

TRANSPORT

MAN Truck & Bus launches new truck range in Africa **P20**

SEA FREIGHT

How firms are embracing digitalisation to ease logistical problems **P22**

POWER

How smart grids are bridging the rural-urban divide **P28**

MINING

Premium tyres stand strong for gold and coal miners in West Africa **P46**

African Review

MAY 2021

of BUSINESS and TECHNOLOGY

P40

CRANES

Supporting developments and port expansions

P32

CONSTRUCTION TRENDS

East Africa comes out top as busiest region in 2020

P19

MANUFACTURING

Why Covid is driving manufacturers to automate systems



P18



"We're looking to help African entrepreneurs grow or launch their businesses."

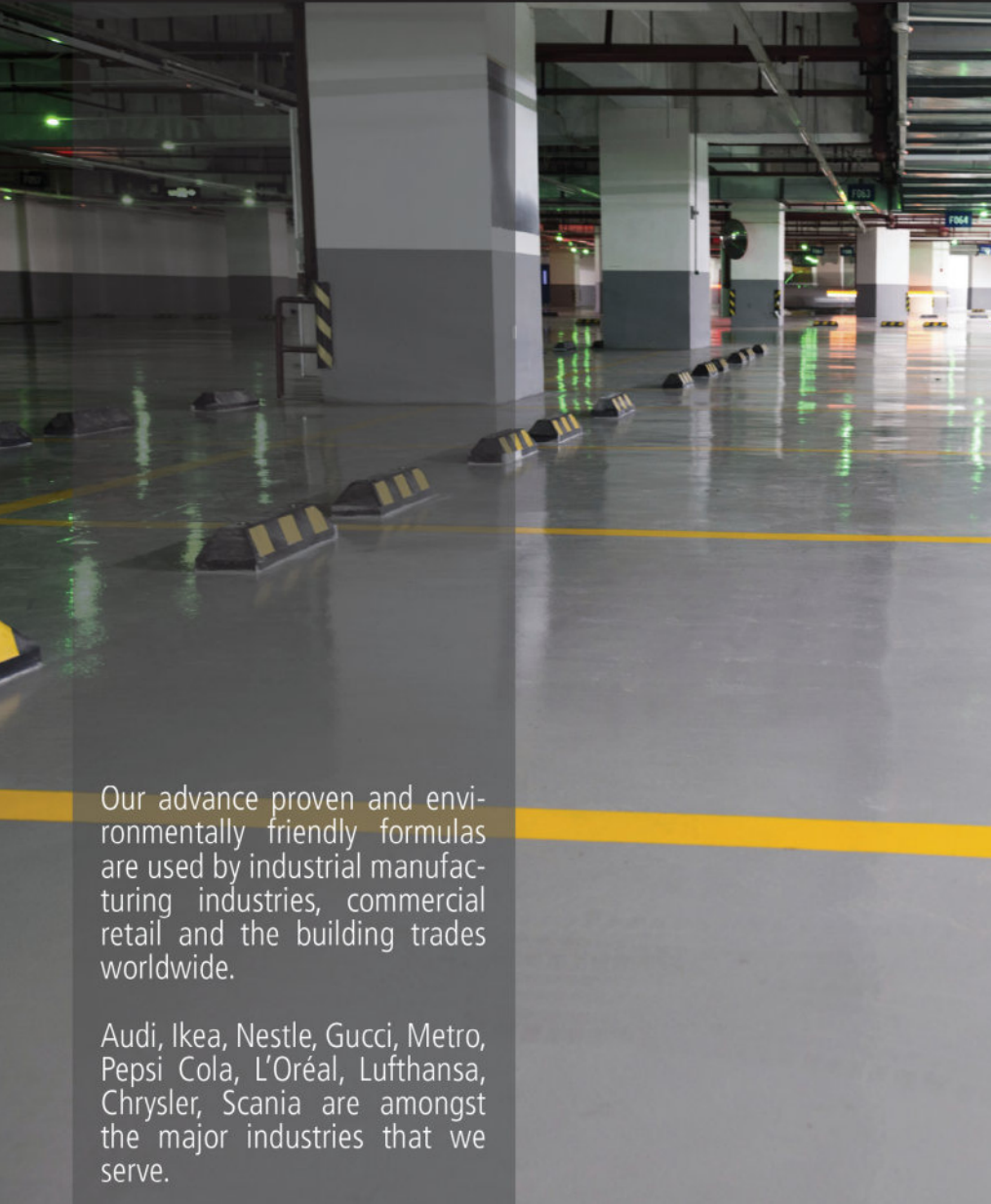
Adam Molai, founder and chairman of Jua Fund & TRT Investments

58
YEARS

SERVING BUSINESS IN
AFRICA SINCE 1964

CONVERGENT GROUP, advanced floor care solutions for industrial concrete surface treatment.

As a leading manufacturer of Nano-Lithium products such as Pentra-Sil® (NL), our Group provides high quality treatments for use as surface hardener, sealer and densifier and also for the preservation and maintenance of new or old concrete floors. CONVERGENT GROUP is also the manufacturer for LisoChem, a wide range of green surface waterproofing and maintenance solutions.



Our advance proven and environmentally friendly formulas are used by industrial manufacturing industries, commercial retail and the building trades worldwide.

Audi, Ikea, Nestle, Gucci, Metro, Pepsi Cola, L'Oréal, Lufthansa, Chrysler, Scania are amongst the major industries that we serve.

THE LITHIUM TECHNOLOGY



CONVERGENT GROUP
CONCRETE TECHNOLOGIES

CONVERGENT GROUP S.A. • A Company Certified Iso 9001 & Iso 14001/EMAS

Rue des Mousquetaires Gris 35 • 5660 Mariembourg Belgium • Phone : +32 60 390 752 • RPM Dinant • VAT: BE 0479-433-386

info@convergent-group.com • www.convergent-group.com



Cover picture: The installation of the crude distillation unit, using a 5000t capacity ringer as the main crane at the Dangote Refinery development at the Lekki Free Zone.

© Mammoet

Cover Inset: Adam Molai, founder and chairman of Jua Fund & TRT Investments

© Jua Kickstarter/photographer: Chris Collingridge

Editor: Samantha Payne

Email: samantha.payne@alaincharles.com

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

Contributing editor: Martin Clark

Publisher: Nick Fordham

Sales Manager: Richard Rozelaar

Email: richard.rozelaar@alaincharles.com

Magazine Manager: Jane Wellman

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

Email: jane.wellman@alaincharles.com

India **TANMAY MISHRA**

Tel: +91 98800 75908

Email: tanmay.mishra@alaincharles.com

Nigeria **BOLA OLOWO**

Tel: +234 80 34349299

Email: bola.olowo@alaincharles.com

UAE **MURSHID MUSTAFA**

Tel: +971 4 448 9260 Fax: +971 4 448 9261

Email: murshid.mustafa@alaincharles.com

UK **RICHARD ROZELAAR**

Tel: +44 20 7834 7676 Fax: +44 20 7973 0076

Email: richard.rozelaar@alaincharles.com

USA **MICHAEL TOMASHEFSKY**

Tel: +1 203 226 2882 Fax: +1 203 226 7447

Email: michael.tomashefsky@alaincharles.com

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

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

Production: Srinidhi Chikkars, Dinesh Dhayalan, Swati Gupta and Nelly Mendes
E-mail: production@alaincharles.com

Chairman: Derek Fordham

Printed by: Buxton Press

Printed in: APRIL 2021

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

For any other enquiry email circulation@alaincharles.com

Alain Charles Publishing
Serving the world of business

Editor's Note

Welcome to our May issue. For our cover story we concentrate on new cranes entering African markets, especially the ship-to-shore gantry cranes helping to develop the Port of Berbera and the crawler and ring cranes supporting the Dangote Refinery development, page 40.

Keeping with the theme of construction, we have given a comprehensive update to different construction machinery on the market from loaders and excavators to articulated trucks, that can be found on pages 41-44. Also, don't miss that Deloitte has released its 2020 trends report showing high levels of construction activity, especially in Southern Africa, East Africa and North Africa, page 32.

Over in power, we see how Siemens Energy is supporting countries in the energy transition and has tailor-made solutions at the ready for customers, in particular, which are very suitable for Africa's development, page 27.

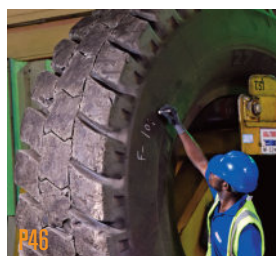
Elsewhere in the issue, I caught up with Darren Flint, vice president of UK and West Africa Kal Tire Mining Group, to see how the company has navigated the Covid-19 pandemic and about their new end-of-life solution, with their first thermal conversion plant underway in Chile, page 46.

Finally, some important research has emerged from professors of Stellenbosch University and Lagos University who are looking at developing an early warning system for Covid-19 hotspots from sampling wastewater. It has been cited as vital in assisting governments to provide interventions to improve the health of the vulnerable population in developing countries, more on page 50.

Samantha Payne, Editor

Contents

- 16 Technology**
The rapid growth of mobile money services has encouraged mainstream Kenyan banks and other financial organisations to be part of this dynamic ecosystem.
- 18 Business**
Adam Molai, founder and chairman of Jua Fund & TRT Investments, launches Jua Kickstarter venture capital fund to provide African entrepreneurs with capital to grow their businesses.
- 20 Transport**
MAN Truck & Bus has introduced the TG Range for the Middle East and Africa, following a year of the global launch of the New Generation Truck range.
- 22 Sea freight**
How many sea freight companies are embracing digitalisation as a means to streamline business and manage real-time disruptions.
- 28 Power**
Why building 'smarter' grids has been pushed to the top of the agenda for utilities by the global pandemic and may be the answer to closing the rural-urban smart grid divide.
- 32 Construction**
Deloitte has released its 2020 construction trends report where it showed East Africa once again recorded the highest number of projects, followed by Southern Africa.
- 36 Cement**
Nigeria cement sales rose for Dangote Cement despite the disruption caused by the pandemic to many industries and businesses. In fact, 2020 was a record year for the company.
- 46 Mining**
African Review talks to Kal Tire on their retreading factory in Ghana and their new end-of-life tyre solution.



African Development Bank extends 145 million euro loan for railway safety

The board of directors of the African Development Bank has approved a 145 million euro loan for the Egypt National Railways Modernisation Project (ENRMP).

