bauma see that fluids formulated with DYNAVIS and NUFLUX technologies are what their machines have been missing.”

DYNAVIS technology optimises the viscosity of hydraulic fluids; and industrial gear oil formulations, based on NUFLUX technology, perform as well as synthetic based fluids and at a lower cost.

Lubricants formulated with DYNAVIS technology achieve efficiency gains at a minimum of 5 to 15 per cent. Evonik says companies who focus on mining, road construction, demolition, or earth-moving have realised increased profits, with peak efficiency gains reaching up to 25 per cent.

Oils formulated with NUFLUX technology are equivalent to synthetic lubricants, and surpass them in some respects. During a field trial in a pump gear in South Africa, a higher degree of efficiency was measured that promises to pay off. This made the decision of the treatment plant easier to fill 26 of their gears in the water treatment system with NUFLUX formulated oil.

Booth number A3 244.

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Top asphalt and paver technologies on the market

HOT-MIX ASPHALT HELPS LABOUR-INTENSIVE ROAD REPAIRS

Leading local asphalt expert National Asphalt has developed a 'hot-mix-in-a-bag' solution for road contractors in the Tshwane region.

The company is collaborating with Siyeza Consulting, one of Gauteng Department of Roads and Transport's (GDR&T) newly appointed consulting engineering firms, on the Twswelopele road repair programme.

The LT40 or 'hot-mix-in-a-bag' asphalt solution offers contractors ease of use with a quality, continuously graded low temperature asphalt for results that compare with traditional Hot Mix Asphalt, (HMA).

"National Asphalt LT40 has zero waste materials, cuts down on time spent in queues at HMA plants or product loss arising from bad weather," said Pascal Garrioch of National Asphalt. "It also improves contractors' productivity, allowing them to proceed directly to site with all the tools necessary to begin work without delay."

Conventional HMA needs to be applied at around 150°C and must be laid within a few hours of manufacture. LT40 can be applied at



The major advantage of the National Asphalt LT40 is the ease of use for contractors working on minor patchwork, pothole repair and edge breaks.

Image Credit: National Asphalt

between 80°C and 100°C and can be reheated for ongoing use without compromising the physical or technical properties or benefits of the asphalt mix.

The product is suitable for edge-breaks, minor patching, pothole repairs and the reinstatement of trenches. Contained in sealed plastic bags, LT40 has a shelf life of up to 12

months, allowing contractors to purchase and store the product for use at their convenience.

"The mobile hot-mix-in-a-bag oven trailer is the latest innovative alternative technology for maximising labour-intensive construction methods with improved quality in the maintenance and repair of paved roads," said Gerald Gundu of Siyeza Consulting Engineers.

VÖGELE SUPER 1303-3i PAVES COLOURED ASPHALT ON FOOT AND CYCLE PATH

The VÖGELE SUPER 1303-3i wheeled paver was the ideal solution for paving coloured asphalt on a foot and cycle path known as the "Green Gateway" in Baden-Baden, Germany.

This compact class machine has very compact

dimensions combined with a high performance. With a basic width of 1.85m, the SUPER 1303-3i has a total length of just 4.95m. It is extremely agile, allowing easy, fast manoeuvring even on confined job sites. With the pivot steer steering

brake activated, the outside turning radius reduces to a minimum of 3.8m, which was a major advantage since six side paths and several bends also had to be paved within three job-site sections along the narrow route. Thanks to the AutoSet Basic repositioning function, this task presented no problems.

With little space to manoeuvre and narrow access roads, the material feed process became a real challenge in Baden-Baden. The lorries were not always able to dump their load because of the trees lining the road. It was advantageous that the compact SUPER 1303-3i has a large, 10t material hopper which supplied enough mix at all times to support continuous paving of the surface course.

The VÖGELE paver's professional material management system also contributed to assuring quality. The oscillating push-rollers ensured shock-free docking. The large conveyor tunnel, proportional control of conveyors and the powerful augers ensured an optimum flow of mix and even spreading in front of the screed.



The VÖGELE SUPER 1303-3i wheeled paver.

