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OCTOBER 2020

# African Review

of BUSINESS and TECHNOLOGY

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What's next for Africa's largest economy?

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East Africa sales rise in 2020

# DATA CENTRES: AFRICA'S GROWTH ENGINE

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"A resilient renewable energy market will propel South Africa to a more sustainable tomorrow."

Vuyo Ntoi, joint managing director of AIIM





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Cover inset: Vuyo Dtoi, joint-CEO of AIIM © AIIM

**Editor:** Samantha Payne

Email: [samantha.payne@alaincharles.com](mailto:samantha.payne@alaincharles.com)

**Editorial and Design team:** Mariam Ahmad, Prashanth AP, Fyna Ashwath Miriam Brtkova, Praveen CP, Manojkumar K, Nonalynka Nongrum Unique Pattnaik, Abhishek Paul, Rahul Puthenvedu, Deblina Roy Vinita Tiwari and Louise Waters

**Managing editor:** Georgia Lewis

**Contributing editor:** Martin Clark

**Publisher:** Nick Fordham

**Sales Manager:** Richard Rozelaar

Email: [richard.rozelaar@alaincharles.com](mailto:richard.rozelaar@alaincharles.com)

**Magazine Manager:** Serenella Ferraro

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

Email: [serenella.ferraro@alaincharles.com](mailto:serenella.ferraro@alaincharles.com)

**India** **TANMAY MISHRA**  
Tel: +91 98800 75908  
Email: [tanmay.mishra@alaincharles.com](mailto:tanmay.mishra@alaincharles.com)

**Nigeria** **BOLA OLOWO**  
Tel: +234 80 34349299  
Email: [bola.olowo@alaincharles.com](mailto:bola.olowo@alaincharles.com)

**UAE** **MURSHID MUSTAFA**  
Tel: +971 4 448 9260 Fax: +971 4 448 9261  
Email: [murshid.mustafa@alaincharles.com](mailto:murshid.mustafa@alaincharles.com)

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

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

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

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

**Production:** Srinidhi Chikkars, Swati Gupta, Nelly Mendes and Arjun S  
E-mail: [production@alaincharles.com](mailto:production@alaincharles.com)

**Chairman:** Derek Fordham

**Printed by:** Buxton Press

**Printed in:** SEPTEMBER 2020

**ISSN:** 0954 6782

**SUBSCRIPTIONS:**

**Rates for one year (11 issues):**

Europe €107, Kenya KSh3400, Nigeria N6600, South Africa R460, United Kingdom £77, US\$140

To subscribe: visit [www.africanreview.com/subscribe](http://www.africanreview.com/subscribe)

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# Editor's Note

Welcome to our October issue. Our cover story focuses on data centres and their potential impact to transform Africa's connectivity, especially in Western and Southern Africa, that will enhance lives and improve businesses, for more turn to page 18.

Our economist Moin Siddiqi analyses Nigeria's economy, providing sombre pre- and post-COVID-19 economic forecasts, and the need to diversify away from oil. The World Bank warns Africa's largest economy about fiscal stimulus steps it must implement to support future economic growth, page 20.

PowerGen Statistics has given *African Review* a comprehensive overview of the genset markets across Africa and how they have fared this year in comparison to previous years. It's no surprise that the genset sector has been severely hit by the coronavirus pandemic, as has been the case in other sectors but, interestingly, in East Africa, particularly in Sudan and in Ethiopia, genset sales have increased due to large projects taking place in the region, see more on page 26.

Finally, over in construction and mining, new articulated dump trucks for the MEA region have been launched on the market by Doosan Construction Machinery and other well-known brands.

**Samantha Payne, Editor**

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MB Crusher provides tips to companies on how to reduce costs using their crusher bucket solutions for recycling demolition waste on site instead of transporting material to landfill.

## Construction begins on Morocco wind farm

EDF Renewables and Mitsui & Co have announced the start of the construction work of the first phase of the Taza wind farm in northern Morocco.

The project, which will have a total capacity of 87MW, benefits from a 20-year Power Purchase Agreement (PPA) with the National Office of Electricity and Drinking Water (ONEE) and the Moroccan Agency for Sustainable Energy (MASEN).

This milestone follows the establishment of the financing provided by the Japan Bank for International Cooperation (JBIC), Nippon Export and Investment Insurance (NEXI), Sumitomo Mitsui Banking Corporation (SMBC), MUFG Bank, as well as the Moroccan Bank of Africa.

Partners EDF Renewables and Mitsui & Co will respectively represent 60% and 40% of the private interests in the project. The Moroccan public part – from the ONEE, MASEN and the Hassan II Fund, could hold up to 35% of the project company's capital.

During the construction phase, around 500 people will work on the project, and throughout its life operation, the Taza wind farm will contribute to the region's social and economic development.

Upon commissioning in 2022, the power generated will be equivalent to the annual consumption of 350,000 people, i.e. 70% of the population of Taza Province.

This Taza wind farm is part of the Kingdom of Morocco's strategy, which aims at increasing the share of renewables to 52% of electricity production by 2030.

GE Renewable Energy has been selected to supply turbines to the wind farm, and will deliver 27 units of its 3.2MW-85 turbines.

Bruno Bensasson, EDF Group senior executive vice-president Renewable Energies and chief executive officer of EDF Renewables, said, "We are delighted to move forward with the construction phase of the Taza wind farm together with Mitsui & Co, our consortium partner. This wind farm demonstrates our commitment to supporting the Kingdom of Morocco's energy transition. The project fits with the goals in the EDF Group's 2030 CAP strategic plan of doubling its renewable energy capacity worldwide from 28 GW to 50 GW net, between 2015 and 2030."



Image Credit: BBC World Service / Flickr

**The wind farm will contribute to the region's economic and social development.**

## SIEMENS ENERGY TO POWER EGYPT PROJECT

Siemens Energy has been selected by the Egyptian Electricity Transmission Company (EETC) to connect Bashaer El Khair City project in Alexandria city with the country's national grid. The project will help supply electrical power to more than 25,000 residential units, in more than 250 apartment buildings and service centres.

Egypt has been working to strengthen and increase the reliability of the national grid to power the new cities and drive the country's economic and social development. The Bashaer El Khair residential complex is part of a national project to create new communities and provide quality homes for people living in informal communities or settlements in Alexandria.

"Electrification of new cities is a big priority for Egypt and across the region, a topic that will continue to be emphasised to create more prosperous and greener cities," said Mahmoud Hanafy, senior vice president, Siemens Energy Transmission Solutions in the Middle East.

"This project comes as part of our commitment to support the government in strengthening the transmission capacity of the Egyptian electricity network. The project will help reinforce the grid and enhance power supplies to meet the increasing demand for electricity from residential and commercial consumers as a result of growing urbanisation in Egypt."

Siemens Energy will be responsible for the design, engineering, construction, installation and commissioning of the 66/11-kilovolt station that will be delivered on a turnkey basis. This includes gas-insulated switchgear (GIS), power transformer's installation and commissioning, control systems as well as protection and telecommunication equipment. The project will be fast-tracked and is expected to be operational in July 2021.

## NEW PROJECTS APPROVED FOR AGADIR REGION

Morocco's Souss-Massa Regional Council has approved several industrial projects that are expected to create 24,000 new job opportunities for the youth of Agadir and surrounding regions, as well as building up Agadir as an industrial hub, according to a report in Morocco World News.

The projects relate to the creation and promotion of five industrial and economic zones in the Souss-Massa region, and are part of Morocco's 2014-2020 Industrial Acceleration Plan. This will involve the creation of three new industrial zones and an economic activity zone, as well as the expansion of Agadir industrial zone.

This follows the inauguration of the US\$655mn 2020-2024 urban development programme in February 2020, which focuses on improving the basic infrastructure of the Souss-Massa region and its road network, including the establishment of a railway between Marrakech and Agadir.

The aim of the programme is to boost Agadir's economic and social development and improve its attractiveness for tourists and investors.

## ► BRIEFS



Image Credit: Eran Benach / Flickr

### Micro-enterprise support

The European Investment Bank (EIB) and Al Amana Microfinance, the leading microfinance player in Morocco, have announced the signature of a three million euros finance contract supporting access to financing and the development of Moroccan micro-enterprises. Around 11,560 entrepreneurs with limited access to financial resources will be able to benefit, with attention to women and to the development of income-generating activities in rural areas.

**More than 11,000 entrepreneurs will be able to benefit from the microfinancing.**



Image Credit: Jeanne Menjoulet / Flickr

### New Algeria research project

Algeria's national oil and gas company, Sonatrach Group, has launched an experimental research project for the purification of industrial wastewater by solar energy in coordination with the Center for the Development of Renewable Energy (CDER). "This important research project aims to encourage research and development with several national scientific and technical centres," said Sonatrach in a statement, adding that it will have an important economic and environmental impact.

**The project is expected to bring economic and environmental benefits.**

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## Namibia Critical Metals secures financing from Alumina Partners

Namibia Critical Metals has secured a US\$3.7mn financing facility from Alumina Partners (Ontario).

According to the terms of the investment agreement, the company has the right, at its sole discretion, to draw down US\$3.7mn of the facility through private equity investment tranches of up to US\$189,802 each.

Each tranche will be a placement of units, with each unit comprising one common share and 50% of one common share purchase warrant.

Units will be priced at a discount of 15% to 25% from the most recent closing price of the shares on the TSX Venture Exchange. The warrants will be issued at a premium of 40% over the market price of the shares for a period of 24 months.

The proceeds from the first draw-down will be used to accelerate gold exploration over the 1,638 sq km Grootfontein project area. A total of 5,000 samples over many of the principal target areas have already been collected and will now be submitted for gold analyses.

Don Burton, president of Namibia Critical Metals, said, “The Alumina facility will provide the company with the flexibility to accelerate high priority exploration programmes outside of the Lofdal Heavy Rare Earth joint venture which is already fully funded by our joint venture partner, Japan Oil, Gas and Metals National Corporation (JOGMEC).

“Exploration of our 2,000 sq km land package in the emerging Navachab-Otjikoto gold belt of central Namibia can now be accelerated with the objective of identifying gold targets using systematic soil geochemical surveys, in a manner similar to what has been utilised by Osino Resources. This approach led to the discovery of Twin Hills and other important gold anomalies.”

Adi Nahmani, the managing member of Alumina Partner, stated, “The two areas of resource focus that present the greatest value proposition right now are rare earth elements and counter-inflationary precious metals. And investing in Namibia now will allow us to get exposure to both.”



Image Credit: USGS/Unsplash

**The company has completed a first draw-down, which will be directed towards acceleration of its gold exploration programmes.**

## EUTELSAT, PARATUS BRING NETWORK CONNECTIVITY TO SOUTH AFRICA

Satellite operator Eutelsat Communications and telecom company Paratus have signed a multi-year distribution agreement to bring high-quality network connectivity to the South African market.

Paratus will leverage the operational flexibility and power of EUTELSAT KONNECT, the new generation high-performance satellite, to bring connectivity to remote and rural locations across South Africa to businesses operating in farming, game farms and small and medium-sized enterprises, and consumers, for homework, homeschooling and general Internet use.

Launched at the beginning of September 2020, Paratus’ offers are already experiencing a high level of demand, based on packages of 10, 20 and 30 mbps, with 24/7 technical support, and operating with small, cost-efficient dishes, highlighting the strong need for high-speed connectivity in remote regions.

Kallie Carlsen, managing director, Paratus South Africa, said, “Getting connectivity in remote locations is not easy; while the price is crucial to attracting customers, the quality of network – both connection and support – quickly proves more important. There is too often a disconnect between customer expectations and the delivery of service. With the partnership between Paratus and Eutelsat, we aim to overcome these boundaries and provide superior services for South Africa.”

Guido Merien-van Sprundel, sales director, southern Africa, of Eutelsat, added, “This agreement reflects the significant demand on the African continent and the unparalleled assets of the EUTELSAT KONNECT satellite in enabling it to be efficiently met. This contract also highlights the pertinence of Eutelsat’s multi-channel distribution strategy.”

## SASOL LOOKS FOR PARTNERS TO DEVELOP CO<sub>2</sub> UTILISATION TECHNOLOGIES

Petrochemical company Sasol is looking for potential partners to help develop CO<sub>2</sub> utilisation technologies for its South African operations.

Sasol said it that it was exploring different initiatives and projects with the intent of enabling technology development deployment to achieve large-scale greenhouse gas (GHG) reductions.

“Sasol aims to be an enabler for the development and demonstration of CO<sub>2</sub> utilisation technologies and wants to partner with other companies to reduce GHG emissions at its South African operations based in Secunda, Mpumalanga and in Sasolburg, Free State,” the company said.

Sasol said carbon dioxide (CO<sub>2</sub>) utilisation has been identified as a promising lever to reduce GHG emissions globally and has the potential to increase the implementation of carbon capture and utilisation technologies.

## BRIEFS

### Proflight Zambia launches cargo flight services



Image Credit: Bob Adams/Flickr

All cargo bookings and handling are undertaken through BidAir Cargo.

Proflight Zambia has increased its cargo capacity by designating some of its fleets to operate dedicated cargo flights between Lusaka and Johannesburg. Proflight Zambia’s addition of cargo makes it the only local Zambian airline operating cargo services. All cargo bookings and handling are made through BidAir Cargo, a cargo airline providing express airport-to-airport solutions and related services to the courier and express logistics industry.

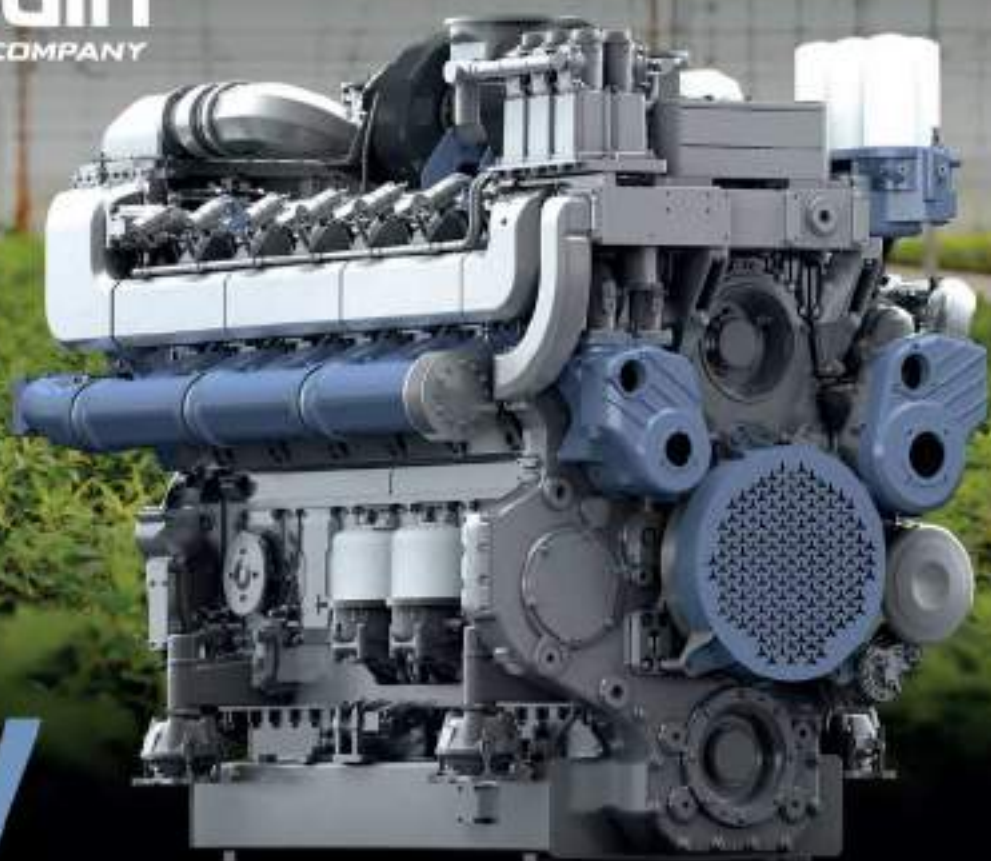
### Improving customer cloud experiences in the SADC



Image Credit: Adobe Stock

A WhatsApp Business API solution has been implemented by cloud company, Infobip.

Infobip, the global cloud communications company, has implemented a WhatsApp Business API solution for Hollard Insurance Zambia Limited, (Hollard Insurance) a short-term insurance provider focused on improving customer engagement in the Southern African Development Community (SADC) region. The implementation will reportedly serve as an example of what can be done if companies utilise these solutions correctly, and how it can redefine the customer experience.



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## AngloGold Ashanti, Barrick to sell Morila mine stake to Mali Lithium

AngloGold Ashanti and Barrick Gold have agreed to sell their effective 80% stake in the Morila Gold Mine in Mali to Mali Lithium.

Mali Lithium will buy the Jersey-based Morila Limited, which is equally owned by AngloGold and Barrick. Morila Limited owns 80% of Société des Mines de Morila SA (Morila SA), a Malian registered company with a 20% interest in the state of Mali, and in turn, owns the Morila Gold Mine.

Morila Gold Mine stopped mining operations in 2019, and currently only processes ore stockpiles. In 2019, it produced 27,000 oz Gold. Mali Lithium, based in Perth, Western Australia, aims to increase sustainable production as quickly as possible after the acquisition of the Morila Gold Mine.

Under the new ownership structure, the mine has the potential to use existing infrastructure to access additional resources and extend mine life using various planning and assessment criteria, benefiting Morila's stakeholders in the country.

The consideration payable for the purchase is estimated at between US\$22mn and US\$27mn, with the final amount determined with reference to the closing balance of tax credits in Morila SA. The consideration received will be allocated against interests held in Morila Limited by AngloGold Ashanti and Barrick Gold, as well as intercompany loans held against Morila SA by Barrick Gold Group.

Barrick Gold, the operator of Morila Gold Mine, has agreed to work with Mali Lithium on a transition plan to ensure continuity of major mine management personnel and operations.



Image Credit: J T Jeeraphan/Adobe Stock

**Under the ownership structure, the mine has the potential to use existing infrastructure to access additional resources and extend the mine's life.**

## RACK CENTRE TO CREATE WEST AFRICA'S LARGEST DATA CENTRE

Rack Centre, a leading carrier-neutral data centre operator in West Africa, has announced an expansion programme to increase capacity to a total net lettable white space (the space allocated to IT equipment) of 6,000sq m and allow 13MW of IT capacity on its Lagos campus. This will be in addition to the current expansion already underway in early 2021 doubling existing capacity to 1.5MW and 1,200sq m of white space.

The expansion will bring unprecedented carrier-neutral scale to West Africa and is in response to increasing demand for data centre space from cloud uptake, investment in telecommunications and IT facilities outsourcing by companies in the region.

Funding for this expansion will come from a US\$250mn pan-African data centre platform created by Actis and Convergence Partners, a leading investor in Africa's ICT infrastructure.