The funding will be used to enhance the country's rail infrastructure, focusing on its operational safety and network capacity.

Dr Rania A. Al-Mashat, Egypt's minister of international cooperation, explained, "Safe, accessible, convenient and green transport systems will be crucial to achieving sustainable development. The improvement and expansion of Egypt's rail system through the ENRMP allows for active mobility and enables the urban and rural development through an inter-modal linked system. Technology and innovation, and a robust commitment to public transport will all be vital components of building back better."

The loan, as well as other investments in the ENRMP project, are expected to increase rail capacity and freight traffic by 15% and 10% respectively in the next eight years, which is, in turn, expected to reduce road traffic and greenhouse gas emissions. The planned upgrades are focused on low-income citizens, around 40% of the population, who rely on trains.

Nationally, around 8% of passenger traffic and 6% of freight traffic move by rail; this project will target the expansion of the national railway's capacity and improve operations in general.

The ENRMP will also introduce a cost-effective train protection system across 950km of railway, along the routes connecting Alexandria to Negh Hammadi and Port Said.

"The newly approved project will enhance the multimodal transportation environment in Egypt, and the efficient movement of people, services and goods," said Malinne Blomberg, the bank's deputy director general for the North Africa region.

"This operation is fully aligned with the bank's strategy for interventions in Egypt, contributing to sustained and inclusive economic growth, and more specifically, developing infrastructure that supports expansion of the private sector and job creation," she continued.



Eight per cent of all Egyptian passenger traffic moves by railway.

SEFA INVESTS US\$965,000 IN SUPER ENERGY SERVICE

The African Development Bank's Sustainable Energy Fund for Africa (SEFA) is providing a US\$965,000 grant to Moroccan-based Société d'Ingénierie Energétique (SIE), supporting the company's transition into the first Super Energy Service Company (ESCO) initiative on the continent.

Ahmed Baroudi, SIE's chief executive officer, said, "This support from the African Development Bank will enable the operationalisation of the new SIE as a Super ESCO, thus creating a model well aligned with the needs of the country's energy efficiency sector."

As a Super ESCO, SIE aims to overcome many of the conventional challenges faced by companies aiming to scale up in energy efficiency investments. The company also aims to open national and international market opportunities for local ESCOs, targeting quality assurance support.

The US\$965,000 investment will provide SIE with a range of operational tools and support channels to develop a timeline of bankable energy efficiency investment projects in Morocco and North Africa.

"The implementation of Super ESCOs on the continent will gradually contribute to the expansion and strengthening of the energy efficiency financing ecosystem. The African Development Bank is proud to support the first Super ESCO in Africa and looks forward to supporting further projects in the future," said Jalel Chabchoub, chief investment officer and energy efficiency specialist in the Department of Renewable Energy and Energy Efficiency at the African Development Bank.

Super ESCOs serve as vehicles for public sector energy efficiency investments in schools, hospitals and road infrastructure. ESCOs, therefore, lay the foundation for further private investment at a later point, both within the commercial and industrial sectors.

SIEMENS TARGET SUDAN GRID STABILISATION

Siemens Energy has won a contract to build grid stabilisation stations in Sudan, which will stabilise the grid and ensure a reliable flow of power from Egypt to Sudan.

Today, only around 60% of the population in Sudan has access to electricity; this contract will be the first national grid stabilisation and will utilise Siemens Energy's Static Synchronous Compensator technology.

"This project will support growth, jobs and economic transformation," said Mahmoud Hanafy, vice president, Siemens Energy Transmission Solutions in the Middle East. "We are proud to contribute to this strategic project which is critical to accelerate energy transition and foster power trade."

One of the two stations will be built in the capital of the state of northern Sudan, Dongola. The second station will be built in the town of Merowe, about 330km from Khartoum, where the Merowe High Dam is located. "This project will help Egypt export reliable power to its neighbour, bringing it closer towards its goal of becoming a regional power hub. We are proud to be part of this endeavour and to help Egypt achieve its goals in the region," said Emad Ghaly, Siemens Energy Egypt's managing director.



The CDE event will run virtually from 18-20 May.

CDE to host virtual conference

CDE, the wet processing equipment manufacturer, is set to host its global conference virtually this year, bringing together a range of industry leaders to share expertise and experience.

After a two-day event in October 2020, the event will run for three days this year, from 18-20 May, 2021.

Admission is free, but places are limited for some roundtable and seminar sessions. Register at www.cdeglobal.com/event



The agreement is worth US\$1.5bn.

ITFC boosts Tunisian trade

The International Islamic Trade Finance Corporation (ITFC), a member of the Islamic Development Bank (IsDB), has signed an agreement with the Tunisian government to increase trade and build trade capacity.

The US\$1.5bn agreement is aimed at supporting Tunisian state-owned companies to finance the importation of essential commodities, such as energy and industry, among others, as well as to drive exports and promote inter-regional trade.

Middle East and Africa Renewable Energy Summit discusses the way forward to meet zero-carbon emission targets

In the Middle East and Africa (MEA), renewable energy is emerging as a critical component in the region's sustainable energy transition. The renewable energy sector's landscape is rapidly evolving in response to increased demand for power and the ambitious targets being set by governments and organisations in the region in the race to achieve net-zero carbon emissions. Investment in renewable energy is increasing, and several countries in the MEA region are becoming global frontrunners in the development of clean energy solutions.

During UL's two-day Middle East and Africa Renewable Energy Summit in March, experts from UL and industry-leading renewable energy organisations in the MEA region, explored how developers can successfully tap into the potential of clean energy and how stakeholders can mitigate risk at every phase of a project's life cycle as they work toward their sustainable energy targets.

Daniel Barandalla, solar advisory lead for Europe, the Middle East, Africa, North America and Latin America at UL, gave a presentation on the development of utility-scale solar photovoltaic (PV) projects in the MEA region with a focus on minimising project risks at each stage of development.

Thoroughly assessing risks in the development, planning and feasibility stages during a project's development is critical to a project's success. Any risks need to be identified and mitigated as early as possible to minimise any impact on the project's costs and delays. Barandalla explored the different types of systems, including monofacial versus bifacial designs and floating PV, considering current and future technology trends.

Possible risks associated with the construction phase of a project include logistics, delays, scope of contract execution and construction monitoring. Barandalla also identified potential operational risks, including production that is below expectation, high expenses, insufficient



Utility-scale solar PV projects are on the rise in the region.

Image Credit: Adobe Stock

income and structural damage.

"The crucial message is that it's better to identify any issues that pose a risk as early as possible. Many risks can be minimised and mitigated in the beginning by applying best engineering practices, utilising a good selection of components, using a good technical and legal definition of contracts and sourcing an independent verification of the construction of the project to make sure that an independent party, which is not affiliated to the EPC contractor, is looking into the work and pushing the EPC contractor to finish the work with the best quality and in line with the requirements which have been agreed in the contract."

Barandalla also said thorough supervision during the construction phase helps stakeholders to identify and mitigate construction risks. He concluded by saying the definition of the right KPIs, tasks and activities is critical to remove any risk at project completion.

Jose Javier Ripa, head of business development for Europe, the Middle East, Africa and Latin America at UL, explored the emergence of energy storage technologies as a key solution for the effective integration of solar and wind renewable energy into global power systems.

"The cost of lithium-ion batteries has been gradually reduced, driven especially by the strong demand in the electric vehicle market. With these falling costs, some energy applications are starting to become viable and,

by 2030, projections show an estimated price of US\$62 per kilowatt hour."

This, coupled with the push for complete decarbonisation in the energy industry, has led to the energy storage market growing exponentially.

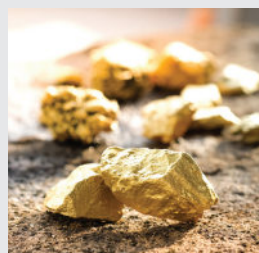
Ripa shared that the viability of a hybrid plant with storage involves monetising not only energy arbitration, but also grid and capacity services, which is a key consideration in the financial model, and must contribute at least 70% of the storage income. However, managing this requires ordering and optimising applications to combine availability and utilisation.

He went on to say the degradation of the energy shift system has a significant impact on the financial model and requires the management of key factors, such as C-Rate, state of charge and depth of discharge, which in turn impact the plant's production. As the generation resource, wind or solar, has a fundamental weight in a project's viability, precise resource determination is critical. With the current cost of storage (CAPEX) and the uncertainties many projects face regarding the management of compensatory mechanisms, most projects with storage are only accessible to companies with access to low cost of capital through equity or corporate debt.

To access the full recordings on-demand, register at: <https://www.ul.com/resources/middle-east-and-africa-renewable-energy-summit>

BRIEFS

Image Credit: Adobe Stock

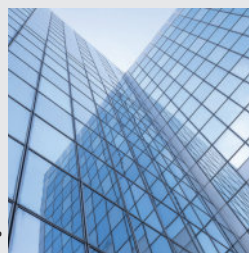


The share of gold in Managem Group's portfolio is forecast to rise to 50%.

Expanding gold production

Moroccan mining giant Managem Group is aiming to expand the share of gold in its portfolio from 20% to 50%, in line with growing production in its Gabgaba Sudan mine and the launch of its Tri-K gold mine in Guinea later this year, according to a report in Morocco World News. In March, the company signed a partnership agreement with the Chinese Wanbao Mining Group to expand the Gabgaba mine, forecasting an increase of annual gold production from 60,000 to 200,000 ounces.

Image Credit: Adobe Stock



Implementation work is due to be carried out in the second half of this year.

Bayadega project planned

Real estate developer Skyway Development plans to launch the Bayadega project in Egypt's New Administrative Capital, with EGP 700mn (US\$44.5mn) of anticipated investments, according to press reports.

The company will develop an administrative, commercial and medical project to international standards, over an area of 3,600sq m, according to the company's CEO Hosny ElSaidy. It will feature various activities and services.

Agility opens new logistics park in Maputo, Mozambique

Agility, a leading global logistics and warehouse provider, has opened a new Agility Logistics Park in Maputo, adding to its growing network of international-standard warehouse parks serving key African markets.

The 290,000sq m Agility park is strategically located on the new Maputo ring road in the Marracuene-Chiongo district, providing easy access to the burgeoning Maputo market and road connections to the major highways leading to the large markets in the north of Mozambique and to South Africa.