Image Credit: VÖGELE

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For more information visit www.bobcat.com

MIX TELEMATICS TO HELP KEEP DRIVERS SAFE

MiX Telematics, a leading global provider of fleet and mobile asset management solutions, has announced that it will be providing an earthmoving equipment provider with a telematics solution to help improve the efficiency of their vehicles and the safety of their customers' drivers.

Operating across South Africa, the company, which cannot be named for confidential reasons, required 418 of its earthmoving vehicles to be fitted with a telematics solution so that their customers could have a view of driver behaviour.

By monitoring the whereabouts and driving style of their drivers, the company's customers are now empowered to make the right decisions when it comes to operating more efficiently and identifying poor driving behaviour. Additionally, they have also been provided the opportunity to bill their customers more accurately as they are able to monitor engine hours, thereby only charging for when the vehicles are actually being utilised. The vehicles and equipment are spread across the country in very remote areas, so MiX's solution provides much needed visibility and control.

The company confirmed MiX's solution has provided an objective view of how and when their equipment is being operated. Being able to generate accurate utilisation information gives them an advantage in their industry, and they can pass that data intelligence onto their customers.

"We're delighted that this leading company in its field has adopted our telematics solutions so that they can provide their customers with the best possible value." said Gert Pretorius, managing director of MiX Telematics Africa.

Caterpillar expands Next Generation mini excavator range

The Cat range of Next Generation mini hydraulic excavators has been expanded with the addition of two new models in the 7-to-10-ton category. The new models provide a selection of basic configurations, allowing customers to choose the machine that works most efficiently in applications routinely encountered. As with all Cat Next Generation mini excavators, the new models feature heavy duty main structures, fuel efficient engines, load sensing hydraulics, spacious cabs, and the exclusive Caterpillar stick steer system. The overall design goal for Next Generation models is to ensure optimum value for the customer in terms of performance, operator experience, serviceability, and affordability.

The 307.5 weighs from 7,532kg to 8,233kg depending upon configuration, it is a standard tail swing model with a fixed boom, powered by a Cat C2.4 turbo diesel engine rated at 41.7 net kW (55.9 net hp). It can be ordered with a standard stick delivering a 4107mm dig depth

or a long stick that increases the depth by approximately 560mm.

Also, new to the range is a 310 weighing between 9,601kg to 10,182kg, and featuring a fixed boom, standard tail swing, and twin blade cylinders for handling heavy duty dozing chores.

This machine uses the Cat C3.3 diesel engine rated at 52.4 netkW (70.3 net hp) and has a dig depth of 5174mm.

Operator environment

The design of Cat Next Generation mini excavators emphasizes operator comfort, convenience, and safety. The 307.5 and 310 are fitted with cabs, sealed and pressurised to ensure a clean environment, and feature a redesigned heating, ventilating and air conditioning system that ensures all-weather climate control. Suspension seats, with a retractable, wide seatbelt are standard, and the operating consoles feature adjustable wrist rests.

The Cat 307.5 Next Generation mini excavator.



Jet Demolition founder has a blast as leading global specialist

Industry 4.0 is a disrupter and an enabler of development in the demolition industry, says Joe Brinkmann, director of Jet Demolition.

“It will impact heavily on our industry, with increased mechanisation under digital control,” said Brinkmann, whose company’s highlights include work on large water-retaining dams from Hazelmere to Midmar. “In turn, technology must always be driven by people, resulting in exciting skills to be developed in years to come.”

Jet Demolition was recognised twice at the 2017 and 2018 World Demolition Awards in the Industrial Demolition Award category for its projects, cementing the firm’s reputation as one of the leading demolition specialists globally.

These projects called for highly-controlled, cautious, partial demolition of large dams for rehabilitation and enlargement projects. New blasting techniques were developed to retain the structural stability of the dams, with no wasted effort. Brinkmann. He said, “We look forward to other challenging work of this nature.”

Commenting on the state of the civils sector in South Africa, Brinkmann, said, “In five years’ time, we will be in a phase of good economic growth, with a strong prospect of growth in the civils sector.”

Brinkmann has been invited to deliver a presentation at the World Demolition Summit 2019 Conference and Awards from 23 to 24 October in Boston. It will be the 11th edition of this major international event celebrating technical excellence and innovation in the global demolition industry.