In addition to Rack Centre, the platform is actively developing additional buying and building opportunities across Africa to establish a network of carrier-neutral data centres aimed at catering to the carrier, cloud and hyper-scale customers.

Dr Ayotunde Coker, managing director of Rack Centre said, "Mass adoption of digital working models and content distribution is driving growing investment in the region and Rack Centre offers a world-class location to house these IT and telecoms facilities."

With the data demands ever-increasing, the design of Rack Centre's Phase 2 facility will target regional industry-leading Power Utilisation Efficiency benchmarks. It will contribute in particular to achieving Sustainable Development Goals for affordable and clean energy, industry innovation and infrastructure and climate action.

## MOBILE PHONES TO EASE SMALL-SCALE FARMERS' AGRICULTURAL AND ACCESS WOES

An initiative to use mobile phone technology to help farmers receive low-cost, customised advice has received initial funding under IFAD's Rural Poor Stimulus Facility, as a result of a new partnership between IFAD and Precision Agriculture for Development, a global non-profit organisation.

Funds amounting to US\$11.2mn from the RPSF, plus US\$5.2mn from governments and implementing partners will benefit an estimated 6.7 million small-scale farmers in developing countries who are adversely impacted by the economic slowdown caused by the pandemic.

Two regionally focused initiatives in Asia and sub-Saharan Africa will provide emergency livelihood support through local farmers' organisations in Afghanistan, Bangladesh, Cambodia, Ethiopia, Nepal, Nigeria, Palestine and Rwanda. Farmers will be provided with seeds and fertiliser for the upcoming planting season, receive storage and market transport assistance, and be provided with credit by local banks.

In addition, the initiative aims to establish digital platforms for information, training, banking and marketing services.

## ▶ BRIEFS

Image Credit: Chandervidya/Adobe Stock



**Enggee's Polyethylene Terephthalate plant could double the plastic bottles recycled in Nigeria.**

### IFC financing for Nigeria's plastics industries

IFC has announced a financing package to help the Nigerian manufacturer Enggee Manufacturing Limited to build a Continuous Polymerisation PET Resin plant in Ogun state. The plant is expected to source more than 20% of its raw materials from local waste plastics, strengthening Nigeria's recycling and manufacturing sectors.

Image Credit: janesw094/Adobe Stock

### Transforming Nigeria's primary healthcare



**The Nigerian health programme design phase is due to be completed by Q3 2020.**

ABCHealth chairman Aigboje Aig-Imoukhuede provided insights into a new idea to transform Nigeria's primary health care sector named 'The Adopt a Primary Health Facility Programme', which will bring many benefits including the provision of quality healthcare to people regardless of geographic, social or financial barriers. The programme has the backing of the Private Sector Health Alliance of Nigeria, founded by Aliko Dangote, Jim Ovia and Aigboje Aig-Imoukhuede.



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Sudan is the third largest country in Africa with very rich natural resources from Oil, Gold, water and vast agricultural lands. Though, the economy in Sudan is still struggling and facing lots of challenges since the secession of South Sudan in 2011 and the effect of US economic sanctions since 1997 which later were partially lifted in October 2017. Yet still Sudan has huge opportunities for foreign investors especially in the mining/agriculture sectors.

As for the Energy, there is increasing energy demand in the country due to the increasing population, mining operations, infrastructure projects and the growing public investments into commercial construction sectors, the main sources of grid power are Hydropower and Thermal generation but I think Sudan is still an energy deficient country which is now importing power from Ethiopia to meet its energy requirement. The demand for Diesel generators is high and increasing in Sudan and it's often used as a prime source of power especially in remote locations where there is no access to the grid for electricity supply.

We in Sutracs have greatly participated in the development projects of Sudan with broad services from Supplying, Installation and Turn-key project. We are always committed to putting our clients first, providing exceptional service to meet customer's needs and expectations.

One of the opportunities that I see that we still need to work on or promote in Sudan is the use of the One-line platforms. Unfortunately, we are still far from the Digitalization and online purchasing due to many reasons, which hindered adoption and the implementation of these technologies.



Samy Mubarak Mohamed  
Head of Power Systems Department.

في خدمتكم 1414

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سودانية تركتور كومباني

CAT

## DOB Equity makes further investment in Tanzania's Tanga Fresh

DOB Equity, Dutch investor in East Africa, has announced a further investment in Tanga Fresh, one of the leading dairy processors in Tanzania.

DOB Equity's investment is expected to help Tanga Fresh expand its production in the long-life milk market, as an increasing number of East African consumers move from fresh milk to long-life milk, presenting major potential for market growth.

Additionally, DOB Equity's investment will allow Tanga Fresh to expand its overall production capacity, providing access to a fair and reliable market for dairy farmers in the Tanga region.

According to DOB Equity, the East African dairy market has great potential for growth. The company is also an investor in Countryside Dairy, a Kenyan dairy processor in Nyahururu.

One of the major issues hampering growth in the East African dairy sector is the supply and quality of milk from farmers. To address this problem, Tanga Fresh has partnered with Solidaridad, an international civil society organisation. This partnership aims to enable Tanga Fresh to provide services and support to 6,000 farmers with the goal of improving quality, yields and sustainability throughout the supply chain.

Tanga Fresh's production facilities have expanded significantly in recent years, from initially producing 15,000 litres of milk per day to today making 80,000 litres per day in a modern high-quality plant.

Toine Huijbers, chief financial officer at DOB, said, "Less than 7% of milk in Tanzania is processed, leaving a lot of room for growth in the market."

"We expect to see increasing demand for higher-quality processed milk in the market. It's likely this will be largely driven by regulation and consumer awareness around the risks of drinking unsafe, contaminated milk and Tanga Fresh is well positioned to meet this rising demand."

Innocent Mushi, CEO of Tanga Fresh, commented, "The investment from DOB strengthens our working capital flows and production capacity. This will be key in supporting Tanga Fresh's innovation and increasing its national market penetration."



Image Credit: Graham/Adobe Stock

The dairy market in East Africa has significant growth potential, especially in the long-life milk sector.

## TOTAL SIGNS AGREEMENT TO ENSURE SECURITY OF MOZAMBIQUE LNG PROJECT

Total E&P Mozambique Area 1, operator of the Mozambique LNG project, has signed a MoU with the government of Mozambique regarding the security of Mozambique LNG project activities.

This MoU provides that a joint task force shall ensure the security of Mozambique LNG project activities in Afungi site and across the broader area of operations of the project. Mozambique LNG shall provide logistic support to the joint task force. The government of Mozambique is committed that the joint task force personnel shall act according to the voluntary principles on security and human rights (VPSHR).

This demonstrates the project's commitment to meeting its milestones in a secure manner, while creating local opportunities and bringing meaningful social and economic benefits for the province of Cabo Delgado and the country.

Ernesto Max Elias Tonela, minister of mineral resources and energy, said, "This MoU bolsters security measures and endeavors to create a safe operating environment for partners like Total which enables their ongoing investment in Mozambican industry, for small and medium enterprise and for our communities."

Ronan Bescond, country chair of Total in Mozambique, added, "The Mozambique LNG project will bring to local communities, the country, and all parties involved in the project, Total and the government of Mozambique are committed to enable steady progress towards a successful delivery of the project. In view of the security situation in the Province of Cabo Delgado, our priority is to ensure the security of our workforce, many of whom residing in neighboring communities, and of the project operations."

## UGANDA'S UMEME INVESTS US\$15.2MN IN MBALE CITY ELECTRICITY NETWORK

Umeme Limited, Uganda's power distribution company, has invested US\$15.2mn into two major power supply quality and reliability projects in the Mbale Umeme district.

The two projects are the US\$9.23mn Siti 2 Project and the US\$5.99mn Tangshan Mbale Industrial Park Project. Once completed, the two projects are expected to increase the Mbale Umeme district's electricity supply by 205% from the current 20MW to 61MW.

The first component of the Siti 2 project includes a 125-km 33kV single circuit double poles line evacuating power from the 16.5MW Siti 2 Hydro Power Project (HPP) on River Siti in Bukwo District, which is 97% complete. The second, third and fourth stages are 74%, 70% and 96% finished, respectively.

## ► BRIEFS

### Ethiopia to sell Ethio Telecom's 5% stake to citizens

Image Credit: freepress/Adobe Stock



The licences aim to generate around US\$1bn in revenue.

Abiy Ahmed, Ethiopia's prime minister, has announced plans to sell a 5% stake in Ethio telecom to citizens. As reported in Reuters, the Ethiopian government is set to retain a 55% share in Ethio telecom, with the remaining 40% up for bidding to global firms. The Ethiopian Communications Authority has received 12 bids from parties to operate in the East African nation, stated the source.

### Andersen Global strengthens East African presence

Image Credit: Vale360/Adobe Stock



With the collaboration, Andersen Global aims to enhance the presence in Burundi.

Andersen Global has signed a collaboration agreement with Burundi-based CN & Associates, adding geographic coverage in an important market as the organisation continues to expand its platform in East Africa.

CN & Associates focuses on providing legal services in the areas of corporate, banking, real estate, intellectual property, public procurement, labor etc with emphasis on gender, child matters and programmes and project assessment.

## Vertiv partners with Fajoba Group to accelerate East Africa’s digital development

Vertiv has announced a distribution partnership with the Fajoba Group, a regional IT solutions and hardware leader for East and Central Africa.

The agreement is in line with Vertiv’s plan to boost local stock levels to meet the growing demand for its IT infrastructure support, such as the robust Vertiv Liebert iTON uninterruptible power supply (UPS). This UPS, with line-interactive technology, focuses on protecting desktop computers and standalone IT equipment and is now available to Fajoba resellers in Burundi, DRC, Kenya, Rwanda, South Sudan and Uganda with an exclusive first-time buy promotion.

Fajoba Group, local IT resellers and Vertiv products are set to support the availability of critical infrastructure and empower local expertise, which is growing due to many initiatives. These include the Digital Uganda Vision, which is setting ambitious goals for digital development in the country, and Tanzania’s Trend Solar, a mobile and off-grid convergence with a world-first 4G Android PAYGO solar package, which has been enabling communities in the rural area to access the internet while at the same time receiving electricity.



Image Credit: istock/Adobe Stock

The partnership aims to enable reliable computer infrastructure and support growing regional digital economies.

### WORLD BANK APPOINTS NEW COUNTRY DIRECTOR FOR KENYA, RWANDA, SOMALIA AND UGANDA

The World Bank has appointed Keith Hansen as new country director for Kenya, Rwanda, Somalia and Uganda, effective from 8 September, 2020.

Hansen will lead an active multi-country portfolio consisting of more than 100 projects totaling more than US\$13bn.

Under Hansen’s leadership, the World Bank is set to work closely with the four countries to provide innovative products and services that respond to their diverse development challenges and contribute to achieving sustainable economic growth and poverty reduction, with a specific emphasis on COVID-19 recovery.

Prior to this new assignment, Hansen was the vice-president for global practice solutions, vice-president and director for human development, sector manager for health, nutrition and population, with his most recent assignment being senior advisor in the office of the World Bank CEO.

Hansen will be based in Nairobi, Kenya. He succeeds Carlos Felipe Jaramillo, who was appointed as the vice-president for Latin America and the Caribbean region.

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## Upcoming Events Calendar 2020

### OCTOBER

7-8

#### AFRICA OIL WEEK VIRTUAL

Virtual  
www.africa-oilweek.com

14-17

#### ADDIS POWER

Addis Ababa, Ethiopia  
www.addispower.com

20 OCT-13 NOV

#### AFRICA ENERGY FORUM

Virtual  
www.africa-energy-forum.com

### NOVEMBER

3-6

#### ECOMONDO

Rimini, Italy  
www.ecomondo.com

4-6

#### POWER & ELECTRICITY WORLD AFRICA

Virtual  
www.terrapinn.com/exhibition/power-electricity-world-africa/index.stm

4-6

#### SOLAR POWER AFRICA

Cape Town, South Africa  
www.events.solar/africa

24-25

#### BOTSWANA MINING AND ENERGY 2020

Gaborone, Botswana  
www.bwminingandenergy.com

24-26

#### AFRICA UTILITY WEEK

Digital  
www.african-utility-week.com

### DECEMBER

10

#### RENEWABLE NORTH AFRICA VIRTUAL 2020

www.moroccorenewable.org

### FEBRUARY 21

1-5

#### AFRICA OIL WEEK

Cape Town, South Africa  
www.africa-oilweek.com

16-18

#### SUSTAINABLE ENERGY FOR ALL

Kigali, Rwanda  
www.seforall.org/forum

### MARCH 21

24-26

#### 5TH MINEXPO AFRICA

Dar-es-Salaam, Tanzania  
www.expogr.com/minexpotanzania

8-9

#### MOZAMBIQUE GAS & POWER

Maputo, Mozambique  
www.africaoilandpower.com/event/mozambique-gas-power-2021

17-18

#### 6TH ARE ENERGY ACCESS INVESTMENT FORUM 2020

Lusaka, Zambia  
https://eaif2020.b2match.io/

### JUNE 21

1-3

#### SECUREX SOUTH AFRICA

Johannesburg, South Africa  
www.securex.co.za

## Power & Electricity World Africa 2020 is going virtual

After much consideration and in the interest of attendee safety, the event organisers, Terrapinn, are excited to announce that Power & Electricity World Africa and The Solar Show Africa 2020 is going virtual.

Coming to people's screens on 4-6 November, the show will be a three-day virtual conference and exhibition, bringing visitors insights from utilities, IPPs, large energy users, government leaders, disruptors and innovators from across Africa and the globe.

Participants can expect a series of free live presentations, live panel debates, live digital roundtables and unlimited networking opportunities.

A virtual ticket gives access to:

- 250 plus industry-leading speakers across multiple channels
- A large network of more than 8,000 attendees
- Personalised recommendations and scheduled 1-to-1 meetings.
- Being able to message attendees directly through the platform and connect with like-minded peers or relevant buyers
- Tailoring personal schedules by bookmarking



Image Credit: Adobe Stock

The Power & Electricity World Africa and The Solar Show Africa 2020 will give access to more than 250 speakers in the power industry.

- the sessions people want to attend
- Sourcing the latest innovations from 300 plus leading solution providers
- Live streaming panel discussions and presentations, and on-demand recordings
- post-event
- The Water Show Africa 2020 Virtual on the same platform (3 November) – giving visitor four full days of networking and learning across both markets.



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## ▶ QUOTES

“We have collectively charted a new path for Africa ... We have achieved collectively impressive results. Our focus will be on institutions, people, delivery and sustainability. Together we win for Africa. Yet again, let us move forward, driven by the power of our mission, inspired by the primacy of our vision and emboldened by the strength of our togetherness.”



**DR AKINWUMI ADESINA**  
Re-elected president, African Development Bank

“Despite the difficult environment, performance under the ECF-supported program has been strong [in Mauritania]. The IMF’s continued financial assistance, along with other financing from the international community, will help Mauritania respond effectively to the COVID-19 crisis by providing space to increase spending on health services and social protection programmes.”

**MITSUHIRO FURUSAWA**  
Deputy managing director and acting chair, IMF Executive Board

“A harmonised approach to health is key not only to the recovery of civil aviation but also to ‘building back better,’ which is crucially important to ensuring the future resilience of the aviation network.”

**SALVATORE SCIACCHITANO**  
Council president, International Civil Aviation Organisation

“Digital finance’s dramatic potential for transformative impact is being revealed by the COVID-19 pandemic. Digital transfers enable governments to get support to people in need, crowdfunding platforms have mobilised funds for medical supplies and emergency relief, and algorithmic lending means small businesses have quicker access to funds. The speed of the recent spread of these technologies is astonishing, but progress is not automatic. For digitalisation to be a true force for delivering on the Sustainable Development Goals, technological advances must combine with sound policy that empowers citizens and enables our financial system to meet the urgent investment challenges that must be overcome to build forward better.”



**ACHIM STEINER**  
Administrator of UNDP and co-chair of the UN Secretary-General’s Task Force on Digital Finance

“The development of local content policies in the African oil sector is the responsibility of all economic actors – public and private. It is time for Africans to lift their boot from the neck of African local content and let it flourish.”



**LEONCIO AMADA NZE**  
CEO, Apex Industries SA

“I would like share some of the lessons Huawei learnt from our clients [during the COVID-19 pandemic]. Lesson 1: The pandemic will accelerate digital transformation of the rail industry. Lesson 2: After the pandemic, the rail industry will rapidly help economic recovery, requiring advanced and unified technology. Huawei is addressing how railways can use new technologies to speed up digitalisation, while helping customers. New technology like 5G, AI will be used in rail industry.”

**HAO GUOQIANG**  
President of global transportation development, Huawei Enterprise Business Group, speaking at the Africa Digital Rail Forum 2020

# AFRICAN REVIEW / ON THE WEB

A selection of product innovations and recent service developments for African business  
Full information can be found on [www.africanreview.com](http://www.africanreview.com)

## PAYSEND EXPANDS DIGITAL MONEY TRANSFER OPERATIONS IN AFRICA

The UK-based money transfer provider Paysend has continued to increase its digital coverage across Africa.

This is in the wake of a 2019 report by the World Bank setting out plans to digitalise the entirety of Africa by 2030.

Paysend will allow its two million users to send money to countries such as Benin, Madagascar, Malawi, Mozambique, Niger, Uganda and Zambia, thus bringing the total amount of countries to 18, covering 30% of the total market.

Ronnie Millar, CEO of Paysend,



*Paysend focuses on expanding the digital money transfer operations in Africa.*

said, "Paysend is focused on building an even stronger presence in Africa by opening more relevant corridors, allowing people to send money to more countries across the continent."

## BENTLEY SYSTEMS ANNOUNCES NEW CLOUD SERVICE

Bentley Systems Incorporated has announced the availability of OpenGround Cloud to enable geotechnical professionals to access reliable geotechnical data for better engineering decision support and to improve collaboration across the entire supply chain.

OpenGround Cloud aims to provide a complete solution for planning, data entry, borehole log production, lab data management, reporting and visualisation.

Scott Devoe, senior director, geotechnical information management, Bentley Systems, said,



*According to the company, the service allows rapid responses and minimises potential downtime on the project.*

"OpenGround Cloud provides a single enterprise repository of multiple data sources for all ground investigation projects—a long-sought improvement for geotechnical and geological professionals. It eliminates the need to retain copies or to exchange data and ensures that everyone in the supply chain has the correct access rights to the most current version."

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Image Credit: Adobe Stock

# How renewable energy will power South Africa

Vuyo Ntoi, joint managing director of African Infrastructure Investment Managers (AIIM) speaks to African Review about navigating the Covid-19 pandemic and the development of renewable energy projects in South Africa.

**How has AIIM navigated this difficult year? What impact has the Covid-19 pandemic had on your investment business?**

The pandemic has significantly impacted economies around the world, including our operations as an investment business and our underlying investment portfolio. We've fortunately been able to seamlessly transition to work from home arrangements, and our ability to manage existing investments and to consider and implement new transactions has remained intact. Our underlying portfolio of investments has been affected by the pandemic as well, but has remained quite resilient, as one would expect of an infrastructure portfolio.