The 32,000sq m of Agility warehousing, constructed for the first phase of the development, provide ready-built, secure, international-standard facilities that are available to lease by both local companies and multinationals. Tenants lease the warehouses for storage, distribution, packaging, processing, assembly and light manufacturing.

Agility warehouses meet international environmental standards and feature eco-friendly construction materials. Agility used energy-efficient roof and side-insulated panels; wind-driven roof fans; skylights for natural lighting; LED and energy-saving bulbs; and solar-powered streetlights. The site will recycle paper, plastic, metal, and carton waste. It provides eco-friendly waste management services and carbon footprint reporting.

The Agility Logistics Park in Maputo is part of an expanding network of quality warehouse parks that Agility is funding and developing across key markets in Africa to support the development of domestic and regional trade. Other Agility Logistics Parks are located in Ghana, Ivory Coast and Nigeria.

Geoffrey White, CEO Agility Africa, said, "We believe that the provision of international-standard warehouses in Africa for storage, distribution and light manufacturing is one of the fundamental building blocks necessary for economic growth. The Agility Logistics Parks enable companies, whether multinationals or small and medium local enterprises, to access quality infrastructure easily, quickly and cost effectively, enabling growth and prosperity."



A new Agility Logistics Park opens in Maputo, Mozambique.

Image Credit: Agility

STUDY ON SOUTH AFRICA'S HYDROGEN VALLEY

ENGIE, a global reference group in low-carbon energy and services, has signed an agreement alongside South Africa's Department of Science and Innovation, South African National Energy Development Institute, Anglo American and Bambili Energy, to carry out a feasibility study on South Africa's hydrogen valley.

The goal is to create a hydrogen valley situated on the Bushveld Complex and more broadly around Johannesburg, Mogalakwena and Kwazulu Natal.

The first step of the feasibility study, which is carried out by ENGIE Impact, aims to identify tangible project opportunities to build hydrogen hubs in this major economic and transport corridor. The project's objective is to identify up to three hydrogen hubs – zones with a high concentration of hydrogen demand, with access to green hydrogen that act as a hydrogen eco-system. Subsequently, a techno-economic analysis will be carried out on each of the hubs to assess the business case for the identified projects, map their potential for positive social impact and define the political and regulatory actions needed to create the conditions for implementation.

Hydrogen is of strategic importance to South Africa. President Ramaphosa highlighted the Hydrogen South Africa Strategy in his recent State of the Nation address, stating that after a decade of research, South Africa is prepared to manufacture hydrogen fuel cells. The hydrogen economy presents an opportunity for South Africa to leverage its platinum resources to develop a domestic hydrogen economy, valued at US\$10bn per year.

Initiated as part of a national H2 roadmap, a local hydrogen economy has the potential to have an impact in stimulating economic activity, job creation and decarbonisation of the region.

TLOU ENERGY RECEIVES EIS APPROVAL FOR BOOMSLANG PROJECT IN BOTSWANA

Botswana's Department of Environmental Affairs (DEA) has approved the environmental impact statement (EIS) for Tlou's Boomslang project, which is adjacent to the company's Lesedi power project. All proposed project activities outlined under the EIS have been authorised. They include drilling of core holes and stratigraphy boreholes; conducting seismic and geomagnetic surveys; pilot testing pods, monitoring wells and evaporation ponds; and installation of pumping monitoring, gathering lines and evaluation equipment.

Tlou believes the Boomslang project can complement the more mature Lesedi and Mamba projects, particularly given the presence of the highly prospective Serowe coal seam. The Lesedi and Mamba project primarily targets the deeper Morupule coal seam. EIS approval for exploration of the Boomslang permit (Tlou 100%) represents another key milestone for the company. Successful exploration and development of the Boomslang area could facilitate Tlou's longer-term strategy of expansion beyond the current Lesedi project area.

► BRIEFS

Metso Outotec to supply technology to Sandfire Resources



Delivery will take place throughout 2021 and 2022.

Metso Outotec has signed a US\$20mn contract to deliver all of the main process technologies for Sandfire Resources' flagship Motheo copper-silver concentrator in Botswana. Metso Outotec will deliver all key minerals processing equipment including gyratory and pebble crushers, apron feeders, a semi-autogenous (SAG) mill and the associated reline machine, TankCell flotation cells, a Vertimill fine grinding mill, high rate thickeners, and a pressure filter.



This agreement marks Acronis' fourth acquisition in the past 18 months.

Acronis acquires Synapsys

Acronis has acquired Synapsys, its partner in Cape Town that specialises in distributing Acronis cyber protection solutions through the service provider channel. The acquisition dovetails with Acronis' ongoing global/local initiative, which aims to provide expanded in-country access to the company's resources. As demand for cloud and managed services increases around the world, it creates opportunities for service providers who deliver Acronis cyber protection solutions.

Mauritius Commercial Bank provides US\$60mn for Senegal's electrification goals

The Mauritius Commercial Bank (MCB) has facilitated Senegal's endeavour to improve its national electrification rate through a US\$60mn contribution in the syndicated project finance facility of US\$140mn to Karpowership.

The powership is contributing to around 15% of Senegal's electricity supply.

According to Africa Energy Outlook 2019, Senegal's electrification rate was 69% in 2018, with a 92% rate in urban areas and only 42% in rural areas. As per the government's Emerging Senegal Plan, a national roadmap adopted back in 2014, the state has ambitions to increase its electrification rate to 100% by 2025, while focusing on lowering electricity generation costs by reducing its dependence on imported liquid fuels and increasing electricity access to rural areas.

The powership will soon shift from the use of heavy fuel oil to gas. This fuel switch-over will generate material reduction in Senegal's fuel bill with positive spill-over effects on electricity costs in line with the national roadmap.

The powership's fuel transition is being facilitated by a Floating Storage and Regasification Unit (FSRU). Following successful sea trials, the FSRU has departed Singapore and is expected in Senegal in the coming weeks. The FSRU is a KARMOL's enterprise – KARMOL is a joint venture between Karpowership and Mitsui O.S.K. Lines.

Zahir Sulliman, head of specialised finance, MCB, said, "Financing Karpowership in Senegal is a first step in the right direction and we are looking forward to increasing our participation in projects that foster energy production whilst promoting both climatic and environment friendliness in an endeavour to increase living standards."



Zahir Sulliman, head of specialised finance, MCB.

LIT APPOINTS NEW CFO IN SOUTH AFRICA

Liquid Intelligent Technologies (LIT), a pan-African technology group, has announced the appointment of Sandile Ntsele as chief financial officer (CFO) for its South Africa operations.

Ntsele has extensive experience working in senior finance roles, most recently as the CFO for MTN South Africa. He will be instrumental in overseeing Liquid South Africa's corporate and financial strategy as the organisation repositions itself and optimises its network and technological capabilities to deliver on its corporate vision of enabling a digitally connected future that leaves no African behind.

Deon Geyser, CEO of Liquid South Africa, said, "We are delighted to welcome Sandile to Liquid. His in-depth understanding of the industry we operate in and experience in leading organisational transformation will be a great asset to the executive team at Liquid SA. I believe that he will help us improve and optimise our operations and enable future sustainable growth, driving profitability and enhance the value for our shareholders."

Ntsele is a chartered accountant in South Africa and is a member of the South Africa Institute of Chartered Accountants (SAICA), having completed his chartered accountancy training at Deloitte and Touche. In a career spanning over 20 years, he has worked in both African and Middle East markets, and he brings this rich experience to Liquid.

Commenting on his appointment, Ntsele said, "Liquid has been at the forefront of providing intelligent technologies and resilient connectivity to its customers for a long time. I look forward to joining Liquid South Africa's dynamic leadership team and leading its local finance department, and contributing to the firm's future success as it progresses to the next phase of its strategy." LIT is a pan-African technology group with capabilities across 14 countries.

TOTAL DECLARES FORCE MAJEURE ON MOZAMBIQUE LNG PROJECT

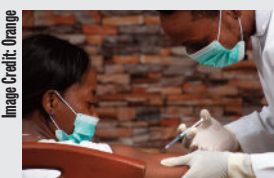
Total has confirmed the withdrawal of all Mozambique LNG project personnel from the Afungi site following the unstable security situation in the north of the Cabo Delgado province in Mozambique.

"Total expresses its solidarity with the government and people of Mozambique and wishes that the actions carried out by the government of Mozambique and its regional and international partners will enable the restoration of security and stability in Cabo Delgado province in a sustained manner," a company statement said.

Total E&P Mozambique Area 1 Limitada, a wholly-owned subsidiary of Total SE, operates Mozambique LNG, with a 26.5% participating interest with ENH Rovuma Área Um, S.A. (15%), Mitsui E&P Mozambique Area 1 Limited (20%), ONGC Videsh Rovuma Limited (10%), Beas Rovuma Energy Mozambique Limited (10%), BPRL Ventures Mozambique B.V. (10%) and PTTEP Mozambique Area 1 Limited (8.5%).

BRIEFS

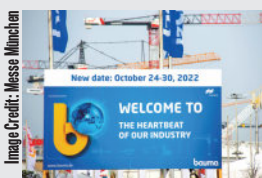
Orange provides support for Covid-19 vaccinations



Orange provides support for Covid-19 vaccination campaigns in Africa and the Middle East through its foundation.

In the fight against the Covid-19 pandemic, the Orange Foundation is providing an additional 1.3 million euros in financial aid to 17 countries in Africa and the Middle East within its footprint. These funds will be used to support national efforts to vaccinate as many people as possible. Alioune Ndiaye, CEO of Orange Middle East and Africa, said, "Each of our 17 countries will use this aid to supplement projects that have been launched locally with the health authorities."

bauma is postponed until 2022



Regardless of the postponement, the technical and organisational planning for bauma 2022 continues.

bauma – the world's leading trade fair for construction machinery – has been postponed to 24-30 October, 2022, due to the pandemic and the result of many discussions between Messe München and top industry representatives. Klaus Dittich, CEO of Messe München, said, "The decision to postpone bauma was not an easy one. But we had to make it now, before the exhibitors start planning their participation in the trade show and make corresponding investments."

Wärtsilä gas conversion project will accelerate Senegal's move to cleaner energy production

The technology group Wärtsilä will convert the Bel-Air power plant in Dakar, Senegal to operate on liquefied natural gas (LNG).