Image Credit: Jet Demolition
Jet Demolition has the expertise to deal with complex heavy industrial demolition projects.

PRECAST CONCRETE SLABS PROMPT RISE IN HOUSING

South Africa’s massive backlog in affordable housing is likely to see continued demand for precast concrete slabs from Elematic SA.

“With rapid urbanisation and the increased premium on land in urban areas, multi-storey residential designs are now the norm,” said Elematic SA director Craig Webber. “This makes the use of pre-stressed concrete slabs an efficient solution, streamlining the pace of construction work while enhancing building quality and lifespan.”

The four-storey walk-up design lends itself to a repetitive construction methodology where precast comes into its own. Webber emphasized that the precast option eliminates the need for back-propping and allows other trades to work under the slabs, accelerating the project schedule. The company says the high quality finish on the soffit of the slabs makes an additional false ceiling unnecessary, and eliminates this potential cost. The precast staircases are also suitable to the fast track approach to many modern housing projects.

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Barrick and Tanzanian government reach proposal to solve Acacia Mining dispute

Barrick Gold Corporation and the Tanzanian government have come to a proposal to resolve the two-year dispute concerning Acacia Mining's operations in Tanzania.

The government banned exports of gold and copper concentrations over accusations that Acacia Mining owed at least US\$190bn in taxes on under-reported output. It denies the claims. According to a Financial Times report, Acacia said it paid US\$127mn in taxes and royalties to Tanzania and spent more than US\$273mn with local suppliers last year.

In February, parent company Barrick announced a deal to resolve the tax dispute, which is consistent with the agreement made in October 2017. It includes the following proposals: the creation of a Tanzanian firm to manage Acacia's operations in the country, a 50/50 split on economic benefits including a 16 per cent free carry interest in Tanzanian operations, and US\$300mn to the government to resolve outstanding tax claims.

Mark Bristow, president and CEO of Barrick, said, "Significant amounts of real value have been destroyed by this dispute and, in Barrick's view, this proposal will allow the business to focus on rebuilding its mining operations in partnership with their respective stakeholders, and most importantly long suffering investors, including Barrick."

To become effective, the proposal must be approved by Acacia and the government. Barrick is due to present this proposal to the independent directors of Acacia "in the near future for their consideration", the company said in a press statement.

Acacia Mining's main asset is the North Mara mine in Tanzania, which accounted for 65 per cent of total output last year. Acacia has two other gold mines, Bulyanhulu and Buzwagi. In September 2017, Bulyanhulu reduced its operations and last year, Buzwagi moved to a stockpile processing operation.

Barrick holds a majority stake of 63.9 per cent in Acacia, which is a publicly traded company listed on the London Stock Exchange that is operated independently of Barrick.



In September 2017, Bulyanhulu, one of Acacia's mines, reduced its mining operations.

TOTAL LAUNCHES 'OPTIMIZER' MINING SOLUTION

Total has launched the 'Optimizer' solution in mines in Côte d'Ivoire, Guinea and Gabon. The innovative solution builds interfaces of an existing mining environment and aggregates the data into a special cloud platform, which is then accessible as KPIs for mining operators and managers on site.

This allows them to make better real-time decisions to reduce their total cost of operation. Among the data monitored includes on-site fuel delivery, drilling blasting, dumping, excavation and haulage.

"We are offering to our customers a platform to aggregate all their energy-related data and use of products and services so that they can improve their knowledge," said Vincent Baptiste, Total's business development manager 'Optimizer'. "The feedback we have been getting, has been very positive in helping customers make improved decisions. Total is the only energy provider to be breaking new ground with this solution so that mining operators can have an understanding of their daily challenges on their working site."

AURY AFRICA POSITIONED TO REAP MINING BENEFITS

Aury Africa is ideally positioned to take advantage of the uptick in the mining industry, according to executive director Mduzuzi Magubane.

He says his vision for Aury Africa is, firstly, to establish a solid foothold in South Africa, while taking advantage of the depth of knowledge and experience within the holding company, the Dadi Engineering Development Group (DEDG). This will be the gateway to the Southern African Development Community (SADC) and the rest of Africa.