The impact of the pandemic on our energy infrastructure projects has been relatively limited. Many of our investments in renewable

energy projects operate with take-or-pay arrangements with state power utilities. Looking at our South Africa-focused IDEAS Fund, despite minor incidents of curtailment during the lockdown period, the plants in which the fund is an investor have continued to operate and earn revenues from the off-taker. Where we have faced some challenges has been on plants under construction, where activity was reduced by lockdown measures, resulting in delays.

In other areas, particularly across transport, the pandemic has had a more material impact. That being said, the toll roads in our portfolio are quite well capitalised and have been able to withstand the liquidity impact of some months of much-reduced traffic levels. Moreover, effects of the pandemic have been felt less on heavy vehicle volumes, which account for a disproportionate

portion of overall revenue.

Airport assets have been notably affected. International air traffic has reduced significantly and this accounts for majority of the revenue for African airlines. However, as airports implement more stringent codes for travel and restrictions ease up across the world, we are seeing activity pick up in the sector.

**Do you agree that renewable energy is well positioned to play an important role in South Africa's economic recovery post Covid-19? If yes, please explain why.**

Renewable energy is playing an important role in the South African energy mix. This has been evidenced by the increasing contribution to the overall energy generation capacity over the last decade and the associated reduction of carbon emissions. Integral to the development of the renewable

energy sector across the country has been the Renewable Energy Independent Power Producer Procurement (REIPPP) programme. Competition, supported by a continuous pipeline of opportunities and a transparent bidding process with a high degree of regulatory and execution certainty, enhanced private sector involvement in the early stages of the process. Procurement costs of electricity across solar PV and wind projects have fallen by between 69% and 37% respectively, through the bid windows.

The challenges of the Covid-19 pandemic are putting increasing pressures on public finances, with many of the continent's national utilities continuing to face liquidity challenges. Notwithstanding this challenge, we believe that renewable energy IPPs and distributed generation offer a



solution for rapidly improving economic activity in the country, particularly from the commencement of construction. The implementation of these projects is relatively quick, and in many instances projects can be completed within a year of breaking ground. This entails that they are a source of rapidly deployable additional power (which the economy needs), while also not creating an upfront capital expenditure burden on state-owned enterprises and the fiscus.

**What impact have AIIM's funds had in investing in the renewable energy sector in South Africa? Can you list specific projects AIIM has invested in or plans to do in the future?**

AIIM has invested in renewable projects and contributed to circa 24.5% of total green energy generation capacity across the country.

We have investments in more than 25 renewable energy projects in South Africa through our IDEAS Managed Fund. These projects span the wind, solar PV and mini hydro sectors. An example is our investment in the 139MW Cookhouse Wind Farm in the Eastern Cape, which produces around 341,000MWh of clean electricity on an annual basis, which is enough to power 43,000 medium-sized South African homes for a year. This generation helps to avoid approximately 348,000 tonnes of carbon emissions from traditional coal-fired power stations annually. Beyond the clean energy generation, this project is located in a very poor rural part of South Africa, and is a lifeline for many of the communities around it. The project company's flagship social initiative has been the development of more than 45

early childhood development centres in the region, from which more than 2,500 children have benefitted to date.

In addition to our large IPP projects, which sell power to the grid, AIIM has invested in some distributed power entities, which are developing localised renewable energy for commercial and industrial users, as well as poor households. Throughout the pandemic, a prevailing theme we have noticed is the resilience shown by distributed power systems, which have performed extremely well. This is an area we see significant opportunity around as opposed to larger on-grid IPPs where creditworthiness of offtakers is becoming increasingly challenging. Distributed systems have the ability to deliver power to end users at lower costs without the requirements for associated costs of distribution and transmission infrastructure.

South Africa has a high electrification rate, which means that the attractions of home roof top solar that permeates the continent are not as prevalent here. However, the current supply pressures being experienced on the grid entail that even households with grid connection and large businesses are now increasingly looking at distributed generation opportunities as an alternative.

An example is our investment in Orionis, which develops commercial roof top solar for shopping centres and industrial and office users. The company, in which we have joint ventured with the Sola Group, operates across South Africa, and is building a sizeable portfolio of rooftop solutions.

We have also invested in a start-



Vuyo Ntoi, joint CEO of AIIM.

Image Credit: AIIM

up company that is exploring the deployment of small mini-grids in South Africa's informal communities.

**What further electricity regulatory reforms should South Africa's debt-saddled government adopt to make sure the sector continues to flourish independently from the state?**

The main challenge in the country's electricity sector is the financial status of the government-owned utility, Eskom. I believe that the enhancement of a positive credit environment in the sector will go a long way towards allowing the renewable energy sector to flourish, without burdening the debt-saddled National Treasury. There is already some work underway to unbundle Eskom, but the solution potentially lies in the creation of an independent creditworthy offtaker, which collects tariffs from end-users and pays generators directly without requiring balance sheet support from government. Of course, a long-term solution will need to be developed for Eskom, and this is likely to result in the National Treasury taking on a significant portion of its financial obligations.

Further to that, we believe that allowing entities to self-generate and lifting onerous licence and regulatory hurdles will quickly alleviate the supply constraints currently being experienced in South Africa. We also believe that clarity on the costs of wheeling

power through the grid will be required in order to give further impetus to self-generators, who might want to locate their generation sources far from their operations.

**What does the future hold for AIIM and its role in supporting renewables development in South Africa?**

Scope for development in the renewables market is ever increasing and the effects of the pandemic have underlined the need for timely intervention, outlining the importance of access to energy and its wider role in safeguarding the well-being of South Africa's population. In effect, we are given the opportunity to reshape the energy market in a framework of the future, to benefit the citizens for generations. UNDP analysis illustrates this, showing that for every cent spent on future-focused, resiliency-building infrastructure, like renewable energy, the return is fourfold. With the twin impacts of climate and economic uncertainty, a resilient renewable energy market will help propel South Africa to a more sustainable tomorrow.

Aware of the possibilities and our responsibility, AIIM's view is very much to develop on previous momentum and enhance our role as one of the country's main players in the renewable energy market. As the largest investor in REIPPP projects, we'd like to extend that work towards a greener future for South Africa. ■

**“ We have investments in more than 25 renewable energy projects in South Africa through our IDEAS Managed Fund.”**

**VUYO NTOI, JOINT CEO OF AIIM**

# Data centres: At the heart of Africa's future growth

According to Xalam Analytics, the demand for data centres is rising up to three times faster than supply, as more and more people access the internet and businesses adopt cloud-based technology. Samantha Payne reports.

**“D**ata centres are at the heart of economic growth in Africa and without them, developing rich and self-sufficient ICT ecosystems cannot happen,” said Stephane Duproz, CEO of Africa Data Centers. “These facilities are the lifeblood of every business and the foundation of the internet itself, with thousands of networks and connections meeting there.”

Africa Data Centers has a vast network of data storage facilities in Cape Town, Nairobi, Kigali and Harare and in May, it completed the acquisition of a Tier IV data centre in Johannesburg from Standard Bank, Africa's largest bank and consolidated its position “as the largest pan-African provider of interconnected, carrier and cloud-neutral data centres”, which will further accelerate Africa's digital transformation.

The centre will offer maximum levels of security and reliability, essential requirements for demanding financial services organisations.

Speaking on the acquisition, Jörg Fischer of Standard Bank said, “Standard Bank is extremely pleased to have completed this historic milestone with Africa Data Centers, which is aligned with the bank's cloud-first digital transformation strategy.”

Africa Data Centers said it has also secured land to build large data centres in Ghana and Nigeria. The data centre market as a whole in Africa is growing rapidly, at a CAGR of more than 12% over the next five years and will have crossed US\$3bn by this time, according to Research and Markets.

In other major developments this year to boost connectivity, Amazon Web Services (AWS) announced the opening of its



Image Credit: Adobe Stock

As more data centres are developed on the continent, they will become the “lifeblood of every business”.

cluster of data centres in Cape Town, South Africa, which are situated in three separate “Availability Zones” to ensure uptime of business operations.

AWS joins other tech giants such as Huawei and Microsoft, which became the first major cloud provider to open a data centre last year in Africa, while Facebook and Google have yet to build data centres there, but both are planning major subsea cable projects to improve internet access across the continent.

## Meeting data demand

Africa's largest data centre operator, Teraco Data Environments, said it planned to invest four billion rand

(US\$220mn) in Africa to meet rising demand for data, according to a Bloomberg report.

Teraco hopes to construct a new data centre in Cape Town and expand its Johannesburg facility, funded by shareholders including Berkshire Partners LLC and Permira Holdings as well as Absa Group – a sign more and more investors are rushing to fund the growing African cloud computing market.

In March, private equity firm Actis pledged to invest US\$250mn into data centres on the continent over the next three years. One of which is the Rack Centre in Nigeria, which announced in September a US\$100mn expansion programme at its Lagos campus to create the

largest data centre in West Africa.

However, the downside of establishing data centres on the continent is the lack of adequate power infrastructure. Data storage businesses rely on costly fuel generators and especially Uninterruptible Power Supply (UPS) systems, to provide emergency power in the event that the main input power source fails (usually this involves the supply of energy stored in batteries, supercapacitors or flywheels for only several minutes until a standby power source can be put into action).

Crestchic Loadbanks, a leading supplier of load testing equipment, said as the world reels from the impact of the Covid-19 pandemic there is even more pressure for data centres to be immune to the risks of downtime, with load bank testing playing a vital role in any future resilience strategy.

Paul Brickman, sales and marketing director at Crestchic Loadbanks says, “The events of recent months have demonstrated that the ability to operate, secure and recover systems is critical to the global economy. With social isolation a key tactic in the fight against Covid-19, people are increasingly reliant on digital communications, whether because they are working from home, keeping in touch with family, spending time on social networking sites or turning to online shopping in a bid to fill their cupboards.

“Data centres are playing a vital role in this crisis – supporting mission critical business and social activities but also allowing governments and health professionals to store and share data which could play an important role in fighting the spread.” ■

**“Standard Bank is extremely pleased to have completed this milestone with Africa Data Centers.”**

**JÖRG FISCHER, STANDARD BANK**

## US BOOST FOR NIGERIAN INTERNET CONNECTIVITY

The US Trade and Development Agency (USTDA) has expanded its commitment to support internet access for people in Nigeria. USTDA is funding a feasibility study to help ipNX Nigeria Limited expand its fiberoptic network to more than 200,000 residences across the country. North Carolina-based CCG Consulting will perform the study. Additionally, USTDA is funding a study to help Aldreda Fields develop aerially installed broadband networks to connect multiple neighbourhoods across Lagos to broadband infrastructure. The study will be performed by New Jersey-based S2 Associates International LLC.

## CYBER ATTACKS RIFE IN AFRICA

South Africa, Kenya and Nigeria have experienced millions of cyber attacks in 2020, according to a report by security solutions company, Kaspersky. In South Africa, there were almost 10 million malware attacks and 43 million Potentially Unwanted Applications (PUA) detections so far this year. Meanwhile, the report found that Kenyan users suffered around 14 million, and 41 million PUA appearances, and Nigerian users experienced 3.8 million malware attacks and 16.8 million PUA detections.



Image Credit: Adobe Stock  
Across Africa, computer users are experiencing a large number of cyber attacks.

## NEW ERA OF SATELLITE COMMUNICATION LAUNCHED

The Agency for Air Navigation Safety in Africa and Madagascar (ASECNA) is now broadcasting a satellite-based augmentation system (SBAS) signal over the Africa and Indian Ocean region, providing the first SBAS open service in this part of the world via the NIGCOMSAT-1R Satellite. It is managed and operated by Nigerian Communications Satellite under the Federal Ministry of Communications and Digital Economy of Nigeria. This early open service is provided as part of the SBAS for Africa & Indian Ocean programme which pursues the



Image Credit: Adobe Stock  
Satellite communication for Africa and the Indian Ocean region has been enhanced.

autonomous provision over the continent of SBAS services, to augment the performances of the satellite navigation constellations GPS and Galileo.

## WORLD BANK AIMS FOR FULLY DIGITAL MONEY TRANSFER

Paysend has continued to increase its digital coverage across Africa, in the wake of the World Bank's plans to digitalise the continent's money transfer systems by 2030. The company will allow its two million users to send money to countries such as Benin, Madagascar, Malawi, Mozambique, Niger, Uganda and Zambia, thus bringing the total amount of countries to 18, covering 30% of the total market. The African continent has been nurturing strong digital payment infrastructure in recent years – particularly in East Africa with the growth of digital wallets – and the World Bank aims to go further over the next decade with new solutions, services and start-ups. Despite the Covid-19 impact across the continent, Africa has shown a visible resilience as well as a boost in digital growth as more people have made the switch to digital payments. In Rwanda, April 2020 saw five times the amount of digital payments when compared with the pre-pandemic norm. The hunger for more digital coverage in Africa has been recognised by the World Bank, who wants to take digital coverage in Africa from the 27% it had in 2019 to 100% by 2030.

## FACEBOOK TO OPEN ITS SECOND AFRICAN OFFICE

Facebook has announced that it will open its second office on the African continent, in Lagos, Nigeria. The office, which is expected to become operational in H2 2021, will house a range of teams, including sales, partnerships, policy, communications and engineers, serving the continent from across the company. The social media giant has made a number of investments across the continent since opening its first African office in 2015, aimed at supporting and growing the technology ecosystem, expanding and providing reliable connectivity infrastructures, and helping businesses grow

locally, regionally and globally. Investments include a grants programme for small-to-medium-sized businesses; the development of 2Africa, the world's largest subsea cable project; and a range of training programmes which focus on assisting students, digital creatives, female entrepreneurs, start-ups and developers. The new office is not the first bricks-and-mortar investment Facebook has made in Nigeria. In 2018, the company opened NG\_Hub, which was its first flagship community hub space on the African continent, in partnership with CcHub, and in 2019, it opened a Small Business Group Operations Centre in Lagos, in partnership with Teleperformance.



Image Credit: Adobe Stock  
Facebook continues to expand its reach across Africa with a second office planned to open next year.

## GE AND WGI LAUNCH APP TO EXPAND ACCESS TO EDUCATION

The WGI Worldwide Company and GE have launched Lyra, an app-based education platform that uses innovative advanced speech recognition and touch screen analysis to teach reading and writing. It was co-developed by WGI and GE. The app is the start of WGI's transition to becoming a digital provider of literacy education, with the aim of making learning literacy skills more accessible for adults and children. The app's 26 modules are based on the synthetic phonics approach to literacy. It features a space-themed interface and teaches letters and words by presenting them on the screen, pronouncing them, and then inviting users to say the letters and words out loud. Voice recognition technology then analyses the response and offers corrections.



Image Credit: Adobe Stock  
Children and adults across Africa will be able to access literacy education via an app.



Image Credit: Adobe Stock

# Strengthening Nigeria's post-Covid-19 recovery

Nigeria was slowly recovering from the 2016 recession when the global pandemic emerged in early 2020, and subsequent plummeting oil prices inflicted further pain on sub-Saharan Africa's largest economy, with fewer policy options to cushion external shocks. This led to macroeconomic instability, thereby straining the country's finances. The COVID-19 outbreak has hit consumer and business confidence, whilst disrupting both oil and non-oil production.

Even prior to the shock of COVID-19, Nigeria was facing headwinds from rising external vulnerabilities, falling per capita incomes, lower productivity and competitiveness. The pandemic has magnified the vulnerabilities through three oil-related channels: weak external demand due to severe global recession; lower private investment reflecting greater uncertainty; and lower government

revenues, particularly at state level, prompting an expenditure-led fiscal adjustment.

The oil slump has slashed Nigeria's general government revenue from an already low 8% of GDP in 2019 to a projected 5.3% in 2020, one of the lowest in the world. Hence, the country has limited buffers to respond effectively to a historic decline in output and large financing needs. The fiscal

'breakeven' oil-price at which Nigeria balances its budget is very high, at US\$133 per barrel, given extremely low non-oil fiscal revenues, Fitch Ratings has estimated.

Nigeria is especially sensitive to oil market trends; although the sector comprises less than one tenth of gross domestic product (GDP), oil remains a vital source of export earnings and government intakes. Over the past five years, oil has

represented more than four-fifths of exports, one third of banking sector credit, and more than half of general government revenues. A large share of non-oil industrial and service sectors also depend on oil earnings.

### Currency woes

The oil price crash has reduced external buffers as international reserves are relatively low, the exchange rate lacks flexibility, and

**Table 1: Key macroeconomic indicators, 2016-2021**

	2016	2017	2018	2019	2020	2021	Pre-Covid-19 forecast 2020	2021
Total gross domestic product*	-1.6	0.8	1.9	2.2	-3.2	1.7	2.1	2.1
Agriculture	4.1	3.4	2.1	2.4	2.4	2.8	3.1	3.3
Oil sector	-14.4	4.7	1.0	4.6	-10.6	2.8	1.7	0.0
Non-oil industries	-5.0	0.6	2.4	0.9	-9.7	2.1	2.0	2.4
Services (no reported figures)								
CPI inflation*	15.6	16.5	12.1	11.4	13.8	12.4	12.2	11.4
Fiscal balance**	-3.8	-4.0	-4.2	-4.4	-5.5	-4.9	-4.1	-4.0
Public debt net**	17.3	19.1	20.9	23.7	30.0	32.4	25.8	27.4
Current account #	2.7	10.4	3.9	-17.0	-13.5	-2.7	0.5	1.4
Export of goods & services #	38.8	50.8	66.0	69.9	29.6	42.5	67.3	68.5
of which: Oil #	32.0	42.3	56.6	54.5	22.8	30.8	56.1	57.0
Import of goods & services #	47.0	50.9	71.6	100.8	50.3	55.3	77.5	77.7
Oil price (Bonny light) US\$/bbl)	45	55	72	65.0	30	40	63	64
Oil output (mn bpd)	1.8	1.9	1.9	2.0	1.8	1.9	2.1	2.1

\*Annual % change; \*\* As % of GDP; # in US\$ billions.

Sources: Nigerian authorities and World Bank estimates.

all major sources of private capital flows are volatile. The pandemic has lowered remittances to Nigeria, which in 2019 amounted to US\$23.8bn – exceeding both foreign direct investment (FDI) and official development assistance. Nigeria is the biggest recipient of remittances in SSA and the sixth largest among low and middle-income nations.