The 90MW plant, which is owned by Senelec, Senegal's public utility company, currently operates on heavy fuel oil. The conversion will future-proof the facility, as Senegal's long-term strategy is to lower the carbon footprint of energy production by switching to gas when a domestic supply is available.

This project is part of an interim LNG-to-Power 'bridge' solution, and is the first ever power plant gas conversion in Senegal. The order with Wärtsilä was booked in Q1 2021.

"Our two main aims were to improve the plant's environmental profile and to lower the operating costs. By taking advantage of Wärtsilä's deep experience and strong capabilities in power plant gas conversions, we can achieve both of these goals. At the same time, we are preparing the plant for the country's future gas supply infrastructure," said Papa Mademba Biteye, managing director of Senelec.

"Future-proofing the customer's assets to meet the requirements over the lifecycle via a gas conversion is far more cost-effective than building a new plant. It also facilitates the greater use of energy from renewable sources, such as solar and wind, since the converted plant will be able to provide flexible, baseload power for balancing the grid," said Marc Thiriet, energy business director, Africa West, Wärtsilä.

The Bel-Air plant's existing six Wärtsilä 46 engines will be converted to six Wärtsilä 50DF dual-fuel engines. Wärtsilä's operation and maintenance agreement covering the existing engines is being renegotiated in view of the conversion. Wärtsilä's dual-fuel engine technology allows the use of multiple fuels, providing the option to operate on gas with liquid fuels as back-up.

The project will cover all aspects to ensure successful operations on gas. Everything from safety to operational reliability are taken into account, with control functions, mechanical auxiliary systems, as well as electrical and automation systems being changed or upgraded. As part of the EPC contract, Wärtsilä will manage all phases of the project, which is due for completion before the end of 2021.



The Bel-Air power plant in Dakar, Senegal.

WEST AFRICA TRADE HUB LAUNCHES VIRTUAL ROOM

The West Africa Trade and Investment Hub (Trade Hub) has unveiled a Virtual DealRoom giving global investors information and access to the hub's growing pipeline of impact business opportunities.

Funded by the US Agency for International Development (USAID), the Trade Hub aims to stir economic growth in West Africa utilising a market-based approach. Through its co-investment fund, the Trade Hub expects to attract US\$400mn of private investment. The virtual DealRoom was launched on Asoko Insight, a data platform that allows investors to connect with a selection of diversified, investment-ready businesses from the Trade Hub's broader portfolio. This activity seeks to reinforce the Trade Hub's partnerships with foreign and national investors in West Africa.

"Private sector investment is key to development in West Africa, and the continent, but finding and vetting businesses is often a challenge to investors seeking to make an impact," said Michael Clements, the Trade Hub's chief of party. "The virtual DealRoom seeks to help solve this dilemma, and the Trade Hub looks forward to seeing how it will be leveraged to spur economic growth in the region."

Investors can access the first batch of businesses, representing nearly US\$30mn in new impact opportunities, selected based on growth stage, geography and industry.

The deal pipeline features firms operating in a range of sectors, including agriculture, financial services, healthcare, water, energy, and logistics, and will add more than 100 select deals in the pipeline during 2021.

"The Trade Hub has selected a variety of quality opportunities across the region, and we're proud to help them unlock access to these businesses in order to create new local champions," said Greg Cohen, Asoko Insight COO and co-founder.

NIGERIA'S APM TERMINALS ACQUIRES SEVEN FORKLIFTS FOR CUSTOMS WORK

APM Terminals Apapa has acquired seven forklifts to increase efficiency in customs examinations and improve the movement of heavy materials.

Steen Knudsen, chief operating officer, APM Terminals Apapa, Nigeria's leading container terminal operator, confirmed that the company had acquired additional cargo handling equipment.

"APM Terminals Apapa also recently embarked on massive digitisation of its operations and services through the deployment of 4G LTE wireless network and construction of a new operation command centre to enhance service delivery," he said.

The terminal operator had announced an investment of US\$80mn for the 2020-2021 fiscal year, according to reports by the News Agency of Nigeria last year. The additional investments are expected to create capacity to handle growth in the economy to support the government's plan to boost trade growth.

► BRIEFS

Ecobank appoints new group executive



Tomisin Fashina, group executive, operations and technology, ETI

Ecobank Transnational Incorporated (ETI), parent company of the Ecobank Group, an independent pan-African banking group, announced the appointment of Tomisin Fashina as its new group executive for operations and technology. This is in addition to his existing role of managing director at eProcess International.

Tomisin has more than 30 years of experience, predominantly in technology management and financial services.

Burkina Faso installs large renewable plant



The solar plant in Burkina Faso will supply electricity to the state power utility, SONABEL.

A large-scale renewable energy plant will be built in Burkina Faso. It will be located 250km south east of the nation's capital city of Ouagadougou, near the town of Pâ. The solar plant will supply all the electricity it produces to Burkina Faso's national power utility, La Société Nationale D'électricité Du Burkina Faso (SONABEL). The Emerging Africa Infrastructure Fund (EAIF) is lending the project's developer, Urbasolar SAS, 80% of the capital needed for its construction.



دال للتعدين
DAL MINING

Sudan

Sudan is located in East Central Africa. It is bordered by Egypt to the north, the Red Sea to the northeast, Eritrea and Ethiopia to the east, South Sudan to the south, the Central African Republic to the southwest, Chad to the west, and Libya to the northeast. Sudan is the third largest country in Africa, after Algeria and DR Congo. Sudan's total land area amounts to some 1,886,068km², with 18,630km² of irrigated land.

After agriculture, oil is Sudan's major natural resource. The country also has significant deposits of chromium ore, copper, iron ore, mica, silver, gold, tungsten, and zinc.



Mining Operations in Sudan

Operating and running a mining site with high efficiency is a very challenging job, especially in a country as vast as Sudan. Operators face many obstacles and difficulties, which may well hamper or even totally eliminate your efficacy and effectiveness.

Poor infrastructure is one of the key challenges facing the mining industry in Sudan. The state of the country's transport infrastructure creates an impediment which contributes to inefficient logistical operations by raising cost and creating delays. There are many other factors which also play a role in creating challenges in running an efficient mining site; such as ensuring uptime, providing spare parts for machines, providing fuel for your fleet, providing skilled operators, and managing these cost effectively.

We at DAL Mining ensure customized mining services solutions; from a specific scope of work to a complete turn-key mining operation. DAL Mining has the knowledge, experience, people, and equipment to build an all-needed mine-site infrastructure, as well as the ability to provide a full production mining service. These services enable mine owners to optimize their resources, control and lower their costs, and execute projects more efficiently.



Today, the DAL Mining expert team not only delivers sustainable cost savings for your business, but also provides a wide range of services to help achieve maximum cost efficiency.



Hani Girgis

Sales & Business
Development Manager
DAL Mining



Total and partners sign final agreement for Lake Albert Resources Development Project

The final agreement for the Lake Albert development project was confirmed at a signing ceremony held in Entebbe, in the presence of Yoweri Museveni, president of the Republic of Uganda, Samia Suluhu Hassan, president of the United Republic of Tanzania, Patrick Pouyanné, chairman and CEO of Total, as well as representatives of China National Offshore Oil Corporation (CNOOC), Uganda National Oil Company (UNOC) and Tanzania Petroleum Development Corporation (TPDC).

The Lake Albert development encompasses the Tilenga and Kingfisher upstream oil projects in Uganda and the construction of the East African Crude Oil Pipeline (EACOP) in Uganda and Tanzania. The Tilenga project, operated by Total, and the Kingfisher project, operated by CNOOC, are expected to deliver a combined production of 230,000 barrels per day at plateau. The upstream partners are Total (56.67%), CNOOC (28.33%) and UNOC (15%).

The production will be transported from the oilfields in Uganda to the port of Tanga in Tanzania via EACOP. The main engineering, procurement and construction contracts will be awarded shortly, and then construction will begin with first oil export expected in early 2025.

All the partners are committed to implementing these projects in an exemplary manner, taking into highest consideration the biodiversity and environmental stakes as well as the local communities' rights and within the stringent environmental and social performance standards of the International Finance Corporation (IFC).

Pouyanné said, "The Tilenga development and EACOP pipeline project are major projects for Total and are consistent with our strategy to focus on low breakeven oil projects while lowering the average carbon intensity of the group's upstream portfolio. These projects will create significant in-country value for both Uganda and Tanzania. Total is also taking into the highest consideration the sensitive environmental context and social stakes of these onshore projects. Our commitment is to implement these projects in an exemplary and fully transparent manner."



Image Credit: Adobe Stock

The first oil export from the Lake Albert project is expected in early 2025.

AMPERSAND SECURES MAJOR PRIVATE INVESTMENT FROM EIF

Ampersand Rwanda, Africa's first electric motorcycle company, has received a US\$3.5mn investment from the Ecosystem Integrity Fund (EIF), representing the largest ever e-mobility investment by a venture capital fund in sub-Saharan Africa.

EIF's investment will allow Ampersand to scale its electric motorcycle and swap station networks in Rwanda, enable the company's expansion beyond Rwanda's borders, and fuel its research and development arm, putting it on track to electrify East Africa's entire motorcycle taxi fleet by 2030.

Since its commercial launch in May 2019, Ampersand's fleet of 35 drivers and e-motos have covered over 1.3 million kilometres. EIF's investment builds on the startup's acceleration through StartupBootcamp early-stage funding from sources, such as FactorE Ventures, the Rwanda Green Fund, Blue Haven Initiative's Catalytic Fund, the Shell Foundation, and others.

"We're thrilled to have EIF on board for this historic investment. We now have the momentum to scale our operations to electrify all of East Africa's five million taxi motorcycles by 2030. EIF's support further dispels the myth that electric transport will happen in rich nations first and trickle down to developing countries later, second-hand," commented Josh Whale, founder and CEO of Ampersand.

James Everett, managing partner of EIF, added, "We have confidence in the Ampersand team, and we believe the time is right. We are very excited to partner with Ampersand as the company scales in Rwanda and expands across East Africa. We believe that electrifying two and three wheeled vehicles in developing countries represents one of the low hanging fruits for climate change mitigation globally, and can have a profound positive impact on urban air quality."

DESALYTICS EXPANDS PRESENCE IN AFRICA

Desalytics Water Solutions, which specialises in the distribution of water treatment and quality consumables, has bolstered its operations in sub-Saharan Africa with the closing of its acquisition in Kenya, a move that is in line with the company's strategy of being present in 20 countries by 2022.