Aury Africa has access to the knowledge base and experience within DEDG. Typically, the Meiteng Dry Sorter is a good example, with more than 60 units sold in China last year alone.

"There's great potential for growth, especially where technology and artificial intelligence is integrated into the mining industry. Digital migration allows for such opportunities, where DEDG has achieved great success in this space. There are more junior miners coming into the mining space, with different ideas and applications allowing for new opportunities," says Magubane.

Aury Africa will take advantage of the new opportunities for growth by remaining competitive and flexible.

Mduzuzi added, "The 2013 commodity price slump required innovative ways to ensure we stay afloat, while ensuring job security of our employees. Diversification is important, and we have acquired businesses to further diversify our portfolio in this industry."

Magubane is also a managing director of Nkomose Consulting Engineers and Projects, a 100 per cent black-owned South specialist mining solutions company. He has held different managerial and strategic positions in mining, from coal to platinum, iron ore, and manganese, and studied electrical and mechanical engineering.

► BRIEFS



Image Credit: Adobe Stock

Endeavour is the "only multi-asset mid-tier West African producer".

West Africa's gold still charms

The Birimian Greenstone Belt region endowed with large reserves of gold in West Africa continues to attract mining companies, delegates learnt at the 25th Investing in African Mining Indaba in Cape Town on 6 February. Endeavour CEO Sébastien de Montessus spoke on the attractiveness of gold mining. "As a key player in this region, we are so bullish about West Africa. Endeavour is emerging as the only multi-asset mid-tier West African producer," he said.



Image Credit: Gold Fields Ghana

Gold Fields Ghana will spend GHS 100mn (US\$18mn) on two projects in Tarkwa.

Gold Fields Ghana invests in two major projects

Gold Fields Ghana's Tarkwa mine is to begin the reconstruction of the Tarkwa & Abosso Park, and upgrade Apinto Government Hospital, both located in Tarkwa in Ghana's Western Region. Engineering works on the park have been completed and the company is going through the bidding process to select a suitable contractor for the project. When completed, the park will seat 10,400, from the current seating capacity of 400. The hospital revamp will include a medical hub.

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Barrick Lumwana is one of Africa's largest copper mines.

Diversifying Zambia's mining industry

During the 25th Investing in African Mining Indaba, *African Review* caught up with Richard Musukwa MP, Zambia's Minister of Mines and Minerals Development.