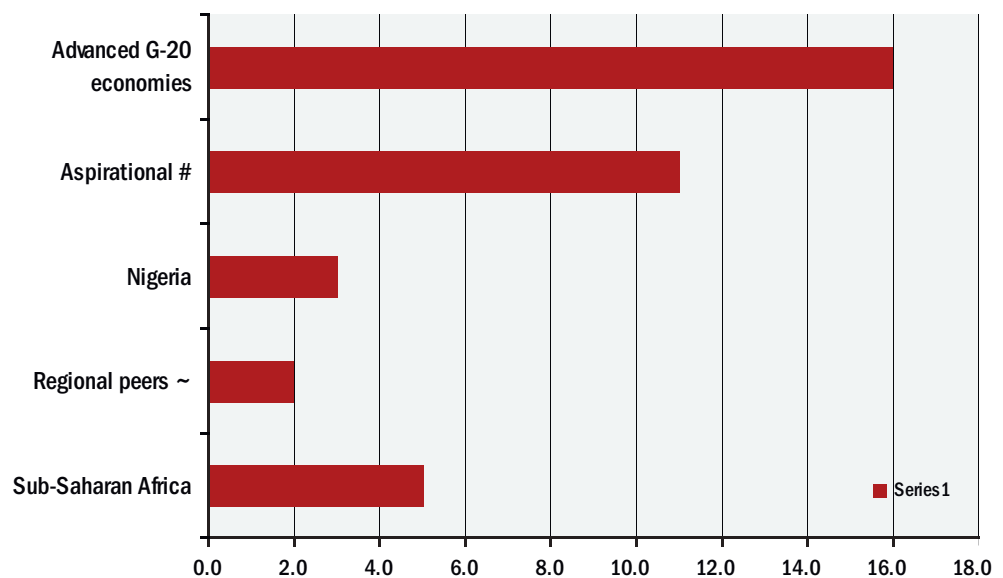
Meanwhile, eroding investor sentiment is reflected in outflows of foreign portfolio investment (volumes were down 46% in the first quarter of 2020), which compounded pressure on foreign exchange reserves (reported at US\$32.8bn as of end-April 2020). The trade balance is projected by the World Bank to deteriorate – with exports declining by US\$40.3bn and imports US\$50.5bn, because of slowing domestic activity and disruptions in global supply chains.

Large financing gaps have emerged due to weak domestic demand, which is sensitive to oil dollar liquidity activity. The IMF in April 2020 approved US\$3.4bn in emergency financial assistance under the Rapid Financing Instrument to support the authorities' efforts to tackle the severe economic fallout of COVID-19 and the oil price slump. The federal government is working with the World Bank, the African Development Bank, and the Islamic Development Bank to secure more budgetary support.

### Cautious outlook

In 2020, Nigeria's economy is estimated to shrink by between 3.2% (World Bank) and 5.4% (IMF) – its worst recession in four decades. These projections assume that the pandemic is contained and oil averages US\$30/barrel. Nigeria's stimulus response is modest

**Economic stimulus\* as a per cent of 2018 GDP**



\*Economic stimulus includes aid, grant, guarantees and central bank's explicit monetary liquidity injection, plus expected impact from lowering policy interest rates.

# Brazil, Mexico, Russia and South Africa. ~ Angola, Ethiopia, Ghana, Kenya, Senegal and Uganda.

Sources: World Bank and Overseas Development Institute (ODI) estimates.

compared to other countries due to limited fiscal buffers, thus making it harder to avoid a deep recession.

The Central Bank of Nigeria (CBN) established an N50bn credit facility targeted at households and firms affected by the crisis, plus an additional N100bn in healthcare loans to pharmaceutical companies. In May, the key Monetary Policy Rate was cut from 13.5 to 12.5%, signalling a looser policy stance to support economic recovery. As fiscal resources were already under constraints, higher emergency spending (via borrowing) may crowd out public investments in physical and human capital, lowering prospects for long-term growth.

Real GDP growth is projected to recover gradually and by 2022 will converge with the population

growth rate of 2.6% (World Bank estimate.) Agricultural output should increase as supply chains normalise. The opening of private Dangote refinery – Africa's biggest integrated refinery and petrochemical complex, due online by late 2021 with a nameplate capacity of 650,000 barrels per day (reported cost US\$12-15bn) – should boost the growth of manufacturing and lower domestic fuel prices. According to Renaissance Capital, the project when operational will add US\$13bn to GDP.

Public investment programmes and power sector reforms are also expected to boost demand for industrial inputs and spur the growth of utilities. Oil exports and remittances are both expected to rebound in 2021 in tandem with the

global economic recovery. A growing agricultural sector and support for agro-processing could boost non-oil exports, providing much-needed diversification of forex earnings. As global risk aversion eases and investors seek to return to emerging and frontier markets, an uptick in capital flows should bolster foreign reserves and increase demand for imports spurred by rising levels of public and private investments.

### Reform momentum

Nigeria should diversify away from oil, on which it is heavily reliant for foreign exchange income, President Muhammadu Buhari stressed. The country's resilient recovery hinges on global growth upturn and oil price revival as well as structural reforms to build a more productive/diversified economy, create jobs, and accelerate poverty reduction through the long term.

Putting Nigeria on a higher growth trajectory requires concerted policy reforms. In the near term, coordinated fiscal/monetary policy actions to ease the human and economic costs of the pandemic. In

**Table 2: Original 2020 projection vs Amended 2020 projection**

	Original 2020 projection	Amended 2020 projection
Crude oil (US\$/barrel)	57	28
Crude oil production (mn bpd)	2.3	1.9
Exchange rate (Naira/US\$1)	305	360
Inflation (annual average)	10.8	14.1
Real GDP growth (%)	2.9	-4.4

Source: Budget Office of the Federation.

the medium-term, a series of bold reforms represent the best opportunity for ensuring a robust/sustainable recovery.

“The government would seize the opportunity for major reforms to enhance Nigeria’s competitiveness and position it for an especially robust post-crisis recovery. These reforms would help mobilise domestic revenue, increase market competition, improve competitiveness, attract private investment, and enhance governance and service delivery. Gradual opening of the border, supported by measures to achieve security and domestic development objectives, would help ease inflationary pressure,” World Bank noted.

The IMF added, “Once the COVID-19 crisis passes, the focus should remain on medium-term macroeconomic stability, with revenue-based fiscal consolidation essential to keep Nigeria’s debt sustainable and create fiscal space for priority spending. Implementation of the reform priorities under the Economic Recovery and Growth Plan,

particularly on power and governance, remains crucial to boost growth over the medium term.”

### Decisive action

The unprecedented pandemic crisis requires an equally unprecedented policy response to enhance macroeconomic management and boost the confidence of the global financing community. The World Bank advised on the following steps:

- Formulate and adopt COVID-19 responsive 2021 budgets with fiscal stimulus measures to support economic growth;
- A more unified and flexible exchange rate – i.e. the unification of the exchange rates into a single, market-determined system;
- Ease foreign exchange restrictions to limit inflationary pressures and increase supply of food and key staples (e.g., health-related products);
- Increase the transparency of oil/gas revenue reporting system through regular publication of audited financial reports and statements to formulate the reform agenda and increase the collection of hydrocarbons revenues;
- Introduce new petroleum industry legislation to safeguard oil revenues and strengthen the management, governance, and competitiveness of the oil sector;
- Accelerate the implementation of the Power sector Recovery Programme, including reducing electricity tariff shortfalls while protecting the poor;
- Improving fiscal coordination across tiers of government to ensure the most efficient use of scarce fiscal resources;
- Issue guidelines for adapting procurement procedures to support and encourage small medium sized enterprises (SMEs) to participate in public procurement;
- Facilitate recovery and enhance capabilities of SMEs by extending credit support to distressed and vulnerable enterprises;
- Provide one-off grants to SMEs, to cover operational costs and IT solutions;
- Activate e-procurement at both federal and state tiers of government.

Raising the competitiveness and ‘value added’ of Nigeria’s industries

is essential for longer-term growth. Streamlining cross-border trade and transit procedures is also needed, whilst supporting transport and logistics services to help maintain global value chains (GVCs), especially in essential goods. The phased removal of non-tariff barriers such as import bans and forex restrictions would also contribute to the sustained competitiveness of domestic firms. Tangible benefits of such reforms include lower consumer prices, improved regional transportation/logistics networks, and enhance Nigeria’s participation in GVCs – a prerequisite for economic diversification.

In sum, considering its size and regional significance, Nigeria should capitalise on untapped ‘growth reserves’ – solid minerals, gas monetisation, large tracts (60%) of uncultivated arable land and massive infrastructure development across the 36 states. It needs to improve the business environment and institutional capacity to deliver inclusive (job-rich) growth over the coming years. ■

By Moin Siddiqi

## THE NEW MERCEDES-BENZ ZETROS HEAVY-DUTY TRUCK: ALL-ROUND SOLUTION

The new Zetros has been completely reworked all around: from a technical standpoint, the Zetros remains available in Euro III and EuroV emission norms and comes equipped with a more powerful 12.8 litre engine, capable of delivering as much as 350 kW (476 hp) in Euro III and up to 375 kW (510 hp) in Euro V.

The Mercedes-Benz Zetros heavy-duty truck is, therefore, suitable for markets with poor fuel quality in regions such as the Middle East, Africa, and Latin America.

It has been developed for demanding transport tasks involving high payloads. That is why it is often used for delivering supplies to remote regions, as well as in energy exploration and in forestry operations, and can be used all over the world across all extreme climates – from hot desert regions right up to the Arctic.

All vehicles are equipped with a 16-speed manual gearbox with a striking 2400 Nm of torque at the highest engine output. On the outside, the company says, the new model



Image Credit: Mercedes-Benz

The new Mercedes-Benz Zetros heavy-duty truck.

generation is distinctive in its striking, restyled radiator grille, which, thanks to optimised airflow guidance, ensures even more effective cooling. The new Zetros keeps its signature characteristics with a low silhouette and the cab behind the engine concept, in addition to an optional fording ability of up to 800mm.

### The robust off-road specialist

The Zetros will be available as a specialist truck with extreme off-roading capabilities, a product

of its permanent all-wheel drive system with 4x4 or 6x6 configuration. The product portfolio will expand to include a 6x4 configuration and was due to start production in September 2020. The portfolio will be complete in the first quarter of 2021 with the introduction of the 4x2. All vehicles are available in three different wheelbases as well as different weight variants. The cabin interior features numerous detail improvements, such as a re-designed instrument panel and an electronic parking brake. It keeps key characteristics of the predecessor, like the fully-fledged middle seat, as optional equipment.

A Mercedes & Benz Trucks spokesman said, “Whether long haul, construction site, off-road, or distribution transportation, the Mercedes-Benz brand offers the right solution for the light-duty, medium-duty, and heavy-duty truck segments.”

For more information about Mercedes-Benz Trucks visit [trucks.mercedesbenzmena.com](https://trucks.mercedesbenzmena.com).

# Hyster latest electric trucks feature a charging solution delivering maximum operational flexibility

Fast charging forklifts with integrated lithium-ion batteries

## HYSTER® J3.0XNL & J7.0-9.0XNL FORKLIFTS

The Hyster J3.0XNL lithium-ion forklift is the first counterbalance lift truck designed from the ground up around an integrated lithium-ion battery pack. This industry leading design offers significant ergonomic and productivity benefits such as greater space in the operator compartment and a lower centre of gravity.

Ideal for food, beverage or pharmaceuticals industries, which have rigorous emissions and hygiene controls; this truck delivers zero emissions both in operation and during the charging process.

Opportunity charging and the ability to fully charge in around one hour offers a huge amount of flexibility to a vast range of customer applications, enabling shift managers to constantly adjust their operational needs according to demand, without fear of their trucks running out of energy.

Similarly, the larger new Hyster J7.0-9.0XNL forklift series with fully integrated lithium-ion batteries

offer comparable diesel engine performance, and rapid opportunity charging. Achieving 100% charge in just 80 minutes, the new trucks have high voltage lithium-ion batteries and the endurance to support three shift operations in demanding industrial applications.

Hyster Electric lift trucks feature easy to access and comfortable operator compartments with clear unobstructed foot space, an adjustable steering column, rear drive handle with horn, full suspension seat and low whole-body vibration levels.

### Affordable new truck series

In 2020 Hyster has also expanded its product range with the introduction of the new “UT” range of equipment, designed to offer customers a wider choice of options, when selecting the right truck for their budget and operational needs.

A Hyster spokesperson said,

“When matched with the right application and the right operating volume, businesses will find Hyster UT trucks straightforward, durable, reliable and uncomplicated to maintain. This affordably priced range of trucks, which include IC forklifts, three and four-wheel

electric forklifts, pallet trucks and stackers, are particularly suitable for lower intensity applications.”

For more information, visit [www.hyster.com](http://www.hyster.com) or contact your local Hyster dealer.



## DIVERSE PRODUCT RANGE SEALS THE DEAL FOR GOSCOR LIFT TRUCK COMPANY

Earlier this year, major tyre manufacturer Sumitomo Rubber South Africa (Sumitomo Dunlop) ordered 43 machines on a long-term rental contract from materials handling equipment supplier, Goscor Lift Truck Company (GLTC).

The machines were deployed to work at Sumitomo Dunlop’s world class manufacturing plant in Ladysmith, KwaZulu Natal.

The fleet comprised 15 DEC 5-tonne (t) electric tow tractors introduced to the local market by GLTC, 20 Doosan diesel forklifts with capacities from 1,8 to 7t and eight Crown ESR5620-2.0 reach trucks with 11,5 m lift heights.

Dale Rosewall, GLTC KZN sales manager, says



The Doosan forklifts from GLTC have capacities ranging from 1,8 to 7t.

the 20 Doosan forklifts were all specified according to the different department and application needs within the facility.

Image Credit: Goscor Lift Truck Company

The forklifts are being used to move heavier loads than those handled by tow tractors.

The eight Crown ESR 5260-2.0 ESR lift trucks are being used in the raw material and finished goods warehouses.

Jogen Moodley, associate manager procurement at Sumitomo Dunlope, explains that space between the aisles at the two warehouses is restricted. “Due to the space constraints, we cannot use conventional fork trucks, and reach trucks are winning the day

for us. Offering 11,5 m of lift height capacity, the ESR reach trucks also assist with the height factor for storage at higher level racks,” he says.

## Modular mobile substation solution launched

Hitachi ABB Power Grids has pioneered a modular mobile substation solution which significantly reduces the time to restore power in the case of major disruptive events such as natural disasters. The concept has been designed to ensure long-term grid stability and power quality to regions particularly prone to unpredictable events and natural disasters, such as storms, flooding and earthquakes.

This 400 kV multi-voltage modular mobile substation system can be rapidly deployed and installed to restore power from an average duration of 18 months – required for the new build of a conventional substation – to only seven days. Each mobile substation, equipped with high-voltage hybrid switchgear and protection and control solutions, is compact in design and ready for fast energisation.

“Wherever you are in the world, access to an affordable, reliable and sustainable source of power is a basic prerequisite for human society and progress,” said Niklas Persson, managing director of the Grid Integration Business Unit at Hitachi ABB Power Grids. “Disruptions to energy provision can result in severe consequences, which is why we are continuously innovating technologies such as this modular mobile substation disaster recovery solution, to enable customers to provide stable and competitive sources of power and further reduce carbon emissions,” Persson added.

Hitachi ABB Power Grids designs and builds the modular solution, providing ongoing preventive maintenance to ensure the equipment is ready 24/7 to replace an existing substation in a rapid timeframe. The ‘plug and play’ solution is configurable according to a customer’s specific needs, which means it can replace different voltage range and standards of the grid. The modules require no civil works, have reduced site activities, pose lower risks and come in the form of ready-to-connect, complete assemblies that are designed for grid code compliance and easy mobility.



The mobile substation solution can be rapidly deployed and installed.

Image Credit: Hitachi ABB Power Grids

## LUMOS SECURES DFC FINANCING TO SUPPLY SOLAR HOME SYSTEMS IN NIGERIA

Lumos, Africa’s leading solar home system provider, has received financing from U.S. International Development Finance Corporation (DFC) to expand its existing market for reliable, accessible and clean solar power in Nigeria. The new financing will enable Lumos to produce an additional 160,000 solar home systems (SHS) to meet ever-increasing demand from homes and businesses across the country.

Currently, more than 160 million people in Nigeria have poor or no access to the electricity grid. Hundreds of thousands of new Lumos solar home systems will enable close to a million people to switch to reliable, clean energy, contributing to economic growth and sustainable development in the country. This is aligned with the Nigerian government’s plans, announced in June, to connect five million households to solar power.

Shmulik Kollender, group COO and CFO Lumos, said, “We thank DFC for its continued support of our vision and approach. Our longstanding partnership with DFC had already allowed Lumos to command a market leading position in the largest off-grid market in sub-Saharan Africa. DFC financing is even more important these days. In light of the impact that COVID-19 has on our customers there is a real need for impact-oriented investors that can share our vision to eliminate energy poverty”.

Worku Gachou, managing director for Africa at DFC, added, “Access to power is a fundamental need across Africa and is even more urgent as COVID-19 continues to impact communities across the continent. Supporting Lumos will empower one million people across Nigeria by delivering access to reliable and affordable energy.”

## ACTIS WINS CLIMATE CHANGE IMPACT PROJECT OF THE YEAR AWARD

Actis has won the climate change impact project/investment of the year at the inaugural 2020 Environmental Finance IMPACT Awards.

The award is in recognition of Actis’ role in developing the Parc Eolien Taiba N’Diaye, Senegal’s first large scale wind energy project.

Once fully constructed, the project will provide 158.7MW of clean, reliable power to Senegal’s electricity grid, a 15% increase in electricity generation capacity for the country. The wind farm has been developed by energy platform Lekela Power, which is 60%-owned by Actis, and will help offset around 6 million tonnes of carbon emissions and will create 600 employment opportunities during the peak of its construction phase.

The Parc Eolien Taiba N’Diaye is a major project in Lekela Power’s portfolio, helping to deliver 1,000MW of renewable energy across Africa over the next five years, said Torbjorn Caesar, senior partner at Actis.

## ► BRIEFS



Image Credit: Maxmann/Phalaxy

The substation will be built in Kasumbalesa.

### Elsewedy wins Congo contract

Elsewedy Electric, Egypt-based provider of energy, digital and infrastructure solutions, has signed a contract with the Société Nationale d’Electricité (SNEL) of the Democratic Republic of the Congo to build a high-voltage distribution substation on turnkey basis in the city of Kasumbalesa. The project is to be completed within 18 months from the commencement date with a total value of US\$38.6mn. Elsewedy Electric will handle the engineering, procurement and construction of the project on a turnkey basis.



Image Credit: Ghnt Mason/Flickr

The programme seeks to acquire 2,000MW.

### South Africa issues RFP

South Africa’s Department of Mineral Resources and Energy (DMRE) has issued the Request for Proposals (RFP) for the Risk Mitigation Independent Power Producers Procurement Programme (RMIPPPP). The objective is to alleviate the current electricity supply constraints as well as to reduce the utilisation of diesel-based peaking electrical generators. The programme will procure 2,000MW from a range of energy sources and technologies. See [www.ipp-rm.co.za](http://www.ipp-rm.co.za)



# Digital solutions lead the way as Africa transitions towards renewables

Seequent 3D modelling innovation gives vision to geothermal exploration in Africa, a continent on the hunt for renewable energy alternatives.



Image Credit: Seequent

Geothermal plant in Menengai Crater, Nakuru, Kenya.