Walid Khoury, general manager of Desalytics Holdings, said, "Kenya remains a hub for the East Africa market. With this acquisition, we are expanding our feet on the street in the African continent. Sub-Saharan Africa remains an underserved water market, lacking the presence of leading multinationals, which creates a challenge for local industries and municipalities to procure high-quality water consumables for either analysing or treating their drinking, process, and wastewater. By being close to customers, we can help them improve their processes, deliver results and most importantly provide safe water and treated effluent for the communities they serve."

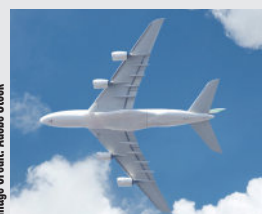
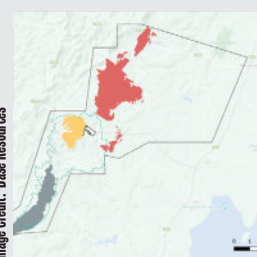


Image Credit: Adobe Stock

NavPass have already begun the training programme in South Sudan.

The government of South Sudan has signed a contract with NavPass to use the company's capacity, expertise and technology to ensure the safety of its airspace and enhance the country's global connections. Additionally, NavPass's automated technology will allow the country to secure fees from all aircraft using its airspace, a source of revenue that has not previously been available and could bring in tens of millions of dollars each year.

Base Resources complete PFS at Kwale North Dune



The North Dune PFS map.

Base Resources has completed its Pre-Feasibility Study (PFS) on the potential for the North Dune and Bumamani mineral deposits to extend the mine life at its mineral sands operations in Kwale County, Kenya.

While the PFS concluded that it is not currently viable to mine the entirety of the deposits due to low heavy mineral grade and high costs, the company has now commenced an assessment of the potential feasibility for mining high-grade subset of the deposits.

► BRIEFS

NavPass to help South Sudan claim control of its skies

DPFZA sets sight on first storage terminal at Djibouti Damerjog Industrial Park

The Djibouti Ports and Free Zones Authority (DPFZA) have announced that it has taken another stride in the realisation of the Djibouti Damerjog Industrial Park (DDIP) by signing an agreement with Somagrec Group for the construction of the first storage terminal.

The agreement was signed at a ceremony attended by Roger Sahyoun, group CEO and chairman of Somagrec, and Aboubaker Omar Hadi, chairman of DPFZA, with the latter expressing his delight to achieve such an important milestone in developing the DDIP petrochemical complex. Hadi also commented that this would drive forward East Africa's industrialisation while positioning Djibouti as a petrochemical hub for the region.

Somagrec have been commissioned to construct the first storage terminal at the complex, which will have a capacity of 150,000 cu/m for phase 1 and will serve to facilitate the transit of refined products as well as regional trading and bunkering business. This terminal will eventually be joined by four more storage terminals, which will facilitate a total expected capacity of more than 750,000 cu/m.

The DDIP, Djibouti's first heavy industry and petrochemical base, is the only industrial complex in East Africa equipped with a road-port-air-railway network and significant progress has been achieved in recent months. In 2020, agreements totalling US\$2.5bn were signed for five FDI projects under development in DDIP, including a floating refinery, an iron and steel industry factory, a wire mesh fabrication factory, a glass fabrication factory and a plastic pipe fabrication factory.

Additionally, in September 2020, Somagrec launched construction works for the Damerjog Liquid Bulk Port which includes an offshore jetty that is connected to onshore storage facilities. This will serve multiple end users, enabling them to load and unload a wide variety of products to and from inland storage facilities. The jetty is located around 3km from land, with a causeway that provides access for vehicles and pipeline services.

These projects are part of Djibouti's Vision 2035, to diversify its economy and continue developing infrastructure to strengthen its position as a regional and global trade, logistics and industrial hub.

Image Credit: Djibouti Ports and Free Zones Authority



Aboubaker Omar Hadi, chairman of DPFZA, signing the agreement with Somagrec.

NAIROBI RANKED TOP CITY FOR INNOVATION

Knight Frank's Africa Horizons Report 2021/22 has ranked Nairobi as the top city for innovation in Africa, as well as naming the UAE as one of the top five FDI source countries into Africa by capital investment.

The report suggested that the ability of African cities to emerge resilient from the pandemic will depend on their ability to innovate, provide long-term social solutions for their residents, attract funding and generate demand for space.

While the data markets remain underserved, the report looked at the main drivers towards the growth of asset classes with the move towards localisation of data, rising demographics and the influx in capital focused on data centres, all forming part of the key drivers for data centres in Africa.

In terms of data centre capacity, markets such as Johannesburg has a total live IT power of 54.9MW compared to data centre hubs, such as London whose live IT power stands at 728.25MW.

The report categorised Africa's data centre markets into three distinct tiers. Tier one markets are already becoming Africa's leading data centre markets. Tier two markets are essentially cities in the most populous of countries or those with strategic positioning. Tier three markets are categorised as low population centres with relatively low ease of doing business.

Tilda Mwai, researcher for Africa at Knight Frank, said, "Lower risk investors will likely favour cities with above-average innovation scores and a robust economy. These include Cairo and Johannesburg. These cities have the greatest potential to remain economically resilient in the long-term. Cities that score higher for innovation but have less robust economies will attract those willing to take more risk, such as private equity investors. These cities include Nairobi, Cape Town and Kampala."

CA NOTE CYBER THREAT INCREASE IN Q4 2020

According to a report published by the Communications Authority of Kenya (CA) in Kenya there was a 59.8% increase on cyber threats from 35.1 million threats detected in Q3 2020 to 56.2 million threats in Q4.

The spike is attributed to the significant increase in malware and web application attacks, among other factors recorded during the period. However, there was a decrease in impersonation, online fraud, cyber bullying and child abuse cases, reported to the National KE-CIRT/CC.

The CA also noted that in the period under review, the total broadband subscriptions rose by 4.6%, with 4G broadband subscriptions growing by 15.3% while 3G broadband subscriptions fell by 2.2%.

The total number of mobile subscriptions as of 31 December 2020 stood at 61.4 million representing an increase of 2.6% from the preceding quarter, and the number of active registered mobile money subscriptions stood at 32.5 million.

BRIEFS

Katoro Gold to proceed to diamond drilling programme at Haneti



Katoro Gold holds a 65% ownership interest in Haneti.

Katoro Gold, a gold and nickel exploration and development company, has announced that the maiden rotary air blast drill programme at the Haneti Nickel PGM project in Tanzania has identified nickel-copper-magnetite goossanous veins at a new outcrop at Mihanza Hill. The decision has, therefore, been made to advance the project to deep diamond drilling to assess the potential for possible economic nickel sulphide mineralisation at Haneti.

Huawei to develop ICT talent in Ethiopia



The JCC aimed at creating 20 million jobs by the year 2030.

The Federal Democratic Republic of Ethiopia Jobs Creation Commission (JCC) and Huawei have signed a MoU to cultivate an ICT talent ecosystem in Ethiopia, with the aim of helping students and professionals to get internationally recognised certification and develop better career paths in the telecom and IT sectors.

The programme is planned to train and certify 800 professionals in the first year and 3,200 within the next three.

Upcoming Events Calendar 2021

APRIL

28-29

RENPOWER MOZAMBIQUE & ANGOLA

Virtual

www.euroconventionglobal.com/event/renpower-mozambique-angola

MAY

17-9 June

MIDDLE EAST ENERGY

Virtual

www.middleeast-energy.com

20-22

THE 3RD POWER & ENERGY AFRICA 2021

Kigali, Rwanda

www.expogr.com/rwanda/powerenergy/aboutus.php

26-27

ZIMEC 2021

Virtual

www.zimeczambia.com

JUNE

3-4

WAPECC 2021

Virtual

www.wapecc.com

8-10

ENLIT AFRICA

Virtual

www.enlit-africa.com

24-26

7TH LIGHTTEXPO AFRICA 2021

Nairobi, Kenya

www.expogr.com/lightexpo

JULY

1-3

THE 7TH SOLAR AFRICA 2021

Nairobi, Kenya

www.expogr.com/solarafrica

AUGUST

24-25

POWER & ELECTRICITY WORLD AFRICA

Virtual

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

23-27

POWERAFRICA 2021

Virtual

www.ieee-powerafrica.org

MIDDLE EAST ENERGY TO TAKE PLACE FOR FOUR WEEKS AS VIRTUAL EVENT

Middle East Energy (MEE) Dubai has confirmed the 2021 edition of the show will now take place only as an online event.

Starting on 17 May until 9 June, four focus weeks will address the latest insights, trends and innovation across renewable and clean energy, transmission and distribution, critical and back-up power, and energy consumption and management. It will also feature tech talks, panel discussions, product demos, and one-to-one meetings.

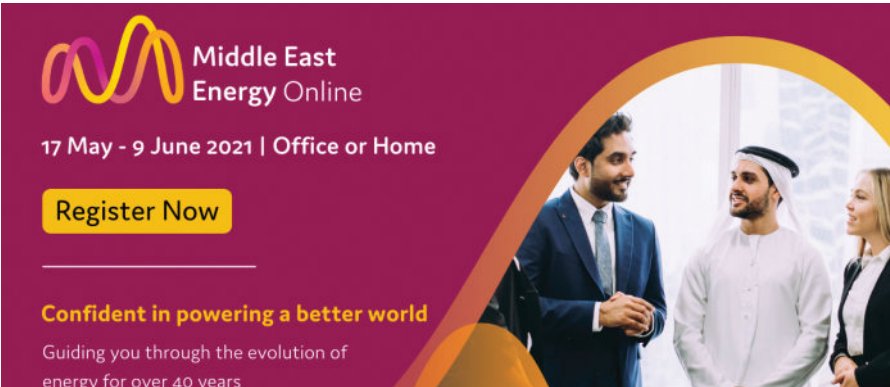
Middle East Energy Dubai, the leading global energy industry event formerly known as Middle East Electricity, has revealed the 2020 edition of the show generated more than AED18bn (US\$4.9bn) worth of business during the three-day showcase.

MESIA Solar Outlook Report 2021

Despite an unprecedented year presenting health, economic and financial challenges, a new era towards solar energy is continuing to thrive, as revealed in the Middle East Industry Association 2021 Solar Market Outlook report.