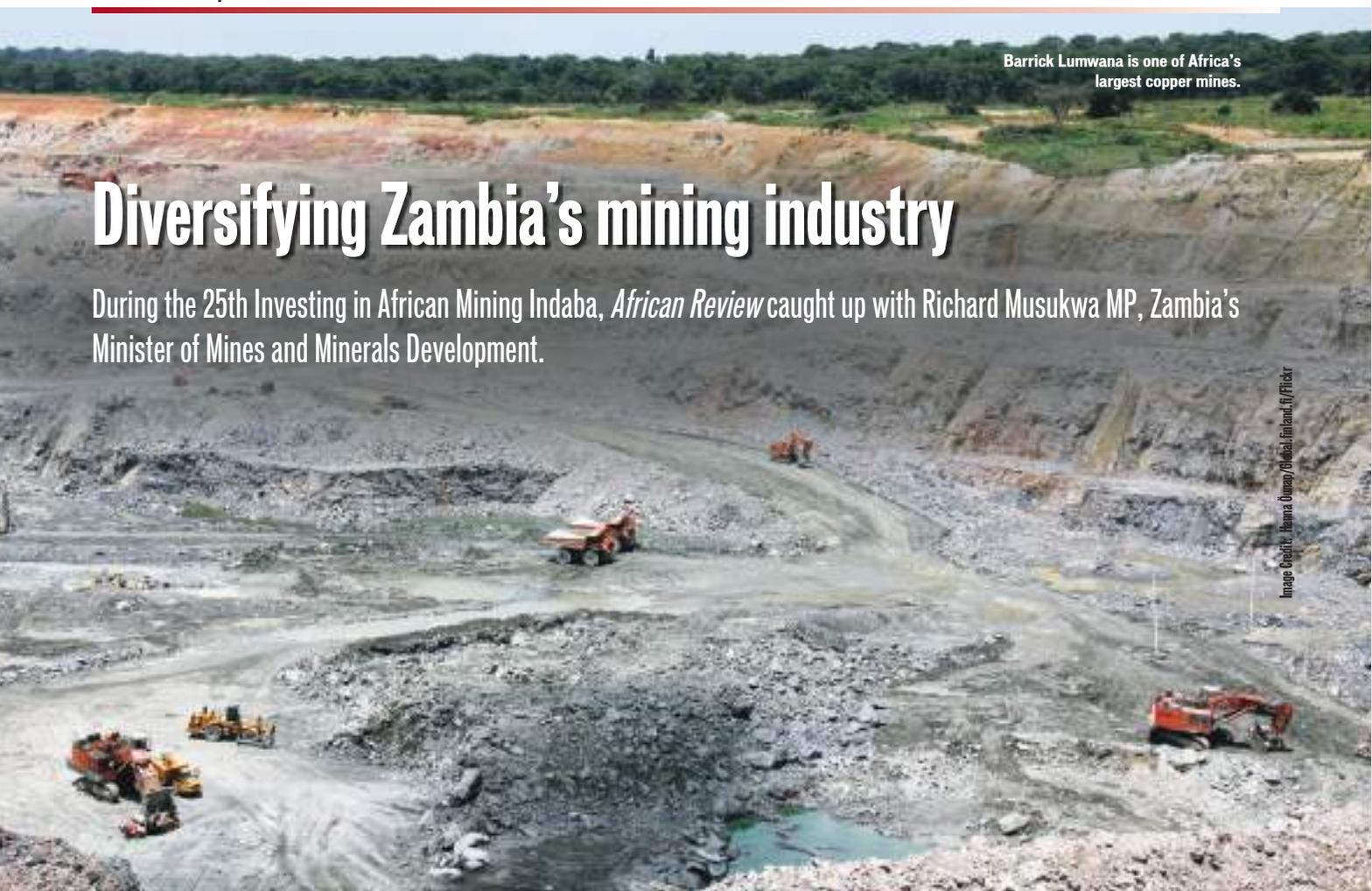


Image Credit: Hanna Gump, Global Finance, f/ Flickr

What was your main message to investors at the 25th Investing in African Mining Indaba in February?

The main message that we are putting across to investors is that Zambia is open for business. We are looking for investors that are going to transform the mining sector in Zambia. We are running and operating a mining sector that is privately-driven.

It is a country that is highly mineralised that has huge potential and most of the minerals are not yet exploited. So we need an investment portfolio in the mining sector to grow from exploration to production.

Are there any major target minerals that you have listed?

Principally, we are a copper-dominated mining country, which we have been mining in excess of 50 years. We are now trying to diversify in the mining value chains so that we can offer other minerals, such as gemstone, manganese, and industrial minerals like nickel that should be exploited too. We think there could be an opportunity when we exploit the minerals, which have

huge potential. The gemstone for example, is a hallmark and stands out globally.

What new areas is the Zambian Ministry of Mines and Minerals exploring?

Traditionally, our copper reserves have been exploited from the Copperbelt Region. Now we have opened up the North-Western Province, which is predominately a new operation being undertaken by FQM. There is also quite a lot of mining operations in the Southern Province and Eastern Province in Lusaka. In fact, the Eastern Province has huge reserves of gold. For a lot of time this area has been exploited by illegal miners so the government is trying to formalise operations in order to create value and help our

communities, but more importantly, to transform the illegal entities into a legal undertaking for the mining industry. We hope that these gold areas can be exploited on a large scale, which should be able to benefit the country. Zambia is the most stable jurisdiction both stably and economically, so it's ideal for investors.

What other mineral resources are you considering to exploit in the future?

We host some of the largest quantities of cobalt in Africa. With the increasing demand for electric motor vehicles, we are trying to invest heavily in the exploitation of cobalt and set up cobalt and copper operations, running alongside one another. I want to see in my

lifetime as Minister of Mines and Minerals, the development of a cobalt and a manganese mine, because we have a lot of manganese reserves too. We also want to establish a large-scale emerald mine, which can support the economy. In all these dynamics of the mining industry, the government's resolve is to ensure that the mining operations make sense for the ordinary people. High mineralisation and poverty trend among our people is a trajectory we want to change. While we welcome investors they must ensure that they support our economy through job creation by way of value addition: tangible infrastructure in the areas of health and education.