Geothermal power generation is on the rise in Africa. With a global shift to growing clean and renewable energy alternatives and a move away from over-reliance on finite, polluting and costly sources such as fossil fuels, geothermal energy offers an environmentally sustainable and commercially viable solution.

Tackling the burgeoning power supply challenge and creating new investment opportunities is high on the energy agenda for Africa. The continent is undergoing a period of rapid growth and transformation. It is estimated that by 2050, Africa will be home to almost two billion people – double the current population.

In a drive to successfully achieve its social and economic projections, it is imperative that Africa looks to foster and harness alternative and renewable sources of energy to power such accelerated growth, in a more sustainable way. According to a DLA Piper Report 2019, for Africa to remain economically competitive and succeed in the rapidly growing

global economy, its future demand for energy will need to be considered and addressed at a legislative, technological, and commercial level.

Geoscience software company Seequent is helping to revolutionise the way renewable geothermal energy production can be explored in East Africa, providing tools that support team efforts for building, maintaining, and communicating geological models to help identify where there is geothermal generation potential.

Leapfrog geothermal software has been used in collaboration with the United Nations Environment Programme (UNEP), New Zealand's Ministry of Foreign Affairs and Trade (MFAT) and, government-owned organisations throughout the East

African Rift (Kenya, Ethiopia, Tanzania, Rwanda, Djibouti and Uganda, amongst others). The purpose has been to promote the use of the software, enabling people to apply industry best practice to their projects and enhance the decision-making process.

Jeremy O'Brien, segment director for Energy at Seequent, said, "The partnership with UNEP, MFAT and African companies is highly rewarding, and it's exciting to see our software contributing to significant projects and helping people to make better decisions."

Across East Africa, there is potential for some 20,000MW of geothermal energy generation, according to a report from agencies including UNEP and the

Infrastructure Consortium for Africa (ICA). Further exploration into this mostly untapped potential should be endorsed to help provide reliable, long-term, environmentally-balanced energy solutions for the future of Africa.

Geothermal heat can provide baseload electrical power that is not dependent on seasonal rainfall variations (hydropower) or weather conditions (wind or solar power), making it both a reliable and renewable source of energy. However, geothermal exploration can be a long, risky and expensive process requiring special expertise including geological, geochemical and geophysical surveillance to drill steam wells.

Given that geothermal energy is clean, renewable and has a much lower environmental impact than conventional energy sources, with the potential to stimulate economic growth and assist in strengthening social prosperity, it is worth pursuing in Africa's effort towards a more sustainable future energy supply. ■

“ Seequent is helping to revolutionise the way renewable geothermal energy production can be explored in East Africa.”

# Smaller gensets remain most popular across Africa in 2020

2020 has not gone to plan, but there are a few reasons why genset manufacturers can take heart as the year starts to wind down. By Martin Clark and PowerGen Statistics.

**M**aking projections in the midst of a pandemic would be a test for any forecaster, but there's no doubting the impact of the health crisis on business and confidence during 2020.

More specifically, that is a result of the crushing economic impacts that followed national lockdowns, shuttering businesses, culling jobs and deepening debt, in response to the coronavirus outbreak.

But it has been an uneven journey the world over.

The global diesel generator market has been affected by the COVID-19 crisis at different levels and at different times – and Africa has not avoided this market shutdown.

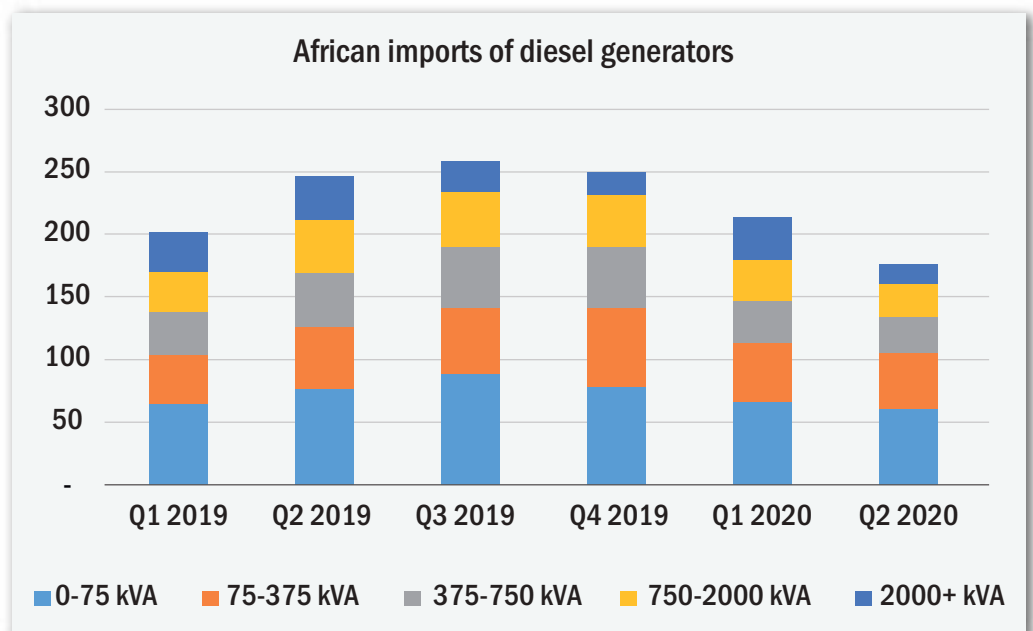
The African market for diesel gensets plunged by an estimated 13% during the first half of 2020.

Despite less stringent lockdown measures and fewer reported cases than other regions, most African countries have likewise suffered from the shutdown of the global economy and sharp declines in income from crucial industries such as tourism, oil and gas.

After a bright enough start to the year, things turned bad in the second quarter, as the effects of the economic lockdowns began to take their toll. As a result, the African diesel generator market decreased sharply by 29% in the second quarter of 2020, after a slight growth in the first quarter of 2020.

There have been regional disparities too.

While most countries experienced some decline, it seems West Africa suffered the most from this unprecedented situation.



## Market highlights

There are a few good reasons for this. West Africa's major oil and gas producers, such as Nigeria and Angola, have had to contend with a drop in the price of oil and greatly reduced demand, which has resulted in a sharp fall in less income.

This has brought with it adverse consequences with some planned investments, both private and public, frozen due to the decline in income and economy activity.

In addition, some projects are now being called into question with a view to a possible transformation of the energy market, one that accelerates and promotes cleaner, alternative solutions. Countries heavily dependent on tourism are also suffering from the sudden stop of visitors and the liquidity this injected into the economy.

It may be many months before tourism returns to pre-crisis levels: investment in this sector will be

reduced and the most fragile and least diversified economies will suffer.

Another major aspect of this crisis is the reduction in stocks of generators at distributors, a major constraint especially for more remote markets in Africa.

Recent months have seen distributors reducing inventory levels in order to better manage their cash flow.

There have been some winners though, with larger companies taking advantage of their global manufacturing sites during lockdowns in Asia, Europe and the USA.

For example, Chinese exports to Africa represented only 22% in the first quarter of 2020 (due to the Chinese lockdown), then 34% in the second quarter 2020 (lockdown in Europe and the USA).

Conversely, EU exports to Africa accounted for 55% of exports in the first quarter, and only 41% in the second quarter of 2020.

Across all regions, smaller gensets up to 75 kVa consistently score as the single most popular sized unit, ahead of larger, more powerful equipment.

## Situation by region

### Eastern Africa (+2%):

East Africa is resisting better than other regions, despite the freezing of some related tourism projects.

In Kenya, the decline in investment in tourism projects has been offset by some others in telecommunications, commercial and service sector investments.

Sudan and Ethiopia have increased from last year, thanks to big projects delivered in Ethiopia in the first half of the year and a continuous demand in Sudan.

This is all supported by a generally more favourable economic outlook for the region, with the countries of Eastern Africa scoring strong growth in recent years.

**Northern Africa (-2%):**

Despite a strong dependence on the oil and gas sector (Algeria, Egypt, Libya) and tourism (Morocco, Tunisia, Egypt), which has undermined overall economic activity, the North African genset market has been relatively stable. That is, in part, because demand had been weak for some time, in particular due to the Algerian market which represents a large part of this region.

However, the outlook is expected to remain weak in the coming months and into 2021.

**Western Africa (-28%):** West Africa has been the largest single importer of gensets for some time out of all of Africa's regions.

However, it has been affected badly by the 2020 crisis, especially Nigeria, where the genset market fell 48% in the first half of the year, to US\$27mn.

The Democratic Republic of Congo

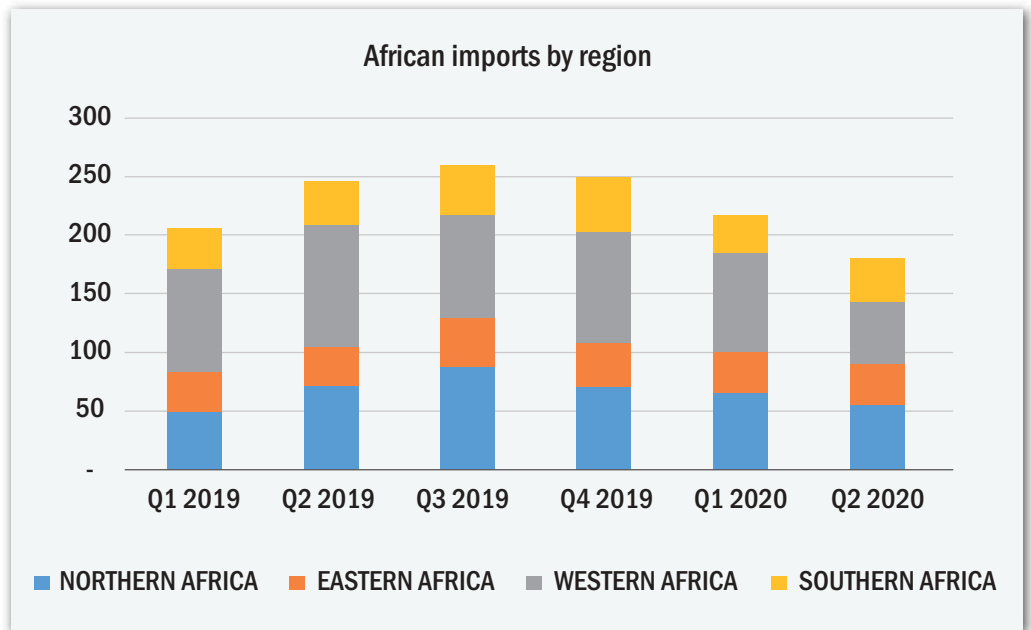


Image Credit: PowerGen Statistics

also witnessed a steep decline, falling by 59% over the same period, with Senegal likewise experiencing a 32% drop in genset demand.

**Southern Africa (-6%):** Southern Africa's genset demand held up better

than other regions despite a heavy fall in the Angolan market (-69%), which reached historically low levels.

That was partly down to South Africa, as the continent's most advanced and diversified economy,

which gives it a degree of natural protection.

At the same time, the genset market within the region was already quite low and less dynamic than other parts of Africa. ■

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Image Credits: Clarke Energy

A Clarke Energy service engineer at the Tronox Furnace Gas Power Plant, South Africa.

# Why decentralised energy makes sense for Africa

Localised power stations and next-generation renewable gases could shape the continent’s energy landscape in the future. Alex Marshall, group marketing and compliance director from Clarke Energy, tells us more.

**M**any countries in the developed world created power generation networks based upon large centralised power generation stations with significant investment in power transmission and distribution networks. From the African context this has not happened yet there is a huge need to increase power generation capacity. The thought of addressing this through a small number of large gas, hydro, coal or nuclear-fuelled power stations seems attractive at first; however the goals of supplying power for all in Africa could be better addressed with decentralised distributed generation, lots of smaller localised power stations to address the electrification needs quickly.

A challenge with large centralised power stations is how to maximise the energy content of the valuable fuels. Coal power stations may convert the energy in the fuel to only 40% electricity. With the most modern efficiency gas-turbine power

plants this may be increased to 60%. All of the remaining energy is lost through heat. In addition, further power losses occur through transmission lines, where moving electricity from point of generation to user, can be as much as 2%. Then there is the issue of electricity theft along the line, which is a controversial issue as well as a dangerous practice. The investment in this transmission infrastructure is significant as well as time consuming, and poses its own challenges.

The developed world is now moving away from these centralised power systems towards a more decentralised option. Decentralised energy produces power close to the site of use, reducing losses associated with transmission and improving energy efficiency. If it incorporates a combined heat and power plant, total fuel efficiency may be as high as 90-95% by using both the electricity and waste heat created during the production of power and utilisation of the original fuel. The heat can be used to generate steam, hot water or can be used directly in a drier or industrial facility. It can also be converted to cooling, through an absorption chiller – a valuable driver for air conditioning or refrigeration systems – particularly relevant in the African context. Industrial plants in Nigeria are moving towards the deployment of CHP and

trigeneration technology. Diageo’s Guinness Ogba brewery was one of the African pioneers.

Micro-grids development in Africa are a practical reality. A majority of Nigerian industry, for example, generates their own power with either diesel or gas engines isolated from the grid in ‘island mode’ operation. Adding other forms of generation and storage to this power island such as solar, wind or batteries means a microgrid evolves naturally rather than being designed as a greenfield microgrid.

## Biogas

Waste treatment remains an under-performing area on the African continent, but it is catching up, as waste is recognised as a resource and there is more money and political will put into development of modern waste treatment practices. Biogas is a renewable fuel generated from the degradation of organic waste or energy crops. Gas can be stored and used to generate electricity when needed. While European biogas plants often generate at full capacity for close to 100% of the year, in order to generate the maximum level of feed in tariff payments, in Africa, a different model could be deployed with a greater amount of gas storage and redundancy in the engines, so power can be generated when it is most needed in order to balance the

grid. There are a growing number of references for biogas on the African continent but there are still challenges to deployment, in terms of cost, technical and legislative barriers.

Where there isn’t sufficient local need for electricity biogas can also be upgraded – i.e. cleaned and stripped of CO<sub>2</sub>, creating biomethane or renewable natural gas. This means the gas can be injected into the gas grid, or alternatively used as a fuel for transportation.

At the recent Africa Energy Forum AEF2.0 online conference hosted a novel session “Power to X – Laying a Pathway to Social Justice and Carbon Neutrality”. A key topic of discussion was gas; but not natural gas, instead moving the conversation to the next generation of renewable gases including hydrogen and biomethane (biogas cleaned and with the carbon dioxide removed).

In summary, the development of sub-Saharan Africa’s power generation infrastructure is largely a blank sheet of paper. The continent should be able to learn from its more developed neighbours and jump a step in its electrical infrastructure development and move towards a more fuel efficient, lower carbon and sustainable system. Maximisation of valuable energy resources will play a major part in the world’s future development. ■

“Micro-grids are a practical reality in Africa.”

ALEX MARSHALL,  
CLARKE ENERGY

# Baudouin brings gas engines to the African markets

For 100 years, French brand Baudouin have manufactured the highest quality engines, used for land, marine and power generation applications around the world.

**B**audouin's relationship with the African continent is also a century old. In fact, the first ever Baudouin engine powered a boat from the French coast to the shores of Algeria, more than 750km away.

But now, in 2020, Baudouin are bringing their latest innovations to the African markets: a range of new engines powered by gas.

Baudouin's innovative PowerKit Gas series is available across a range of engine models. All are electronically controlled and combined heat and power (CHP) ready, with power outputs available between 63-1750kVA 50Hz and 63-1400kVA 60Hz.

The average efficiency of Baudouin's gas engines is also impressive, between 40-45% for the HHP 16M33 and 12M55 engines. By burning a lean mixture of fuel and air, they can significantly reduce the combustion temperature, and emit up to four times less Nitrogen Oxide (NOx). As a result, they deliver a high power output with a reduced carbon footprint, which helps meet local emissions standards – more important than ever in today's environmentally-conscious world.

The engines are able to maintain a robust performance when reusing gas created by industrial or agricultural processes, even when drawing from fuel sources of variable quality. This further adds to their green credentials, not to mention potential savings for their overall running costs.

## Telecom use

Baudouin's gas engines are especially attractive to telecom and data centre applications, with highly-competitive transient performance and block load acceptance, although their uses are virtually limitless and



Image Credit: Baudouin

The average efficiency for the 12M55 engines is between 40-45%.

can be adapted to a range of uses where a reliable and robust power source is required.

Onshore oil and gas, co-generation projects (industrial greenhouses and waste treatment plants) and bottling plants, are just some of the applications ideally suited to the gas range. As fuel storage is not always required onsite, they are also the ideal solution for applications which can connect

directly to a mains gas supply.

With their partner network of suppliers available throughout the African continent, Baudouin can deliver the right power solution for each client, based on the individual location, application and emissions requirements. Aftercare is also second to none, with a 12 month, unlimited hours warranty on the gas engine range for PRP/COP, along with full technical support, and the

supply of genuine spare parts dispatched within 24 hours.

Richard Flynn, Baudouin's product planning and development director says, "We are seeing a higher demand for our latest engines in Africa, with new project development in Nigeria and Libya just two examples. In these times of the coronavirus pandemic, telecom installations and data centres with reliable, instant global connectivity have been shown to be critical to the national infrastructure, and our new engines are ideal for such applications. We are confident that the reliability and low total cost of ownership of Baudouin's products can help make the difference for connectivity in Africa, now and in the immediate future." ■

“ We are seeing a higher demand for our latest engines in Africa.”

**RICHARD FLYNN, BAUDOUIN'S PRODUCT PLANNING AND DEVELOPMENT DIRECTOR**

# 5IR: Digitalising the energy sector

Africa Energy Forum 2020 joins forces with the African Utility Week & POWERGEN Africa and Oil & Gas Council's Africa Assembly to host the Digital Energy Festival for Africa.



The Digital Energy Festival will take place online from 20 October to 26 November, with the Africa Energy Forum (aef) kick-starting the festival from 20 October to 13 November. The digital platform will allow attendees to access content and networking offerings across all three market leading events with one point of entry, making it the largest ever energy event for the African continent.

Following the impact of the pandemic on the energy sector in Africa, the event will seek to address critical issues such as pivoting to digital, new financial models and innovative power generation sources to allow attendees to make decisions and formulate recovery plans.

Under the theme 'The 5th Industrial Revolution,' the Africa Energy Forum agenda will look ahead to the digitalisation of the energy sector.

Simon Gosling, managing director of EnergyNet said, "The impact of Covid-19 has clearly magnified the need to be able to deliver energy in times of crises. The 5th Industrial Revolution theme will explore the relationship between energy and technology with purpose and inclusivity, seeking to understand how technological innovation can work hand in hand with humans to enhance energy security, sustainability and energy access in a post-COVID-19 future. We want to help our community harness this potential so the continent doesn't just recover, it recovers better."