Countries such as Algeria, Morocco, KSA and Oman launched new tenders for additional solar capacity. By 2024, the total global installed solar power capacity is projected to almost double, reaching 1,300GW.

According to BNEF, total installed capacity of



Middle East Energy Online

17 May - 9 June 2021 | Office or Home

Register Now

Confident in powering a better world

Guiding you through the evolution of energy for over 40 years

MEE will be an online event only, starting on 17 May.

solar in MENA has further increased in 2020 by 4.3GW and is expected to grow by a further 1.8GW in 2021 to potentially amount to 8.3GW by 2022 to meet the countries' targets.

Major highlights from 2020 include:

- Noor Abu Dhabi solar PV plant has achieved a net production of 2,000GWh providing electricity for its first year and Dubai's MBR Solar Park Phase 3 with 800MW was inaugurated at the end of 2020, while financial closure happened for MBR Solar Park Phase 5.
- The world largest solar PV project, 2GW in Abu Dhabi's Al Dhafra region, was awarded at a record price of \$0.0135 per kWh.

- Sakaka project achieved commercial operations in Q2 2020.
- Ibri PV II, the 500-MW project in Oman, successfully achieved financial closure and Amin PV plant 125MW, world largest bifacial panel utility, began commercial operations in May 2020.
- In Egypt, two 65MW solar PV projects in Benban, Aswan province of southern Egypt, were commissioned.
- The first 80kW offshore floating solar PV project achieved commercial operations in February in Nurai Island, Abu Dhabi.

See www.middleeast-energy.com

DANFOSS CONTINUES TO INVEST IN SUSTAINABLE TRANSFORMATION



Image Credit: Danfoss

Danfoss Drives is holding a number of webinars in 2021.

Danfoss Drives office in South Africa has rolled-out a series of thought leadership webinars on the topic of Energy Efficiency in 2020. With the campaign's success with international audiences, the webinar campaign was extended into 2021, focusing on technologies that optimise energy consumption and longevity of drive components in the mining industry.

In a media statement, Danfoss explains that Variable Speed/Frequency Drives (VFD) are expanding their use as the starter of choice, not only in applications that require speed control but also in applications that require torque control and mechanical 'soft starting'.

The VFD has the capability to perform active load sharing between multiple motors on the same operating system, allowing one VFD to assume the function of a master and others as the follower, so when the master's torque increases, the follower's torque limit increases, allowing it to contribute more torque to the load.

A Danfoss spokesman said, "Today, we have reliable solutions to meet many of our climate, urbanisation and food challenges. Driven by the power of an electrified society and fuelled by the opportunities of going digital, Danfoss is dedicated to engineering solutions that can unleash the potential of tomorrow. With the promise of quality, reliability, and innovation deeply rooted in our DNA, we deliver an extensive range of products and solutions across our business segments of Heating, Cooling, Drives, and Power Solutions." The next Danfoss Drives webinar will be held on 27 May. To register, go to <https://bit.ly/38bYkNY>

KCT TAKES DELIVERY OF MOBILE CRANE FOR SHIP HANDLING OPERATIONS AT PORT OF KRIBI

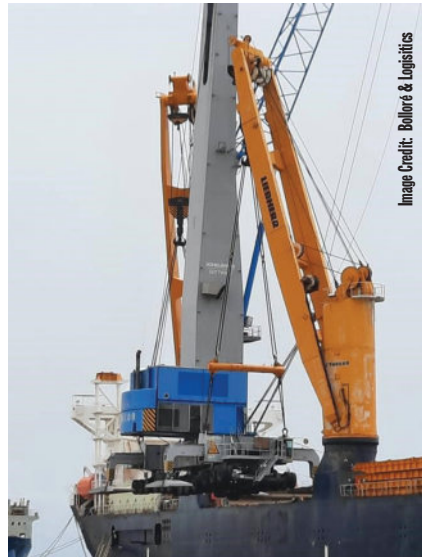


Image Credit: Bollare & Logistics

Gottwald 8412 boosts the dock-handling capacity of the concessionary of the Port of Kribi container terminal.

Kribi Conteneurs Terminal (KCT) in Cameroon has taken delivery of a new mobile crane, Gottwald 8412, for ship handling operations. The new equipment boosts the dock-handling capacity of the concessionary of the Port of Kribi container terminal.

With a 100-tonne lifting capacity, the wheel-mounted Gottwald 8412 crane can handle two 20-foot containers at the same time. The crane's projection capacity extends to the 20th row of containers on board ships, where it can lift 41 tonnes.

As efficient as a dock gantry, this mobile crane offers a productivity of +/- 25 container movements. The ship visit time will be reduced by 30 to 35%, hence improving the quality of the service given to the ship owners and the economic operators of Cameroon, Chad and the Central African Republic.

Eric Lavenu, managing director of Kribi Conteneurs Terminal, said, "The acquisition of the new mobile crane is part of KCT's investment plan, which also provides for the arrival of five new RTG yard gantries in 2021. Despite the Covid-19 pandemic, KCT is pursuing its programme of investments and continues to work alongside the port authority to boost the competitiveness of the autonomous Port of Kribi. This new investment strengthens our contribution to the competitiveness of the economy and regional trade momentum in the region."

KCT is thus contributing to a more seamless supply chain in Cameroon and the countries in the sub-region. In addition to its port activities, the company, which employs 300 Cameroonians, leads solidarity initiatives every year in sectors, such as health and education.

ZEEPAY GHANA ACQUIRES MANGWEE MOBILE MONEY IN ZAMBIA

Zeepay, an African fintech company with operations in more than ten African countries, has acquired a 51% stake in Mangwee Mobile Money in Zambia.

The merger is the first of its kind that two indigenous African fintechs into mobile money operations have come together to grow, representing a wind of change on the African continent. Zeepay's financial advisor Verdant Capital, acted as Zeepay's M&A advisor on the acquisition. The deal makes Zeepay Ghana the majority shareholder of the entity.

GRUNDFOS SUPPORTS JOJOBA GROWERS IN NAMIBIA



Image Credit: Grundfos

The Jojoba plant bears nuts once a year, which are pressed for oil of export quality.

Grundfos approved distributor ConServ Engineering Services has supplied an innovative water solution to provide sustainable employment in agriculture in rural Namibia. Approached by the aid project Jojoba For Namibia Trust, the company selected a Grundfos submersible groundwater pump in a water supply design for a jojoba plantation in the Omdel Dam area north-east of Hentiesbaai. Although the jojoba is the ideal desert plant and only requires a little water, one of the biggest challenges in the desert environment of Namibia is the lack of water. Where the plants can be successfully grown, they bear nuts once a year which can be pressed for oil of export quality. "In the first phase of the water supply project in October 2020, we installed a Grundfos SP7-37 pump into the jojoba plantation's borehole," said Mark Riehmer of ConServ Engineering Services. Drawing on renewable energy from the sun, the pump is powered by 18 solar modules which the company also installed, along with an RSI 5500 inverter. This phase will pump water about 1.5km to the first storage tank, with a pipeline incline of a couple of metres.

"This system has been designed in such a way that the yield of the pump can be increased in future to supply more storage tanks along a 5km pipeline, with a total elevation of 80m," says Riehmer. The final layout of the system will include 36 solar modules and will have a yield of 50 m³ per day at the last water point.

“The rate at which technological advancement is accelerating across industries in Africa is astonishing. And the implementation of such technologies presents a unique opportunity for economic development in the continent. Accountants have embraced waves of automation over many years to improve the efficiency and effectiveness of their work. However, technology has not been able to replace the need for expert knowledge and decision-making. Therefore, we must recognise the strengths and limits of this different form of intelligence, and build an understanding of the best ways for humans and computers to work together.”



Image Credit: Crowe Dafinone

EDE DAFINONE

Deputy managing partner of Crowe Dafinone

“Young people are the backbone of Africa’s human capital future and a key driver of continental development. The success of each country’s response to the Covid-19 pandemic, the sustainability of their social and economic recovery, and the achievement of that country’s long-term development goals will depend on the labour, insights and expertise of skilled and healthy young people. This is where we believe atingi can make a tangible contribution.”

DOMINIC ORR

Team leader at GIZ for the digital learning platform atingi

“UNDP is pleased to support the AfCFTA as a development enabler and accelerator that can move the continent beyond Covid-19 recovery, towards the Africa we want and the sustainable development goals. If we succeed, we will have contributed to creating stronger and more resilient inclusive and green economies in Africa characterised by rising incomes, jobs, more balanced trade, and better returns from Africa’s natural resources.”



Image Credit: UNDP

AHUNNA EZIAKONWA

UN assistant secretary-general and director of the UNDP Regional Bureau for Africa

“Ensuring the socio-economic inclusion of women and youth in all development programs in the Sahel is key. PRAPS-2 will contribute to this goal by stepping up interventions towards vulnerable women and youth from pastoral households by increasing their access to training, including functional, digital and financial literacy, as well as business skills. It will finance income generating activities to support their self-employment initiatives and will improve access to social and civil registries.”

SOUKEYNA KANE

World Bank country director for Burkina Faso, Chad, Mali and Niger

“We are delighted to support UmojaHack Africa again, an incredible initiative close to our hearts. Seeing students from more than 120 universities come together to collaborate on real-world machine learning challenges is truly inspiring. This is, in our opinion, the best way to accelerate AI growth on the continent. Hackathons like UmojaHack bring us one step closer to achieving InstaDeep’s mission: building an AI-first world that benefits everyone.”

KARIM BEGUIR

Co-founder and chief executive officer of InstaDeep, an EMEA leader in decision-making AI products, on the inter-university hackathon UmojaHack Africa 2021

“Through our continuous product innovation and impeccable attention to customer needs, the company has gradually emerged as the financial technology company of choice for Ghanaian businesses. We believe that having this licence from the Bank of Ghana is a demonstration of our commitment to the Ghanaian market, and serves as the foundation for rolling out simple, secure, and convenient e-payment and digital transaction solutions for all customer segments. We intend to use this as a leverage to deepen our existing relationships with our bank clients. In that same spirit of collaboration, we are open to working with other fintech companies to deliver superior value to customers.”