How are you encouraging transparency between industry and government?

There is always that mistrust between mining houses and government, and we are no stranger to this discourse. We would like mining houses to be much more transparent than they have been in the past. We would like them to

“ If we are just exporting raw materials, we are exporting jobs and opportunities ”

RICHARD MUSUKWA MP, ZAMBIA'S MINISTER OF MINES AND MINERALS DEVELOPMENT



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reduce the aspect of transfer pricing, which is done at different levels. When they process the ore in the host countries there are several metals which are extracted from the ore, which are not declared. I would like this to be processed in our communities so that we can account for all the minerals which are found in the ore bodies. Every time you dig for copper, for example, there are other minerals there.

We are working very closely with the Extractive Industries Transparency Initiative and we think that the money we are generating from the mining industry must be channelled into infrastructure developments. We think very strongly that some of the loan issues that we are getting to support developments such as road, health and education would be resolved if we generated enough resources from the mining industry. Our aim is not to tax the mines out of business but ensure that they are working within the regulatory and legal framework to get a return on their investment and uplift the community in the areas which they operate. If we are just exporting raw materials, we are exporting jobs and opportunities. We think the time has come for Africa and Zambia, in particular, to ensure that our investors are partners and must invest in processing plants that



There are many international mining houses in the North-Western Province and Copperbelt region.

provide final products to our goods in our host communities. For a long time because of this trend our local manufacturing industry has collapsed. We are focusing on building our local manufacturing industry because we have the raw materials, and all that has been lacking is resources and equipment to run and operate these processing plants.

We are trying to attract a new type of investor, which is going to do value addition and bring

benefits to local industries back into our host communities.”

Is there space in the industry for small-scale companies as well?

Our small-scale licences are meant to be for the preserve of the Zambians in order to encourage them in the exploitation of our resources. If the local people are excluded from the exploitation of the mining operation they will always find a way to do it, which is why we want to galvanise these

illegal entities and legalise the operation and ensure that they do not invade mining licences which we have given to investors to protect and secure the tenure of licences.

What do you think will be the key challenges in 2019?

This year we are extremely optimistic that we will grow our production for copper and move in excess of over one million metric tonnes. At the time of privatisation, our production in those days was around 750,000 metric tonnes. Today as we speak, our production is more than 861,000 metric tonnes. When we hit the one million target then we will be home and dry. We hope that by 2021, our production should be in excess of 1.5 million tonnes. ■

INTERNATIONAL MINING HOUSES

In the **North-Western Province**, there are Barrick Lumwana, FQM Kansanshi and FQM Sentinel Mine in the town of Kalumbila. In the **Copperbelt Region** Mopani and KCM (Konkola Copper Mines) are situated. Other mining companies include Ibaera Capital and The China Nonferrous Metals Corporation.

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EXXARO BELFAST MINE GETS CONCOR INFRASTRUCTURE'S EXPERTISE

Concor Infrastructure has started major works at Exxaro's digital coal mine in the Mpumalanga province.

Since October 2017, Concor Infrastructure has been constructing four major dams, 26 concrete platforms and terraces, 37 internal roads of 16km in length, and upgrading almost 13km of provincial roads, surrounding the mine near the town of Belfast.

According to Concor Infrastructure contracts manager Pierre van Vuuren, dams are being lined with a geosynthetic clay liner (GCL) and high density polyethylene (HDP) sheets, in compliance with the water use licence and related environmental regulations.

Various structures around the dams are also being installed, including large silt traps, drying beds and inflow chutes to prevent scouring, spillways and sumps.

Among the concrete platforms and terraces are two primary



Image Credit: Concor Infrastructure

The view from the run-of-mine crusher platform between the mining area and the process plant.

crusher bases being built for the run-of-mine crushing facilities. The various structures being built by Concor Infrastructure on the mine

will demand almost 350 tonnes of steel reinforcement, and nearly 2,700 tonnes of bulk cement. Other inputs will be around 15,000 tonnes of

19mm aggregate and nearly 13,000 tonnes of crusher sand.