**“ The 5th Industrial Revolution theme will explore the relationship between energy and tech with purpose and inclusivity.”**

**SIMON GOSLING, MANAGING DIRECTOR OF ENERGYNET**

More than 10,000 attendees are expected to register for the Africa Digital Energy Festival, which will employ AI technology to match attendees with relevant content and networking opportunities allowing for a personalised event experience over the four-week period.

Among the high-profile speakers, to attend the festival include: H.E. Honourable Dr. Mohamed Shaker El-Markabi, Minister of Electricity & Renewable Energy, Egypt, H.E. Honourable Dr. Eng. Seleshi Bekele, Minister of Water, Irrigation & Energy (MoWIE), Ethiopia, and H.E. Honourable Gwede Mantashe,

Minister of Mineral Resources & Energy, South Africa.

Some of the state-owned power organisations in attendance will be the Electricity Company of Ghana (ECG), GRIDCo, Ghana, Volta River Authority (VRA), Ghana, and Kenya Electricity Generating Company, (KenGen), Kenya.

Well-established private investment and leading energy players representatives, such as Actis, Globeleq, BBOX and Daystar Power Group, will also be taking part in virtual discussions.

Other companies to top the attendee list, are Fenix International, Harmattan Renewables, Nedbank, the South African Wind Energy Association, World Bank Group and many more.

As well as more than 120 programme experiences, the event will also feature an online marketplace of products hosted by sponsors and exhibitors. ■

## 1.4 MILLION UGANDANS TO ACCESS RELIABLE AND AFFORDABLE ENERGY

Millions of people, smallholders and entrepreneurs in remote villages across Uganda are set to access reliable and cheap electricity for the first time under an off-grid solar scheme agreed between ENGIE, through its Solar Home System company Fenix International and the European Investment Bank, one of the world's largest financiers of renewable energy.

Provision of a PAYGO model will allow families who would be unable to afford the upfront costs of solar home systems to repay the cost of equipment over years at less than USD 20 cents a day. The new European Investment Bank financing will allow repayment of equipment purchased in US dollars in Ugandan shillings. Previously



PAYGO Solar Home Systems are making power accessible to remote villages in Uganda.

Image Credit: ENGIE/Fenix International

currency fluctuations hindered provision of affordable clean energy solutions to Ugandans without access to foreign currency.

“Providing hundreds of thousands of new solar home systems through the PAYGO model

will allow our Ugandan team to transform communities across the country. We are proud to be the latest national off-grid power operation to be supported by the European Investment Bank and we will work tirelessly to illuminate

homes and provide clean power until all of Uganda can access electricity.” said Daniel Willette, managing director Uganda (Fenix).

“At ENGIE, we see the massive potential of the off-grid electrification sector as a way to bridge energy gaps across Africa, faster and more affordably. Every day families across Africa are able to access electricity for the first time using off-grid solar technology provided by ENGIE Africa. Our new partnership with the European Investment Bank in Uganda will allow Fenix to provide ultra-affordable PAYGO systems to millions of people in villages across the country. This will provide access to clean solar power and financial empowerment,” said Yoven Mooroooven, CEO of ENGIE Africa.

## WHEN BACKUP POWER IS NOT ENOUGH: THE CRITICAL ROLE OF TESTING

As with any global economy, Africa's production and trade relies upon a stable power infrastructure. Electricity shortages can threaten economic

development, particularly when supplies are intermittent and unstable.

Many businesses are well-aware of the impact of losing mission-critical power –

from machinery in industry, computers in banks and data centres, to the need for constant power in hospitals and operating theatres. While many take steps to ensure backup power is in place, an astonishing number fail to implement a robust testing regime – leaving themselves open to the risk of costly and disruptive downtime.

### The basics: what is a load bank?

Wherever there is standby power, there is also a need for a load bank – a device used to create an electrical load that imitates the load that a generator would use in operational conditions. The load bank is used to test, support, or protect a critical backup power source and ensure that it is fit for purpose in the event that it is called upon. In applications where power may fluctuate, using a load bank also makes it possible to simulate the effect of peaks and troughs and accurately measure the recovery interval if an outage occurs.

Given that the cost of a load bank is typically only a fraction of that of the systems which it supports, it makes sound commercial sense to implement a preventative maintenance regime. In doing so, businesses are taking preventative action towards mitigating the catastrophic risk associated with power loss.

For further information visit [www.crestchicloadbanks.com](http://www.crestchicloadbanks.com)



Image Credit: Crestchic

Crestchic load bank

## AfDB-financed project helps to make Mzuzu-Nkhata Bay road one of Malawi's safest

A five-year project to rehabilitate the Mzuzu-Nkhata Bay road with African Development Bank financing has made the road one of Malawi's safest, according to the project's completion report.

The road was formerly very narrow and poorly maintained, and it required an hour and a half to travel the 50km between the northern towns of Mzuzu and Nkhata Bay. The problem was exacerbated by the high incidence of accidents involving small public buses along the route.

Bank financing of US\$30mn went into widening the road, resurfacing, and flattening sharp curves, streamlining the movement of people, goods, and services between the two towns. Most of the road's users in the region work in agriculture, fishing, and tourism, and use the road to reach health centres, schools, and markets.

Following the rehabilitation, which was completed in 2018, transport costs, vehicle operating costs and the number of traffic accidents fell significantly. Vehicle operating costs dropped from US\$0.49 to US\$0.37 per vehicle and per kilometre, and travel time between the two towns was cut to less than 40 minutes. As a result of the road rehabilitation, the fleet of public transport vehicles operating on the road has increased.

"Increase in public transport fleets is expected to bring about competition, which in the medium- to long-term will reduce fares for passengers and tariffs for cargo," states the bank's report. "All accident-prone spots have been eliminated. Stopping sight distances have been increased and all black spots have been removed. This intervention is expected to reduce accidents by more than 60%, especially by small public passenger buses." The road also serves international traffic from Zambia and Tanzania to and from Malawi and Mozambique.

According to the report, the project has also led to the creation of 300 direct and indirect new jobs.



Image Credit: African Development Bank

## BELL EQUIPMENT TO PART WITH JOHN DEERE

Bell Equipment is reportedly set to end its 21-year-old relationship with John Deere from January 2023.

Bell Equipment currently distributes a number of Bell-branded, John Deere designed and manufactured products in certain markets in Southern Africa, either through its own network or via sub dealers. Its main market is South Africa.

In a statement, the company announced, "Based on changes in the operating environment of both companies, Bell and Deere agreed on the future of these distribution arrangements. Bell will distribute Deere products until January 2023 and will continue to provide aftermarket, technical and product support to our customers for a further 10 years thereafter."

Bell Equipment will transition from being an exclusive to non-exclusive Deere dealer from March next year. Bell is reportedly in talks with other international equipment manufacturers to provide replacement products to its customers in Southern Africa.

"Details of such arrangements will be communicated when available," the statement added. "We are confident that Bell's close relationships with, and local understanding of, its customers, will stand us in good stead with regards to reinvigorating certain lines of product through new product alliances."

John Deere is now said to be selling its 31.4% stake in Bell Equipment to A. Bell & Company, which already holds a 38.7% shareholding. It comes after Bell Equipment group announced a loss of R52mn (US\$3.1mn) for the six months ending 30 June, compared with a profit of R152mn for the same period last year, due to harsh economic conditions caused by the COVID-19 pandemic. But its share price was said to have risen by 30% after the announcement.

## TVH EXPANDS INTO SEM EQUIPMENT MARKET

TVH, a worldwide leader in replacement parts and accessories for material handling, industrial and agricultural equipment, has announced its expansion into the small earth-moving (SEM) equipment market, commonly referred to as light construction.

TVH's new spare parts range for light construction equipment focuses on three types of machines: mini-excavators, skid steer loaders and compact track loaders. Within those three sub-markets, the company's attention focuses on parts for the makes Bobcat, Case, Caterpillar, JCB, Takeuchi, John Deere, Kubota, Volvo and Yanmar, while also offering extensive lookup services for other brands.

"We are focusing on three distinct sub-markets and nine makes for parts for small earth-moving equipment, but all customer requests are welcome. Based on the needs of the customer, we will continue to expand our SEM range in the future," said Kristof Bolle, senior VP Sales EMEA and APAC.



Image Credit: Stephen Goswami/Flickr

The medium to long-term SA construction outlook is positive.

## SA construction forecast

South Africa's construction industry is forecast to record a CAGR of 13.2% to reach US\$17.75bn by 2024, according to a report by ResearchAndMarkets. Over the next two years, construction market growth is expected to remain impacted by the Covid-19 pandemic, across the residential, commercial, industrial and institutional sectors, with investment driven by government spending in the infrastructure sector. But the medium to long-term outlook remains positive.



Image Credit: judy and ed/Flickr

The new plant aims to satisfy the increasing demand for cement.

## New factory opens in Rwanda

Prime Cement has inaugurated an US\$40mn factory in Musanze, in the northern province in Rwanda, to boost commercial production of cement and bridge the cement supply gap. The company is reported to be planning to expand capacity from the current 600,000 tonnes per year to 1,200,000 tonnes per year in the coming years. The new plant aims to satisfy the increasing cement demand in the country, as well as to export to regional marketplaces.



## Egyptian government purchases 22 Bobcat skid-steer loaders

Otrac Heavy Equipment, the authorised Bobcat dealer in Egypt, has delivered 22 new Bobcat S550 skid-steer loaders purchased by the Egyptian government for use in one of the largest governorates in the north of Egypt.

They are being used in a new cleaning and maintenance programme instituted and supported by the Egyptian government.

The skid-steer loaders have each been supplied with a Bobcat bucket and will be used for ditching and street cleaning work in the major cities in the governorate.

A spokesperson at the governorate commented, "We purchased the Bobcat brand based on the excellent experience we have had running Bobcat skid-steer loaders, particularly their



Image Credit: Bobcat

The Bobcat skid-steer loaders.

durability and reliability, backed by the superb aftermarket service provided by Otrac."

Other advantages cited were their compactness and their ability to easily operate in the narrow streets of the towns and cities in the district, together with their high performance for loading

rubbish into collection vehicles.

Hatem Ouda, chairman of Otrac Heavy Equipment, said, "We are delighted that Bobcat skid-steer loaders have been chosen to carry out this important work. The Egyptian government and Otrac have a successful, long-standing relationship, involving the

purchase of many machines, including an order for 21 new Bobcat skid-steer loaders supplied by Otrac three years ago."

Gaby Rhayem, regional director Middle East and Africa at Doosan Bobcat EMEA, said, "We congratulate our dealer, Otrac Heavy Equipment, for securing this order, which is a great testament to the professionalism and expertise they always offer their customers in Egypt. An important aspect is the impressive stock of new Bobcat equipment including skid-steer, backhoe and telescopic loaders maintained by Otrac at all times, ensuring they are the only supplier that can meet any sudden demand for equipment."

For more information about Bobcat and Bobcat products, visit the website [www.bobcat.com](http://www.bobcat.com)

## HITACHI'S ZAXIS GI EXCAVATOR: HIGHER AND MORE POWERFUL PERFORMANCE

The new ZAXIS GI series from Hitachi Construction Machinery (HCM) offers a high performing, powerful, reliable and cutting-edge product that meets the needs of even the most demanding excavation jobs. With a clear focus on the ergonomics, safety and operator comfort the new GI series is loaded with many features to ensure comfortable operating conditions.

The new GI Series ZAXIS 220LC-GI is powered by a durable and reliable Japanese engine that delivers impressive 170 PS power and is built to achieve higher production efficiency in tight job schedules. Another highlight in the new ZAXIS-GI series is the advanced hydraulic system HIOS III (Human & Intelligent Operation System) which is the result of Hitachi's technological prowess and expertise. HIOS III assures agile operation at operator's will, smooth simultaneous operations and fingertip control with less operator fatigue. With HIOS III hydraulic system and high-powered ISUZU engine, the machine smartly combines high power delivery while improving fuel efficiency.

ZAXIS GI series features such as on board ICX (data controller) and global e-service, enable data downloads, machine location identification and machine maintenance and performance monitoring by the customer. Features such as auto idle, power modes, work modes and longer change intervals of consumables enable the customers to achieve significant savings in operating costs. ZAXIS 220LC-GI also goes green,



Image Credit: Hitachi

Hitachi's ZAXIS 220-LC-GI excavator.

with its environment-friendly ISUZU engine conforming to US EPA Tier 2 and European EC Tier 2 standards, and consumes optimum fuel as per the work requirement. Hitachi recognises the need to offer speedier, more efficient and cost-effective solutions to the construction needs of nations on the cusp of rapid growth. This product is focused on quicker completion of work cycles through its increased productivity,

by having an impressive swing speed so that projects can be completed speedily.

Stock machines, service and support are never far away. HCM's service support and dealer network provides top-class service for its customers in the region. With this complete package ZAXIS 220LC-GI packs a punch in performance. Please contact Hitachi for more detailed information.

# Doosan DA30 & DA45 ADTs for MEA

Doosan Construction Equipment has launched the DA30 and DA45 articulated dump trucks (ADTs) for markets in the Middle East and Africa (MEA). The DA30 has a payload of 28 tons, while that of the DA45 is 41 tons.

## More features incorporated

In 2018, the previous version of the DA30 ADT was upgraded with a range of features including a new cab, a new self-levelling front suspension and a new tandem bogie system which are all incorporated in the new DA30 model. A similar process has been applied in the new DA45 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. The cabs on the ADTs have new comfortable hand grips and foot rests and an improved layout for the display which is easier to use, even for tired eyes.

As well as these changes, the new models offer many more features. One of the most eye-catching is a new 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 dynamic look given to the ADTs reflects the high performance, power and robustness of the Doosan ADT range and aligns even more closely with the rest of the market-leading range of construction equipment from Doosan.

Together with the visual changes there are a number of functional changes on the new ADTs, which

improve safety, comfort and serviceability. These include a new positioning of the diesel and Adblue tanks. The latter is now much lower than before, allowing the operator to fill the tank while standing next to the machine ('ground level filling').

The DA45 ADT is equipped as standard with a real-time payload measuring system with a light indication for excavator operators, which will help them to place optimal loads in the ADT to ensure excellent productivity and low fuel consumption.

The greasing system has also been relocated to make it easily accessible from ground level. Space has been provided above the automatic lubrication system (which is standard) for additional grease cartridges and a filling pump.

In addition, the transmission filters have been installed close to the greasing system, where they are very easy to access. All of these systems are protected to ensure that any excess drops of oil and grease are collected and can be removed during service and maintenance. New improved maintenance access will help operators to perform daily checks faster and more safely.

Both of the machines are equipped with additional

external round hand rails to prevent accidents and hazardous situations. Inside the cab, there is a new additional grip on the right hand side for increased safety for the operator. The electronic and hydraulic systems in the trucks have been upgraded to offer improved performance with extended functionality and new technology.

The designs and developments in the DA30 and DA45 ADTs have resulted from intensive market analysis, customer visits, interviews with operators and feedback gathered by the Doosan ADT Product and R&D teams at the company's ADT plant located in Elnesvågen, near Molde in Norway. With all of these advanced features incorporated, the Doosan ADTs establish a unique benchmark in load carrying performance, fuel efficiency, enhanced controllability and high operator comfort, together with improved reliability, durability and reduced maintenance and servicing costs.

## Best in class

Like all Doosan ADTs, the new models feature an articulation hinge positioned behind the turning ring to provide equal weight distribution to the front axle even during maximum steer articulation. This combined with a free-swinging rear

tandem bogie ensures equal distribution of weight to each wheel and guarantees permanent 6-wheel contact and drive for equal power distribution and excellent performance on difficult terrains such as soft ground, uneven surfaces, very steep slopes, tight turns or a combination of all of these difficult conditions.

Collectively, the forward turning point, the unique tandem bogie and the sloping rear frame results in 'best in class' rough and soft terrain capabilities. The unique body shape and sloping frame ensure equal load distribution on all the wheels making these machines the best haulers for soft terrain work. The design of the articulation provides equal load distribution on the wheels on both the left and right hand side when turning, which is important for the traction and stability of the machines. All of these outstanding features are available on the Doosan DA30 and DA45 ADT models.



Image Credit: Doosan

# A LONG WAY TOGETHER



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## TEREX TRUCKS TA300

The TA300 articulated hauler from Terex Trucks is a popular choice on quarries, construction sites and infrastructure developments. The 28 tonne (30.9 ton) workhorse offers a heaped capacity of 17.5 m<sup>3</sup> (22.9 yd<sup>3</sup>) and is powered by a Scania DC9 engine, which develops gross power of 276 kW (370 hp) and a maximum torque of 1880 Nm (1387 lbf ft). The TA300's fuel efficient engine range is globally emissions compliant and meets the requirements of EU and North American legislation without the need for a diesel particulate filter (DPF). This is achieved via the latest generation selective catalytic reduction (SCR) technology, combined with exhaust gas regeneration (EGR) and a variable geometry turbo (VGT).

### Product improvements

Since the end of last year, the TA300 has been manufactured with the latest EP320 transmission. The



updated machine now delivers a 5% improvement in fuel efficiency, a 5 km/h (3.1 mph) increase in speed to 55 km/h (34 mph), an extended maintenance period and enhanced performance when compared with the previous model. All of this means that customers can be more productive, achieving faster cycle times, lower cost per tonne and reduced carbon emissions.

The TA300's new transmission comes with eight forward gears as well as four reverse gears, higher overall gear ratio spread, equal ratio steps between gears, and optimised gear shifting with partial load shifts. These features mean that the upgraded TA300 offers lower fuel consumption with smoother gear shifting and thereby higher levels of operator comfort.

The TA300 now comes with long life transmission fluid, increasing the length of time between oil maintenance intervals from 1,000 to 4,000 hours.

### High power, maximum comfort

The TA300 is equipped with a true independent front suspension as standard, further enhancing operator comfort and enabling excellent traction control and maximum productivity, even in challenging conditions. The TA300 also has fully enclosed, oil-cooled, multi-disc brakes at all six wheels. These are supported by the engine brake and the transmission retarder, giving the operator superb control and increasing safety and stability while providing a low cost of operation.

Helping to ensure high levels of operator comfort and productivity, the TA300 has a spacious, ergonomically designed cab.

## VOLVO A45G

SMT offers a full range of machinery from the most trusted and toughest brands in the industry. The Volvo range of articulated haulers, however, has always been and continues to be the back bone of SMT's business.

The construction machinery dealer provides the right size ADT for any job, from the new generation range of the A25G to the flagship A60H – the largest ADT currently produced worldwide.

It also stocks units of the A45G at any time, ready for delivery to any market in Africa. The A45G, with the proven Volvo 16 litre engine, is a continuation of the proven A40F but with a larger capacity. The A45G is SMT's most sold ADT within its extensive network with fully trained staff, tooling and spares available to keep customers' machines going.



## CAT 740 GC

The Cat 740 GC articulated dump truck (ADT) reintroduced the 40-ton (36.3 mt) size class to the Cat ADT range. The model is designed to incorporate the proven features and performance of models currently in the ADT line-up, including new controls, transmission-protection features, hoist-assist system, advanced traction-control system, stability-assist system, and a fuel-saving ECO mode.