SEBASTIAN YALLEY

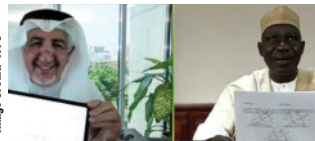
Chief executive officer and managing director of Accelerex Ghana on the enhanced Payment Service Provider licence granted to Accelerex by the Bank of Ghana

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

ITFC SIGNS US\$750MN DEAL TO SUPPORT CAMEROON'S KEY SECTORS

Image Credit: ITFC



The goal is to support the SMEs, local banks and financial institutions.

The International Islamic Trade Finance Corporation (ITFC), the Islamic Development Bank Group (IsDB) and the Cameroon have signed two agreements to support the economy. The first signing is a three-year framework agreement amounting to US\$750mn under which ITFC will provide Cameroon a financing envelop of US\$250mn annually over a period of three years to facilitate the imports of key commodities in the strategic sectors of energy, mining, in addition to the health sector with medical supplies including healthcare equipment.

Through this framework agreement, ITFC will also be extending its support to SMEs and the private sector through financing facilities to local banks and financial institutions. It will also support trade development through capacity building initiatives to strengthen key sectors including healthcare.

The agreement is set to enshrine Cameroon's membership to ITFC's flagship programme, the Arab-Africa Trade Bridges (AATB) programme, which aims to facilitate trade and investment flows between Arab and African regions.

HE Alamine Ousmane Mey, Minister of Economy, Planning and Regional Development, stated, "The US\$750mn financing will help the Cameroonian government consolidate its economic recovery efforts in the specific context of the fight against the Covid-19 pandemic, by facilitating the importation of crucial energy products, medical supplies and agriculture inputs, whilst strengthening the fundamentals of the economy of Cameroon through private sector and SME development."

KWIK DELIVERY RELEASES PRESTASHOP PLUGIN



Image credit: Kwik Delivery

The Prestashop plugin is free and easy to install and use.

Kwik Delivery has released Prestashop plugin with an aim to allow buyers to get real-time shipping rates between merchants' addresses and the buyers' delivery addresses.

Delivery plugins are a critical technology brick in the growth of African e-commerce by allowing thousands of merchants to offer reliable, secure and efficient last-mile delivery services to their customers. By installing the plugin, businesses no longer need to worry about on-time deliveries after-sales as Kwik handles it for them. Kwik aims to deliver within two hours in Lagos and one hour in Abuja after pickup and will soon expand its service to new cities.

According to Kwik Delivery, the Prestashop plugin is free and easy to install and use. Additionally, the plugin allows buyers to get real-time shipping rates between merchants' addresses and the buyers' delivery addresses. Buyers can directly place orders to be delivered by Kwik Delivery at the checkout of Prestashop stores.

Romain POIROT-LELLIG, founder and CEO of Kwik Delivery, stated that the company is working to ease the logistics hassles faced by both businesses and their customers after-sales. Just providing the network to make this possible is not enough. The added value brought by Kwik Delivery starts from the fulfilment systems of merchants, all the way to the doorsteps of buyers.

PUMA ENERGY LAUNCHES SOLAR AND BATTERY PROJECTS IN GHANA



Image Credit: Adobe Stock

Puma Energy aims to deploy energy in at least 75% of company-owned retail sites, depots and terminals in the world by 2023.

Puma Energy has announced the launch of 11 solar projects at its retail stations and a further three at its terminals in Ghana, with the solar power generation at 11 of the 14 sites supported by battery storage.

The combined solar and battery power systems in 14 service stations and terminals in Ghana are part of the wider plan of Future Energies, a business created by Puma Energy, to roll out renewable energy projects around the world. Puma Energy hopes not only to reduce its own carbon footprint but also support its commercial customers in Ghana and around the world as they seek to decarbonise and reduce their carbon impact.

These projects benefit from Ghana's high solar energy potential and have a total capacity of 422 kWp and associated battery storage of 224 kWh and can provide up to 100% of a sites' energy.

Henry Osei, general manager of Puma Energy in Ghana, said, "We are proud to install the solar systems in our sites and depots as it meets our purpose of energising communities and reinforces our commitment to clean energy solutions and meeting our ESG goals. Africa, and Ghana in particular, has a great potential of solar power and we are establishing the first steps to transforming this potential into a more sustainable and energy efficient system to power our sites and depots. Ghana is pleased to be the first country to show the first footprints of our energy transition drive in Africa."

COMMUNITY-DRIVEN WATER PURIFICATION FOR THE NEXT GENERATION OF HYDRONAUTS



Image credit: DuPont

A new solar-powered borehole pumps raw water to a multi-stage purification system on the site of the Reneilwe Primary School.

In South Africa, one out of three schools do not have access to safe water and clean sanitation, putting school children at risk of serious sickness from waterborne diseases and keeping pupils, especially girls, away from school.

Digging deeper for water or relying on the river is not always an easy option, at least not without effective treatment, due to inherent high levels of fluorides and salts and increasing levels of nitrate and phosphorous pollutants from agricultural runoff.

To overcome this, many regions are installing water purification systems that are owned and run by the local community. One example is in Temba, north of Pretoria in the Republic of South Africa. A new solar-powered borehole pumps raw water to a multi-stage purification system on the site of the Reneilwe Primary School. The ultrafiltration membrane and ultraviolet light system can supply up to 4,000 litres of healthy drinking water per hour, serving the local community and neighbouring Ilereleng Primary School by means of an onsite water kiosk.

DuPont paid for the borehole and solar plant, and donated the water treatment hardware. Furthermore, five "water champions" from the community have been trained in the operation and maintenance of the technology, which is highly automated but still requires a basic level of technical supervision.

The evolution of mobile payment

The phenomenal growth of mobile money services offered by Kenyan operators has encouraged Kenyan banks and other financial organisations to get involved. Mwangi Mumero looks at what Kenya's banks are offering.

"Mobile banking apps allow me to withdraw cash from my bank accounts, buy phone credit, send money and receive money, among other uses – all while taking breakfast," observed Paul Wanjala, who has rented 10 acres of land at Isara, Kajiado County, close to the Tanzanian border, in sight of Mount Kilimanjaro.

An insurance executive, Wanjala works in downtown Nairobi, more than 300km from his farm. "With a good trusted supervisor on the ground, one can do farming business from virtually everywhere – with mobile banking services," he noted.

Among other common financial transactions taking place via mobile platforms are payment of utility bills, payment of school fees, and borrowing mobile loans through various apps as well as transferring money to mobile wallets, such as M-Pesa or Airtel Money.

Unsurprisingly, Kenyan banks and other financial organisations have now started rolling out mobile banking services, riding on the existing networks or even creating their own platforms.

Data from the Central Bank of Kenya (CBK) shows that total mobile money transactions in Kenya reached US\$38.5bn in 2018, and the total number of mobile money accounts in Kenya reached 45.43 million.

With Covid-19 restrictions last year, mobile transactions increased as Kenyans remained home and conducted businesses from there.

Mobile payments by Kenyans reached US\$4.4bn in August 2020, from US\$4.1bn in July and US\$3.4bn in June, according to CBK.

While many of these transactions were from one mobile money service to another, a huge number emanated from banks as Kenyans either transferred funds from their accounts to mobile wallets or made direct payments to a merchant from their apps.

Banking queues have been getting shorter, while earnings from mobile banking services have continued to grow. According to Kenya

Commercial Bank's managing director, Joshua Oigara, this change has been mainly driven by mobile transactions.

The bank's mobile banking app offers a range of services that include payment of school fees and utility bills, transferring money to mobile wallets and borrowing of up to US\$2,700.

Of the US\$115mn in profits after tax in the 2019 half-year results, the bank registered, US\$47mn came from non-branch transactions – a 131% growth.

As of June 2019, KCB's mobile transactions accounted for 78% of all transactions, followed by agency and internet banking at 14%. Bank tellers and ATMs tied at 4% of the total transactions.

"Investment in technology generated positive returns and further helped drive efficiency and deepen access to affordable financial services in all markets," observed Oigara.

Not to be left out, Equity Bank, Kenya's largest lender by customer base, has launched its own line, called Equitel, similar to M-Pesa.

The bank has an app called Eazzy on which transactions in 2019 grew by 28% to reach 146 million from 114 million the previous year. Equitel transactions meanwhile grew by 5% from 121 million to 126 million.

Overall, the bank's mobile transactions rose to 77.4% compared to 76.4% recorded the previous year.

Kenya's financial sector is well developed with 40 registered banks. There are numerous savings and credit organisations, such as Saccos that deal with almost all sectors of the economy. Most have taken up mobile banking services, allowing their customers to transact business via both simple phones and more complex smartphones.

Many banks have also come up with innovations that allow remittances coming from abroad to flow through mobile banking.

In 2020, remittance inflows to Kenya jumped 11% to US\$3.09bn, thanks both to mobile banking innovations and the Kenyan diaspora sending money to their families struggling from the effects

of coronavirus pandemic.

Bank apps in Kenya include MCo-op Cash from Cooperative Bank, ABSA Banking from ABSA Bank Kenya, Mfukoni App from SBM Bank, Pesa Pap from Family Bank of Kenya, NIC NOW app from NIC Bank Kenya and the NatMobile app from National Bank of Kenya. All are available on Google Play.

Mobile banking software vendors in Kenya include Musoni Systems, Citius, Teamweb Africa, Oracle, Compulynx, Temenos and Fintec-Group.

High mobile penetration is another driver of mobile banking services, although growth is partly driven by ownership of multiple SIM cards as customers take advantage of differences in charges for mobile banking from network providers.

A 2019 survey by the CBK shows that there are now more smartphones in Kenya than ATM cards and around one in two Kenyan youths own a smartphone and are able to access the internet. Availability of mobile banking solutions has also boosted financial inclusion.

The 2019 FinAccess household survey from the Central Bank of Kenya (CBK), the Kenya Bureau of Statistics (KEBS) and FSD Kenya, reported 82.9% of the adult population has access to at least one financial product. Interestingly, 54% of Kenyans are using digital wallets to save.

A Kenyatta University study entitled: '*Mobile banking services and financial inclusion among commercial banks in Nairobi City County, Kenya*' concluded that mobile banking has improved the level of access to financial services to persons without formal access to commercial banks.

At the same time, the study noted that the amount of money transferred through mobile phones has increased in commercial banks.

To boost the mobile banking business, the study advises bank customers to request the banks to link their account with mobile money payment services. The introduction of pay bill services ought to further reduce customer queues, increase the cash reserve ratios of the bank and increase cash deposit ratios. ■



Liquid Telecom unveils new identity

The tech company has rebranded itself from being a telecommunications and digital services provider to a full one-stop-shop technology group under its new name; Liquid Intelligent Technologies (LIT). Samantha Payne reports.