Extensive upgrading is being done on the D1770 and D1110 provincial roads – for the transport of coal to the rail siding – including eight major culverts under the roadway. For all the project's road works, almost 9.5km of subsoil drains is to be installed, as well as 2.7km of stormwater culverts. G5 and G6 construction material comes from an external quarry and crushing plant located about 30km from site towards Carolina.

Contracts manager Mabandla Dlamini highlights the local impact of the project, including the accommodation of a core labour complement of about 180 personnel in the Emakhazeni municipal district. The workforce managed by Concor Infrastructure, with contractors, totals closer to 700 who are all transported 30km daily by the local taxi network.



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Innovation vital to creating jobs in Africa

Innovation is a major force for economic growth and development, which is crucial for the continent to create enough jobs for its youth, according to Vera Songwe, Economic Commission for Africa's executive secretary.

Africa has to innovate if the continent is to create sufficient decent jobs for its growing youthful population, said Economic Commission for Africa's (ECA) executive secretary, Vera Songwe.

Speaking in Addis Ababa at a joint ECA-World Bank roundtable on jobs and economic transformation, Songwe said with Africa's rising population, estimated to increase to 1.7 billion by 2030, a growth rate of more than 8 per cent per annum is needed to create at least 120 million jobs for the youth entering the labour market between now and 2030.

"The question around jobs and economic transformation is one that almost every African leader is worrying about," she said, adding immediate action on all fronts was imperative to address the continent's jobs challenge in a structural way.

"Africa is growing again but we need to do better and more. It is disheartening every day to see that more Africans are falling into poverty. "That is why it is imperative that we are having this discussion of creating jobs on the continent," Songwe added.

Innovation, she said, is a major force for economic growth and development, which is crucial for the continent to create enough jobs for its youth in particular.

"Digitalisation is, now more than ever, playing an important role in Africa's economic transformation and

has the potential to open opportunities to labour markets, moving beyond markets through the free movement of people," she said, adding digitalisation was transforming how businesses operate, moving individuals from the informal sector to the formal sector.

Songwe spoke about the need for African economies to stimulate adequate industrialisation through increased intra African trade.

"As digitalisation and trade create new opportunities for economic transformation through jobs, it will be important for policy makers to recalibrate policies towards strengthening human capital. Policies geared towards a highly skilled, knowledgeable and healthier population are pertinent in ensuring prosperity and thereby reducing poverty on the continent," she said.

For his part, Akihiko Nishio, the vice president for Development Finance at the World Bank, said it was fitting that they were discussing jobs and economic transformation in Ethiopia.

“ Digitalisation is playing an important role in Africa's economic transformation ”

VERA SONGWE, ECONOMIC COMMISSION FOR AFRICA EXECUTIVE SECRETARY



Job creation was the major theme at the ECA-World Bank roundtable event in Addis Ababa.

Image Credit: United Nations Economic Commission for Africa

Having visited Ethiopia's Bole-Lemi Industrial Park the previous day, he said, "It was impressive to see how the Ethiopian experience shows that ambitious, forward-looking and well executed initiatives can have a big impact in supporting transformation and job creation.

"For most developing countries and development institutions like ours, the need for more and better jobs remains a top development priority."

The challenges are daunting, he said, adding Africa will require that at least 15 million jobs be created each year to keep pace with its demographics.

"Failing to deliver good jobs for

the growing youth population not only risks squandering the demographic dividend, but raises significant social risks, contributing to fragility and driving young people to migrate abroad in search of better opportunities," said Nishio.

He said tackling the jobs challenge requires economic transformation.

"It means moving workers from lower to higher productivity activities led by a vibrant private sector and supported by public policy actions. This does not happen overnight, but requires committed leadership, sustained investments and efforts, and concerted support from all partners," added Nishio.

This is why since 2017, he said, with support from International Development Association donors and borrowers, the World Bank adopted Jobs and Economic Transformation (JET) as a special theme under IDA18 to make its support for some of the world's poorest countries more focused and deliberate. ■

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