In addition, the 740 GC also incorporates the latest automatic retarder-control system, which requires no input from the operator, resulting in greater operating efficiency. For added control and convenience, the model also features a "wait-brake", which temporarily applies the service brakes during pauses in the work cycle, reducing operator effort and fatigue. Also, a hill-start system automatically holds the machine on grades, allowing the operator to move from the service brake to the throttle with no roll-back on slopes.







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The factory floor at Condra Cranes.

Image Credit: Condra Cranes

## On the up

Botswana diamond mine deal for South Africa’s Condra cranes. By Martin Clark.

**A** Botswana diamond mine is set to deploy two high-lift cranes made within the region by South Africa’s Condra. Manufacture of the machines at the company’s main factory is set to begin after the order was placed via a Johannesburg-based buying house in August, on behalf of Canadian consulting engineers JDS Energy & Mining Inc. of Vancouver.

It is the second time JDS Energy & Mining has specified Condra equipment. Last year, an overhead crane and five hoists were manufactured for the Bonasika bauxite project in Guyana, South America, underlining Condra’s growing international credentials.

In Botswana, the two high-lift double-girder electric overhead

travelling cranes on order are of different configuration and design. The larger of the two, for the winter house, will be a 60/15 ton crane of 30-metre span with a lifting height of 25m on the 60-ton main hoist and 26.2m on the 15-ton auxiliary. There will be dual-speed movement throughout this crane; on the long-travel, cross-travel and lift.

The second crane, for the mine’s headgear, will be a 20-ton machine with a span of 11m. Movement along the extreme lifting height of 60 metres will be aided by a variable-speed drive on the hoist, allowing the quickest possible vertical travel across the distance of the lift, as well as very slow speeds for accurate load positioning. Dual-speed drives will manage movement on the long- and cross-travel.

Delivery of the completed cranes is scheduled for the second quarter of 2021 – a delayed date caused by Covid-19. The equipment will be delivered to the mine site from South Africa by road.

Condra’s management team believes there is growing overseas market awareness of the group’s high-lift capabilities. Long recognised in parts of central and southern Africa, its high-lift

machines have also been installed at a dam in Chile for hydroelectric turbine maintenance, reflecting a widening appeal across the Atlantic.

A spokesman for Condra said that he thought a competitive price and rapid response times during the tender process had contributed to a successful close. “Clarification

requests were particularly quickly executed to comply with customer time frames,” he said. “These cranes will include some interesting features such as load cells, limit switches, remote control, warning lights and sirens. They will be good, solid machines to build. We will enjoy manufacturing them.” ■

### HIGH-TECH HEROES

US-based Manitowoc has been in the cranes business for over a hundred years – but times are changing. It manufactures a comprehensive suite of mobile telescopic cranes, tower cranes, lattice-boom crawler cranes, boom trucks and industrial cranes under the Grove, Potain, Manitowoc, National Crane, Shuttlelift and Manitowoc Crane Care brand names. Last year, its 2019 net sales hit US\$1.83bn.

In the years since it has been in business, it has pioneered the development and sophistication of heavy lifting machines throughout the world. That includes the use of digital technologies to improve performance, help machine operators and boost its customers’ business on the ground.

Manitowoc recently updated its free diagnostic app to include Crane Control System (CCS)-equipped Potain tower cranes, helping operators to interpret diagnostic codes generated by on-board control systems and reduce machine downtime. The app already supports many other Grove, Manitowoc and National Crane cranes.

“This new functionality is another step in actively improving our digital tools and expanding our offering to provide customers with easy-to-use and valuable tools for a better user experience with our products,” said John Alexander, director of service, training and telematics at Manitowoc.

“These cranes will include interesting features such as load cells.”

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**Alain  
Charles**  
Publishing

**MENA** Tel: +971 4 448 9250  
**ASIA** Tel: +91 88841 93373

**USA** Tel: +1 203 226 2882  
**EUROPE** Tel: +44 20 7834 7676

**e-mail:** [post@alaincharles.com](mailto:post@alaincharles.com)  
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## LIEBHERR'S NEW EQUIPMENT COMBO FOR TIMBER INDUSTRY AND TREE CARE

In addition to typical applications such as waste management or scrap handling, Liebherr has introduced new solutions for efficient tree care and the timber industry. Depending on the operating requirement and reach, Liebherr material handlers ranging from the LH 22 M to the LH 35 Industry Litronic can be combined with different equipment versions and attachments.

Liebherr offers a new equipment combination: The Westtech telescopic stage T 4000 equipped with the fully hydraulic Liebherr LIKUFIX quick coupler, a 4m long telescopic stick and the Woodcracker CS510 crane, to give the LH 22 M Industry a reach of up to 16.5m. With an operating weight of 23,700kg, the material handler can reach far up into the trees and work on them.



Image Credit: Liebherr

**Liebherr LH 22 M Industry Litronic material handler equipped with Liebherr stick extension and Westtech Woodcracker C250 is available for reaching trees and bushes that are far away.**

In order to reach trees and bushes that are far away, Liebherr offers the new equipment combination of a Liebherr stick extension and

Westtech Woodcracker C250 with a lightweight cutting tool. In this combination the LH 22 M Industry, with the 2.25m long stick extension, has a reach of up to 13.8m and an operating weight of around 24,100kg. Complemented by the optional LIKUFIX quick coupler this equipment version enables a quick change between tools and attachments such as a milling machine, mulcher or trench cleaning bucket for clearing channels after pruning.

The LH 22 M Industry when combined with a Westtech Woodcracker C350 is designed for work in the immediate area. With this equipment version a reach of up to 11.8m is possible with an operating weight of approximately 23,900kg. In addition, larger and heavier cutting tools can be easily attached to the Liebherr stick with tipping kinematics.

## MANITOWOC ROLLS OUT POTAIN MCT 275 AT CHINA FACTORY

Expanding its popular MCT range of topless cranes built in China, Manitowoc has launched Potain MCT 275. As with other cranes in the range, the MCT 275 can deliver easier transport and assembly, plus efficiency and reliability on construction projects. The company unveiled the crane during a virtual launch event at Manitowoc's factory in Zhangjiagang, China,



Image Credit: Manitowoc

**The MCT 275 will ultimately replace the MC 235 model, a long-serving and popular hammerhead top-slewing crane.**

where the 10-tonne version of the MCT 275 was displayed with its full 70m jib. This new model has taken advantage of the advances and innovation Manitowoc made with the introduction of the MCT 325, and was largely inspired by it.

Available in two versions, the MCT 275 offers jib length configurations from 30m up to an 70m, in increments of 5m. At its 70m jib end, the MCT 275 can handle 2.3-tonne for the 10-tonne version and 2.2-tonne for the 12-tonne version. On a well-prepared site, the MCT 275 can be set up within 1.5 days, with the full jib and counter-jib erected in four lifts. The complete upper part of the crane can be transported in six containers.

## Hidromek exhibits its innovative machines

Hidromek, a manufacturer of construction machinery, has displayed hydraulic excavators belonging to its new H4 Series, HMK 640 WL wheel loader together with HMK 62 SS mini backhoe loader and HMK 102 B ALPHA backhoe loader at Nordbau 2020 Fair, Germany.

### H4 Series offers powerful performance

Offering high performance, HYDROMEK's new H4 Series excavators can stand out with their operating speed. By changing the diameter of hydraulic cylinders, tubes and bars, the working speed of H4 Series has been increased. The power boost and the maximum hydraulic system pressure have been improved to reach out the required power as well. H4 Series has an electronic system with an increased capacity facilitating to find out the condition of the machine and its integration with additional equipment.

### More load in short time with HMK 640 WL

HMK 640 WL wheel loader, which has 26.3 tonnes operating weight and 4.2 cubic metres bucket capacity, with its Mercedes engine having 324 HP and 1600 Nm torque provides its user with high loading capacity at low fuel consumption in a short cycle time. HMK 640 WL heavy-duty loader can provide high breakout force and greater control capability.

### Comfortable working backhoe loaders

In HMK 102B ALPHA, heavy-duty axles are used in order to increase both load carrying power and durability. ALPHA Series, which has a wide rear view angle, offers a comfortable working environment to its users during hard and long shifts.

HMK 62 SS mini backhoe loader provides versatile usage with its compact dimensions and different attachments. Thanks to its ability to rotate 360° around its own axis, loading is easier.



**HMK 390 NLC crawler excavator belongs to the H4 Series.**

Image Credit: Hidromek



## HAULOTTE EXPANDS ITS RTJ TELESCOPIC RANGE

Designed for working in challenging environments and tackling the most demanding projects, the HT16 RTJ O/PRO shares the same design and performance characteristics as the other models in the Haulotte RTJ range. Incorporating Haulotte safety standards and latest innovations, the telescopic boom provides a dual platform capacity along with four-wheel steering and is ideal for work up to 16m high.

The latest addition to the RTJ range is an outdoor telescopic boom designed for versatile applications: heavy construction, finishing, maintenance, sports and other events. It perfectly combines efficiency with excellent all-terrain ability.

The new RTJ machine offers a weight capacity of 250kg. For applications requiring heavy equipment, the dual-load option increases the basket load capacity to 350kg. Haulotte's new telescopic boom can elevate the operator to the work area quickly (less than one minute to full height), thanks to quick and simultaneous movements associated with a 360° turret rotation.

The mechanical axle drive allows for the use of a smaller, simpler engine (24hp/18.5 kW) while maintaining the same performances as other RTJ booms. The telescopic boom eliminates the need for a Diesel Oxidation



Image Credit: Haulotte

**HT16 RTJ O/PRO is designed for versatile applications: heavy construction, finishing, maintenance, sports and other events.**

Catalyst (DOC). In STAGE V regulated countries, there is also no requirement to use a Diesel Particulate Filter (DPF). It benefits from an automatic start-and-stop system, stopping the engine after an idle period of 90 seconds.

## Hitachi next-gen ZAXIS-7 large excavators offer more control

Hitachi puts owners and operators in complete control with the next generation of ZAXIS-7 large excavators. The new ZX490LCH-7, ZX530LCH-7, ZX690LCH-7 and ZX890LCH-7 Stage-V compliant models have an industry-leading cab with first-class comfort and safety features. Their exceptional reliability, efficiency and productivity can provide owners with opportunities to increase profits and reduce costs.

### Improve profit

An impressive fuel saving of up to 20% (PWR mode) compared to previous models is achieved by Hitachi's industry-leading HIOS-V hydraulic system. This also enhances efficiency in the swing, boom lowering and arm bucket roll-out. Productivity is further increased by the improved front speed for loading operations; and the increased engine output of the new ZAXIS-7 machines contributes to a higher workload.

The fuel efficiency of ZAXIS-7 large excavators can also be controlled by using the new ECO gauge, clearly visible on the cab's multifunctional 8" monitor. Besides reducing costs, better fuel economy has a positive impact on environmental performance. The machines are Stage V-compliant thanks to the combination of the SCR (selective catalytic reduction) system, DOC (diesel oxidation catalyst) and CSF (catalysed soot filter).



**Expect productivity levels on site to rise with the new ZX530LCH-7 large excavator.**

Image Credit: Hitachi

## AFRISAM STEPS UP SUSTAINABLE CEMENT PRODUCTION EFFORTS

As a leading supplier of construction materials, AfriSam has been at the forefront to introduce proactive measures in the southern African cement manufacturing sector.

"One example is at our Dudfield plant where we developed and implemented process modifications to allow us to co-process scrap tyres - a strategy that also contributes significantly to addressing the environmental hazards posed by tyres when they are disposed of in a landfill," said Nivashni Govender, environmental specialist at AfriSam.

"Continuous investment in research and development has enabled AfriSam to improve processes, technology and products with the ultimate goal of energy optimisation and emission reduction encompassing the complete range of our products: aggregate, cement and concrete," said Govender.

Energy and water conservation are ongoing programmes, featuring high on AfriSam's environmental agenda, according to Govender. Energy efficient lighting has been installed across the company's cement, readymix and aggregate quarry facilities, and water conservation has become a priority in all its operations.

"It is in our cement manufacturing business where the most notable impact on the lowering of carbon emissions is achieved," added Govender. "Our ongoing focus on alternative fuels and resources (AFRs) has allowed us to steadily reduce the amount of coal burnt in our cement kilns, which in turn contributes to lower CO<sub>2</sub> emissions."

# Battery revolution in drill rigs comes to Africa

Southern African mines will begin the transition from diesel-driven to battery-powered drill jumbos, with the introduction of the world's first highly automated underground electric drill rig by Sandvik Mining & Rock Technology.

There has been an enthusiastic uptake of the Sandvik DD422iE in mining countries.



Image Credit: Sandvik Mining & Technology

According to Saltiel Pule, Sandvik Mining & Rock Technology's business line manager for underground drilling in southern Africa, the Sandvik DD422iE rig has already seen enthusiastic take-up in mining countries with strict anti-pollution regulations. The innovation has been in development for the past three years.

"The major benefits of the battery concept in underground drill rigs are zero emissions and much less heat, making for safer and healthier working conditions," Pule says. "There are many other advantages to this technology, however, including increased drilling productivity, reduced operating costs and better

energy efficiency."

The Sandvik DD422iE's electric driveline, with an electric motor mechanically connected to axles for high torque and high efficiency, allows the rig to tram independently between working areas. The unit's high-precision inverter delivers exact control of the tramping speed.

"The rig only needs to be connected to mains power during the actual drilling, at which point the electric motor is connected onto hydraulic pumps," he says.

Improved drilling power of up to 20% is achieved by an active power compensation system which draws reserve power from batteries during peak loads. Battery charging is done

during those phases of the drilling cycle when power intake is low, such as during boom movements. There is therefore no waiting time to charge up batteries.

In pursuit of zero-harm safety standards, the unit uses sodium nickel chloride (SoNick) technology – regarded as the safest battery system for underground conditions. Sandvik Mining & Rock Technology also offers a battery rental option to customers, taking responsibility for battery inspection and maintenance, as well as responsible disposal at the end of battery's life.

"The battery therefore becomes an operational cost for the mine, rather than a capital expense," Pule

says. "This option also gives the customer the certainty of predictable operating costs while adopting a new technology."

In addition to zero emissions and less heat generation, the electric drill rig produces less noise, making communication easier and working conditions less stressful. There is a reduced risk of fire, as there are no fuels exposed to hot surfaces – as is common with diesel engines.

"The range of indirect savings that customers achieve when they move from diesel to electric includes lower ventilation costs underground, no need for diesel storage and diesel pipelines, and more control over operating costs," Pule says. ■

## First Wirtgen 220 SM 3.8 surface miner arrives in southern Africa



Image Credit: Wirtgen

A Zambian coal miner has become the first recipient of the Wirtgen 220 SM 3.8 surface miner. Supplied by Wirtgen Group Southern Africa, the 220 SM 3.8 surface miner is a completely new unit designed from the ground up, replacing the predecessor model, the 2200 SM. With a 3,8 m drum, the machine has been optimised for the mining of soft rock to ensure maximum productivity at minimum operating costs.

It is designed to utilise the Windrowing method which enables mined material to be deposited behind the machine in a continuous process, thus allowing the ore to be extracted in a single, environmentally sustainable way with no need for drilling and blasting, yielding material of high quality.

With an operating weight of 58 t, the Wirtgen 220SM3.8 surface miner is driven by a Cummins diesel engine with an output of 708 kW. Thanks to high-pressure injection and intelligent engine management, the engine is said to be highly fuel-efficient.

At the same time, the diesel tank with a capacity of 2,300 litres makes it possible to operate the machine around the clock with only one stop to refuel per day, resulting in greater productivity. A cooling system with a demand-driven fan speed also helps to reduce fuel consumption and at the same time reduces noise emissions.

A huge benefit of the new unit, explains Waylon Kukard, sales manager at Wirtgen Group Southern Africa, is its intelligent maintenance concept.

“Readily accessible points for maintenance and servicing, walk-in engine compartment, plain text displays on the control screen enabling quick, effective troubleshooting, easy cleaning of the cooling system and a removable hydraulic tank for cleaning purposes, all contribute to maximising utilisation of the machine, thus ensuring maximum productivity,” he said.

## B2GOLD REPORTS SUCCESSFUL COMMISSIONING OF FEKOLA MILL EXPANSION

B2Gold is pleased to announce the successful commissioning of the mill expansion at the Fekola Mine to 7.5 million tonnes per annum, approximately one month ahead of the scheduled completion date of September 30.

This includes completion of all major construction activities associated with the Fekola mill expansion, as well as successful execution of a process performance test to compare with design expectations. Four days after start-up, a five-day mill performance test was conducted from August 26 to August 30, 2020. The results of the performance test exceeded design in throughput, gold recovery, grind and availability over the five-day period. The minor, outstanding construction work is expected to be completed by mid-September 2020.

The Fekola Mine continues to operate unimpeded and no operational days have been lost due to the recent political developments in Mali or the COVID-19 pandemic. The gold business is maintaining both quarterly consolidated budgeted production estimates and consolidated annual production guidance for 2020.

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# Winning recycling solutions

After listening to companies all over the world, MB Crusher developed a range of innovative machinery capable of simplifying the complex process of recycling aggregates and demolition materials. MB Crusher's Call4Solutions was created specifically to help companies solve any operational problem by identifying a range of services that can become a new source of income.



Image Credit: MB Crusher

The BF70.2 bucket recycling demolition material in France.

**Companies that rely on MB Crusher, develop new business opportunities. Here are the responses to some questions they sent to the company via Call4Solutions.**

**The hardest and most expensive part of an average job for my demolition company is transporting waste material to a recycling plant or landfill: How can I reduce costs?**

With MB Crusher, costs can not only be reduced, but even eliminated. By eliminating the need to move waste material to a landfill, recycling is done on site.

**Solution:** After careful consideration, the customer purchased a BF70.2 crusher bucket and now processes all the material from his demolition sites, allowing him to eliminate the step of hauling debris to landfills, saving time and money. Now, the company has expanded

their business: the material they crush on site is sold and used as road base or fill. The new production process was quick to implement and easy to manage.

**We operate at an inaccessible quarry: How can we crush on site?**

MB's crusher buckets can hook onto any operating machine on the job site and turn it into a powerful mobile crusher. Even on sites where there is little room to manoeuvre or are steep and difficult to access, the crusher bucket's abilities remain unaffected.

**Solution:** After considering their options, our client purchased the BF70.2 crusher bucket for their dolomite quarry. Since 2005, the unit has been crushing aggregates without fail and the results are easy to see: all the material is crushed on site without major maintenance, external

intervention, or the machine stalling. Granular material is easily obtained and used in the construction process: as fill or in bituminous conglomerates; aggregates are applied in the production of concrete, as base for railroad ballasts, and as waterproof material for foundations.

**We extract material from riverbeds: Can we profit from it?**

Yes, MB Crusher's attachments adapt to any construction site, by easily processing tough and resistant materials, making this service more profitable and competitive.

**Solution:** Customers in India chose to install the BF70.2 to crush the materials extracted from a riverbed. They sold it as an aggregate for roadwork, expanding their market and profiting from it.

**I own a demolition company and work in city centres: How can I reduce disposal costs and operational constraints?**

The best solution for those who perform demolitions on urban job sites is MB's crusher bucket. For example, the BF70.2 model is agile, compact, easy to handle, and is transported to the construction site with the operating machine, all without increasing costs.

**Solution:** For his job site in a city centre, the customer chose to use the BF70.2 crusher bucket. He entered and exited the centre without a problem, processed material on site, decreased dust emissions, and used the waste as fill for the excavation. A great tool that helps carry out the job and save time and money.

**I am self-employed and deal with recycling: Are there solutions for professionals like me?**

MB Crusher's units are suitable for any type of company, even the smallest one. MB Crusher's goal is to help companies and professionals reach their potential.

**Solution:** Thanks to the Call4Solutions service,



Image Credit: MB Crusher

**Recycling river bed material in India with the BF70.2 crusher bucket.**

our customer in Hungary decided to purchase a BF70.2 crusher bucket to offer a new service: he collects demolition material from his customers, crushes it in his yard, and sells it.

**I offer environmental remediation services and have to deal with inert material such as reinforced concrete: How can it become income?**

MB Crusher's crushers are easily mounted on any

excavator: any type of inert material can be crushed and can be sold or reused.

**Solution:** The customer installed the BF70.2 jaw crusher on a Caterpillar 317FL excavator to crush reinforced concrete and recycle it. Once everything is crushed, including reinforced concrete poles and railway sleepers, the material is sold as base for the construction of a new railroad. ■

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## BOOYCO CONTINUES TECHNOLOGY DRIVE DESPITE COVID-19 PANDEMIC

While the Covid-19 lockdown has forced many companies serving the mining sector to downscale, Booyco Electronics is continuing to apply and develop its technologies for safer, more productive mining operations.

With its nationwide team of some 180 field technicians serving opencast and underground mines – by far the largest footprint among players in this field, – the proximity detection specialist has remained hard at work. While supporting those coal mines that worked through level 5 and level 4 lockdown, the company has been assisting customers to ramp up to full production after the initial stoppage.

According to Booyco Electronics chief executive officer Anton Lourens, the lockdown has even given his engineering team some welcome breathing space for their technology



Image Credit: Booyco Electronics

All necessary precautions were put in place at Booyco Electronics.

development. With collision avoidance standards in mines becoming stricter, technology is responding rapidly.

“Our plans to grow our engineering team from 18 to over 30 experts this year remains on

track, giving us added capacity to meet industry needs,” says Lourens. “Even under lockdown restrictions, this expanding team has continued its work on new features and functionality for our products.”

The move to the level 4 lockdown allowed opencast operations to resume and underground mines to move to 50% production. Booyco Electronics was on hand to assist with the required pre-start inspections and equipment checks, which then accelerated with the relaxation to level 3.

“While the lockdown restrictions were disruptive to everyone, we have learnt valuable lessons and increased our efficiencies over recent weeks,” he says. “This has left us stronger and better prepared to support customers in the field.”

## MAXIMISING EFFICIENCIES

With decades of opencast mining experience – both for clients and for its mining operations – SPH Kundalila has extensive insight into how to maximise efficiency on site.

According to Graeme Campbell, SPH Kundalila’s group commercial operations manager, efficiency starts with a focus on the high-cost components of mining projects. Campbell highlights the key objective of reducing the rate per tonne moved while ensuring high uptime levels and preventing unexpected stoppages.

“Contractors influence their rates considerably by having access to the optimal size of load and haul equipment,” he says. “While there are more companies in the market with fleets of smaller haul trucks, for example, the limited capacity of these units may raise the rate per tonne for the client.”

Illustrating the case with a 200,000 tonne-per-month mining operation – working 18 hours per day for 26 days per month – he points out that a contractor could use six 18-tonne trucks or just four 40-tonne units.

“Using fewer trucks of higher load capacity impacts a range of costs,” Campbell says. “There would be 16 operators required instead of 24, and the size of the maintenance facilities that must be made available are also a function of the number of trucks in operation.”

The lifespan of the equipment is also a factor, with the smaller trucks expected to complete about 20,000 hours – around five years – in their productive lives. By contrast, the larger mining trucks can generate returns for anything between 30,000 hours and 50,000 hours – commonly reaching 10 year lifecycles.

## Innovative pulping chute cuts scrubbing costs

A revolutionary new concept in fines scrubbing has been installed by Ekapa Minerals at its Combined Treatment Plant (CTP) in Kimberley, processing both virgin underground kimberlite as well as tailings for retreatment, and it is proving itself as a game-changer.

The innovation, developed by Multotec Wear Linings, is a pulping chute that scrubs and washes the recrushed product after it has passed through the High Pressure Grinding Rolls (HPGR) interparticle tertiary crushing circuit. The important advantage here, according to Multotec Wear Linings projects sales manager John Britton, is that it performs the scrubbing action faster and more efficiently than a traditional rotary scrubber would, and at much lower cost.

Multotec commissioned two of these pulping chutes at Ekapa Minerals in late 2019, where they have been operating consistently and in line with expectations. With the use of patented wave generators, the pulping chute uses the gravitational energy from the slurry flow to create a constant turbulent mixing action that releases the mud, clay and slime sticking to the kimberlite particles.

According to KEM CEO Jahn Hohne, the pulping chutes are a welcome contribution to the company’s cost saving efforts, and a clear demonstration of Multotec’s expertise in developing value-adding solutions in the mining sector.

“The dual chute pulping plant is ideally suited to de-conglomerating the HPGR cake product and is exceeding expectations in efficiency and effectiveness at over 600 tph, which is a major relief on the existing overloaded pair of CTP scrubbers. The net result is a meaningful increase of up to 20% throughput capacity of the entire processing plant which substantially improves the economy of scale of CTP, feeding directly to the bottom line,” he says.



The Multotec pulping chute washes the fines material from the dump after passing through the inter-particle crusher.

Image Credit: Multotec

# Adding degasification to water treatment solutions

Water companies are playing a vital role in designing and implementing technological innovations to bring clean water to thousands of people.

A recent UN report revealed that more than five billion people could suffer water shortages by 2050, because of climate change, excess in demand and polluted sources.

But the grim reality is that around 783 million people in sub-Saharan Africa are already without access to clean drinking water.

With failing public service providers, the responsibility often falls on locals themselves, NGOs and the private sector to work out the right water treatment solutions.

However, the innovations of companies such as DuPont Water Solutions, Sun Chemical and Veolia Water Technologies are making advances in drinking water treatment.

In September, DuPont Water Solutions, a global leader in water purification technologies, entered into a worldwide partnership with Sun Chemical and its parent company, the DIC Corporation, to bring membrane degasification modules to market. The degasification of liquids is becoming increasingly critical to several water treatment processes, including industrial demineralisation, oil and gas production and drinking water treatment. The membrane degassing modules – branded Ligasep – are now part of DuPont’s portfolio of water purification and separation technologies, including ultrafiltration, reverse osmosis and ion exchange resins.

The partnership supports DuPont’s goal to increase access to technologies that will meet their global customers’ water challenges.

“As a global leader in innovative water technologies, we are continually expanding our



Image Credit: Adobe Stock

portfolio of high-quality solutions to help our customers purify, conserve and reuse water. We look forward to working with Sun Chemical and DIC to better meet the needs of our customers focused on water treatment and reuse,” said HP Nanda, global vice president & general manager, DuPont Water Solutions.

Last year, DuPont Water Solutions designed and installed a water treatment facility in Serdo, in the Afar region of Ethiopia in partnership with USAID and Puretec Israel. It had to uncap local boreholes by reducing the salinity and fluoride content to safe levels. It now provides 5,000 litres of potable water per hour to 2,000 men, women and children.

Similarly, in Nairobi, at the St Francis Hospital Training Center, Dupont Water Solutions alongside USAID and Davis & Shirliff, installed a filtration system to remove fluoride from the drinking water source. The facility produces around 44,000 gallons of purified drinking water per day.

Another leading water tech company, Veolia Technologies, has supplied modular sewage treatment plants (STP) in South Africa, Ethiopia and Tanzania.

“These packaged plants are based on trickling filter technology, a simple but extremely versatile technology that is both robust and easy to operate,” says Chris Braybrooke, Veolia Water Technologies South Africa.

The major treatment components of the STP are screening, anaerobic digestion, carbon removal and nitrification, sludge removal and disinfection in a chlorine contact tank. ■

“We are continually expanding our portfolio of high-quality solutions to help our customers purify, conserve and reuse water.”

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## MORE PAYLOAD WITH NEW CAT AD63 UNDERGROUND ARTICULATED TRUCK

The Cat AD63 underground articulated truck features 5% increased payload and more torque for enhanced production capabilities, compared to its predecessor, the AD60. The new AD63 can be configured to meet the strictest diesel engine emissions regulations — for both regulatory compliance and improved underground air quality.

Additional new features enhance operator ergonomics, maintenance access and safety, and data collection for machine health monitoring. The AD63, with 63 tonnes (69 tons) payload, becomes the largest underground truck in the Caterpillar product line. The new model will be available in late 2020.

### Powertrain performs

The new truck is powered by the proven Cat C27 diesel engine, which produces 588 kW (789 hp), meets EU Stage V emission standards and is approved by CANMET for use in underground mines. The AD63 does not require Diesel Exhaust Fluid (DEF) to meet these standards.

The emissions control system maintains the ability to use diesel particulate filters, such as the Cat Wall Flow Filter, to further reduce particulate emissions.



Front quarter view of Cat AD63 underground articulated truck.

Image Credit: Cat

The AD63 powertrain features a new torque converter gear ratio to increase peak torque and improve gear retention on variable grades. The optimised transmission shift strategy results in smoother uphill driving and greater operator comfort. The new torque converter also increases rimpull when driving away from a stop.

## EPIROC EXPANDS SOLID BODY HYDRAULIC BREAKER TUNNEL RANGE

Epiroc has two new additions to the popular tunnel version of its SB breakers. The new lightweight SB 202 Tunnel and the buff SB 552 Tunnel adds versatility on both ends of the range.

The thorough work of perfecting the proven SB breaker concept for underground applications led to the introduction of SB 302 and SB 452 Tunnel version in 2017. Both the lighter SB 202, weighing in at 200kg, and the powerful SB 552, with a service weight of 560kg, will share the qualities of the existing models. This extends the scope of suitable carriers to 2.5-15 tonnes, previously 4.5-13 tonnes.

Among the application-specific modifications are the exchangeable wear plate and the front shield dust cover that extends lifetime by preventing bigger rocks from damaging the body and keeping dust out.

The tunnel version is also equipped with integrated nozzles for water spraying, a feature with a positive effect on both health and safety. As the water catches the dust, the line of sight for the operator stays clear and the dust is kept on the ground.



New SB 552 T

Image Credit: Epiroc

## Trolley assist system for Cat electric drive mining trucks

The new Cat trolley assist system for Cat electric drive mining trucks is now available for mining operations. The Cat trolley assist retrofit kit is currently available for the 795F AC truck, and the trolley design is compatible with the three other Cat electric-drive mining trucks—794 AC, 796 AC and 798 AC.

The commercial introduction of Cat trolley assist comes at the conclusion of a nearly two-year pilot project conducted with four 795F AC trucks using 700 metres of electric trolley line at Boliden's Aitik mine in Sweden.

The trolley system can significantly reduce diesel engine emissions at the mine via substitution of electricity during the most demanding part of the truck work cycle. Powering a 337-mt-payload 795F AC via trolley on a 10% grade as it climbs the ramp out of the pit saves up to 40 litres of diesel fuel per km of trolley line. Fuel and engine costs are reduced by more than 90% while the truck is on trolley. Operating with trolley assist, speed-on-grade can increase as much as 100% versus diesel-only mode. Using trolley, a loaded 795F can run at 28 kph on a 10% physical grade with solid haul road conditions.

The Cat trolley system is fully machine integrated, bringing the benefits of optimised performance and system serviceability to the 795F AC. Caterpillar's higher voltage truck and trolley system is designed to bring advantages through lower infrastructure capital costs and lower power distribution maintenance costs.



Trolley assist pantograph on Cat 795F AC truck at Boliden Aitik mine.

Image Credit: Cat



## REDUCING FIRE HAZARDS IN MINES WITH DRY-TYPE TRANSFORMERS

Underground mines in southern, central and west Africa have been seeing the safety benefits of dry-type transformers from Johannesburg-based Trafo Power Solutions.

According to Trafo Power Solutions managing director David Claassen, this clientele even includes collieries, where the strictest safety regulations apply with regard to fire hazards.

“The high risk of fire in underground coal mining environments has led to a high demand for dry-type transformers,” said Claassen. “Among the fire risks that coal mines face are transformer short-circuits as well as fires reaching the transformer.”

He notes that dry-type transformer technology is rated Class F1 in terms of fire protection, ensuring that transformers supplied by Trafo Power Solutions are flame-retardant.

“Oil-cooled transformers, on the other hand, are a fire risk due to the oil they contain to cool the windings,” he said. The risk can be heightened by



Image Credit: Trafo Power

Transformers are housed in high protection enclosures, rated to IP44 or NEMA 3R, in an oil and gas plant project.

the harsh operating conditions in which many transformers must function on mines.

“With dry-type transformers, it is really only the temperature that requires monitoring.

The equipment comprises limited componentry, so generally requires servicing only twice a year,” he added.

He highlighted that these regular inspections are brief and simple, taking just a couple of hours. Key aspects to be checked are the physical termination connections – which must be tightened to the right torque – and any dust that has gathered around the core and windings must be cleaned away.

## Increasing throughput and decreasing maintenance in the iron ore sector

MBE Minerals SA’s BATAc jigs are becoming increasingly popular in the iron ore beneficiation sector due to their rapid detection of changes in the raw material, quick reaction to such changes and easy operation.

BATAc jig technology has excellent separation accuracy, relatively small in footprint and has a comparatively low capital cost, said Johannes Kottmann, managing director of MBE Minerals SA.

Options are available for wet and dry classification as well as for dewatering and depulping of coal, minerals and ores. Variants include RSL and RFS resonance screens and conveyors; type VSL and USL linear motion screens; type VSK and USK circular motion screens; type VRL micro screens; and type VMSL vibrating screens.

A range of vibrating feeders, designed in



Image Credit: MBE Minerals

MBE Minerals can engineer and provide the necessary capital equipment for iron ore beneficiation processes within the harsh African beneficiation environment.

Germany and manufactured locally, feature feed capacities of 100 up to 3,000 tph. These feeders are suitable for all applications where controllable discharge of bulk materials is required. Replaceable bolt-on wear liners are fitted to the feeder troughs to prolong feeder life.

MBE’s R&D Centre is able to simulate complete separation processes with its own crushers and mills, using wet as well as dry classification on screens, in cyclones or in air classifiers, and finally separating the minerals by gravity, magnetic properties or using specific chemical surface attributes for flotation.

The company is offering basic and detailed engineering, components for complete plants and systems including modernisation and capacity increase measures, as well as automation and process control equipment.

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# How remittances are aiding well-being in Africa

Andy Jury, CEO of Mukuru speaks on the impact of remittances on the social well-being of receivers amid world crises. He also unpacks how digital payments increase household resilience, fuel local economies and improve lives.

As developing nations reel from the impact of the novel coronavirus and national lockdowns, communities and households are seeing their collective resilience and well-being put to a rigorous test. While families draw on every possible means of support, the health crisis is underscoring which avenues of financial support and financial access are providing the much-needed resources that households need. Today, remittances stand out as a critical financial services function that is boosting social well-being and household resilience – both in times of crisis and ‘normality’.

To understand and grasp this impact more deeply, it is valuable to begin by reflecting on remittances flows during and post the global health crisis.

Following 2019’s record US\$554bn flow of formal remittance to low and middle-income countries (LMICs), the World Bank expects a 20% decline in 2020 as a result of the coronavirus pandemic. Although a recovery of 5.6% is tentatively forecast for 2021, direct foreign investment to LMICs is expected to fall by as much as 35%.

This will likely affect the remittance market in three pivotal ways:

- A significant fall in direct foreign investment will see cross-border remittances becoming an increasingly vital source of external funding for LMICs.
- Its impact on the social well-being of receivers will serve as an important real-picture indicator and measurement for the non-profit sector, as well as governments and regional regulators when setting policies and development goals.
- Demand for financial services



Image Credit: Adobe Stock

that deliver convenience to customers – while also reducing transfer time and lowering remittance costs – will see digital money transfer companies drawing on the latest fintech developments.

## Measuring the social impact

While measuring the numbers around formal remittance payments is always going to be easier than measuring its social impact on receivers, there are strong indicators that we can turn to and continually use as critical benchmarks.

To begin with, studies tell us that formal remittance is about four times larger than official development assistance – so we can make reasonable assumptions about the true effect of remittances on poverty alleviation while informal remittances remain unmeasured. So, if formal remittance impacts the lives of about one billion people, and informal remittance is estimated to be anywhere between

35% and 250% of formal remittances, the real-world impact of remittances on poverty reduction is most likely staggering.

## Driving local economic activity

Perhaps unsurprisingly, current research suggests that remittances sent from migrant workers to families back home play an important role in supporting local economies.

When looking at the UN partnership collaboration, The Transfer Project, for example, although it examines the social effects of cash transfer programmes, it is interesting to note that far from creating dependency on cash payments, receivers tend to invest money in projects that benefit their local economies.

For instance, the impact of just two years of transfers in Zambia, resulted in an impressive 34% increase in land dedicated to crop production. This yielded an increase

in household consumption that was 25% greater than the cash transfer itself. Similar results have been seen in Lesotho, Kenya and Malawi.

Notably, a 2016 estimate puts the total of formal and informal remittances flowing from South Africa to Malawi at R477.mn. Based on the exchange rate at the time, this translated to around MK23.9bn. To put this into context, consider the real-world impact on local economies of a yield that is 25% larger than the remittance itself!

At Mukuru, we have observed that many remittances sent intra-Africa by our customers actually align with crop planting season, building cycles and times when school fees are typically due.

A comment from lead economist at the Global Knowledge Partnership on Migration and Development (KNOMAD) – Dilip Ratha – illustrates this trend, “Remittances, unlike private investment money, do not flow back at the first sign of trouble in the country. When the family is in trouble, facing hard times, migrants send more money then. Unlike development aid money, that must go through official agencies, through governments, remittances directly reach the poor, reach the family, and often with business advice.”

Perhaps most importantly, money transfer companies can offer greater peace of mind for those who send remittances as well as for their families back home, by creating value-added services in the form of money cards and insurance products with lower price points and improved accessibility.

Looking ahead, building customer education and protection into value-added services will be a crucial element in gaining trust and enabling the successful uptake of these products and services. ■

“The real-world impact of remittances on poverty reduction is most likely staggering.”

ANDY JURY, CEO OF MUKURU



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