Nic Rudnick, CEO of Liquid Intelligent Technologies.

Liquid Telecom started 20 years ago as a satellite company and has since gone on to build Africa's largest fibre network.

"Today is not just about connectivity but having the power and resources and technology that connectivity puts into your hands," said Nic Rudnick, CEO of Liquid Intelligent Technologies.

Milestones in Liquid's history so far include building a single extensive fibre network across the continent from Cape to Cairo, between East and West Africa, across rivers such as the Zambezi and into hard reaching countries, such as South Sudan.

Now they are expanding their network into Nigeria and the Democratic Republic of Congo, to bring connectivity closer to people and accelerate the development of the digital workplace.

Liquid has already begun building one of Nigeria's largest data centres, which will be ready for launch in the next few months.

And thanks to a recent US\$400mn investment boost, plans are now in place to roll out additional data centres in Lagos, Kenya, South Africa and Egypt, with many others in the pipeline.

The company's strong financial position has also been strengthened following a successful bond launch and term loan financing package totalling US\$840mn that will support its growth strategy.

"It was historic in the African context," Rudnick explained. "Ultimately the coupon we received was unprecedented on the continent. It was a huge show of confidence by the market in Liquid, and a sign of confidence in the markets and the countries that we are providing services to. We hope it provides a leader point for other enterprises in Africa to access the capital markets and bring in investments, which the economies of Africa need."

“Our ongoing investment in our networks and data centres across Africa has positioned us to utilise our infrastructure to accelerate the availability of new intelligent technologies.”

NIC RUDNICK, CEO OF LIQUID INTELLIGENT TECHNOLOGIES

New technologies

The next stage of the company's journey under its new brand – Liquid Intelligent Technologies (LIT) – will be the continued development of technology; the cloud, cyber security and other high compute services, which will overlay Liquid's existing infrastructure and data centres and be made available to end users.

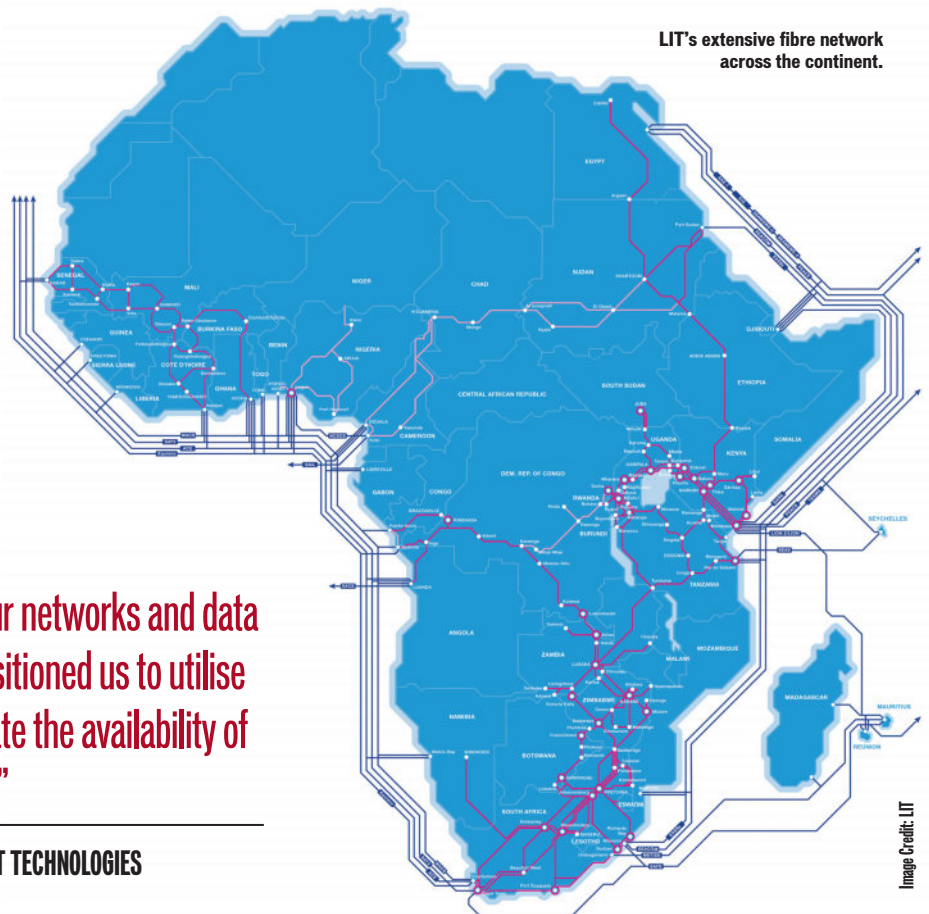
"They are exciting tools for our customers to use to reimagine their businesses and utilise technology to bring new products and services as well as connect to their customers in a whole new way," Rudnick continued.

As a Microsoft Gold Partner, LIT is redefining network, cloud and cyber security offerings through strategic partnerships with leading global players, bringing innovative business applications, intelligent cloud services and world-class security

to the African continent.

With the future of network security-driven from the cloud, LIT has recently launched its cyber security business unit, which uniquely delivers security at its core, protecting people's business data throughout its lifecycle.

Rudnick added, "Our ongoing investment in our networks and data centres across Africa has uniquely positioned us to utilise our infrastructure to accelerate the availability of new intelligent technologies including the high computing power of the cloud, artificial intelligence and cyber security to our customers. We are now excited to be executing our vision of bringing new technological opportunities to the market with a highly differentiated product set supported by our existing infrastructure and digital innovation." ■



LIT's extensive fibre network across the continent.

Supporting entrepreneurs to build good businesses

More money is now available for African entrepreneurs thanks to the doubling of venture capital fund, Jua Kickstarter.

The JUA Kickstarter Fund, a fund to provide African entrepreneurs with capital to kickstart or expand their enterprises, has doubled to US\$2mn to become the biggest African capital venture fund launched by private individuals.

The fund was launched by Adam Molai, founder and chairman of Jua Fund & TRT Investments, in November last year with US\$1mn available for African entrepreneurs. A further US\$1mn has been pledged by US-based angel investing and mentorship firm, Simba Global Start-ups – bringing investment to US\$2mn.

Announcing the additional funding, Molai said the added capital will allow the fund to make bigger investments in enterprises as well as fund more businesses.

“Simba Global Start-ups has pledged to match, like-for-like, our contributions, which is absolutely incredible. This is an example of how Africans can work together to solve the challenges facing the continent. As an African entrepreneur who has experienced the gruelling journey of establishing businesses, I firmly believe that Africa’s destiny lies in the hands of Africans.

“It is not foreign investment that will provide us with a seat at the global table, but domestic investment. This is a view that is shared by Simba, which we will use to benefit the entrepreneurs and start-ups who are growing economies across Africa and creating jobs,” he said.

JUA, meaning sunrise in KiSwahili, will provide successful applicants with funds to launch or grow their businesses as well as provide mentoring and guidance.

Entrepreneurs from across Africa or those who operate in Africa were eligible to apply. The deadline for applications closed in January.

Shortlisted applicants went through a kickstarter “Olympics” in the first week of March, after which the finalists will be announced.

The entire application process is electronic and funds are expected to be disbursed to successful applicants within 12 weeks of their shortlisting, in a first for Africa.

Dr Philippe Kisunzu, Simba’s founder and CEO, said, “Born in the DRC, I am a child of the continent who grew up experiencing the atrocities of its civil wars. These intense challenges nurtured within me a vision for prosperity and hope for the



Image credit: Jua Kickstarter/photographer: Chris Collingridge

Adam Molai launched the Jua Kickstarter venture capital fund.

people in my village and community. My deepest belief is that this vision is best attained when entrepreneurs create jobs which are scalable, sustainable, inclusive and profitable. With a JUA-Simba investing partnership, I have a once-in-a-lifetime opportunity to play an active role in making this dream a reality.”

He says Simba’s vision in investing in Africa’s future was not only to create jobs and strengthen

African economies, but also to enable Africa to become the “financial benchmark for the world in the 21st century”.

“As a result of our JUA-Simba partnership, we hope to expand our vision exponentially on behalf of sub-Saharan African indigenous entrepreneurs who will not only create jobs for the citizens in the region, but also provide financial security for themselves and their families.

“With the JUA-Simba partnership, we look to optimise our synergies to produce a combined societal impact greater than the sum of our individual societal impacts. Our deepest desire is that through our Simba Vision 2035, the most robust of the combined portfolio of start-ups/companies would have earned the right to be publicly traded on platforms, such as the NASDAQ or the NYSE by the year 2035, placing themselves in an enviable position to create wealth in Africa for Africans, by attracting angel investors and venture capitalists from all over the world, and thus making Africa a global economic powerhouse,” added Kisunzu.

In the two months since its launch, JUA has received more than 500 applicants from across Africa. Most of the applications have come from Nigeria, Kenya, South Africa and Zimbabwe. Entrepreneurs from Ghana, Tanzania, Benin, Namibia and eSwatini have also applied.

Entrepreneurs in need of capital for their ideas or those who are looking to expand their enterprises were encouraged to apply.

“We are looking to help African entrepreneurs grow or launch their businesses. Our priority is businesses with impact in terms of job creation and scalability across the continent. Obviously, entrepreneurs with proven businesses, solid business pedigree and who have clearly articulated their business propositions, target market, channels or those with innovative solutions to Africa’s many challenges stand a much better chance of being successful. I encourage all aspiring entrepreneurs in need of funding to ensure that they have interrogated, analysed and stress-tested their ideas to stand a better chance of success,” said Molai.

For information on the JUA Kickstarter Fund and how to apply, go to www.jua.fund or follow on Twitter, Facebook or LinkedIn. ■

“It is not foreign investment that will provide us with a seat at the global table, but domestic investment.”

ADAM MOLAI, CHAIRMAN OF JUA FUND & TRT INVESTMENTS

Automating manufacturing resilience, not resistance

Automation is causing seismic shifts across many industries, as the adoption of intelligent technology promises to transform the way we live and work. Ian Millington, managing director of adi Automation, tells us more.

At its core, automation has the potential to reduce our reliance on manual or physical labour, drive process efficiency, reduce the administrative burden and produce more effective workflows in the process.

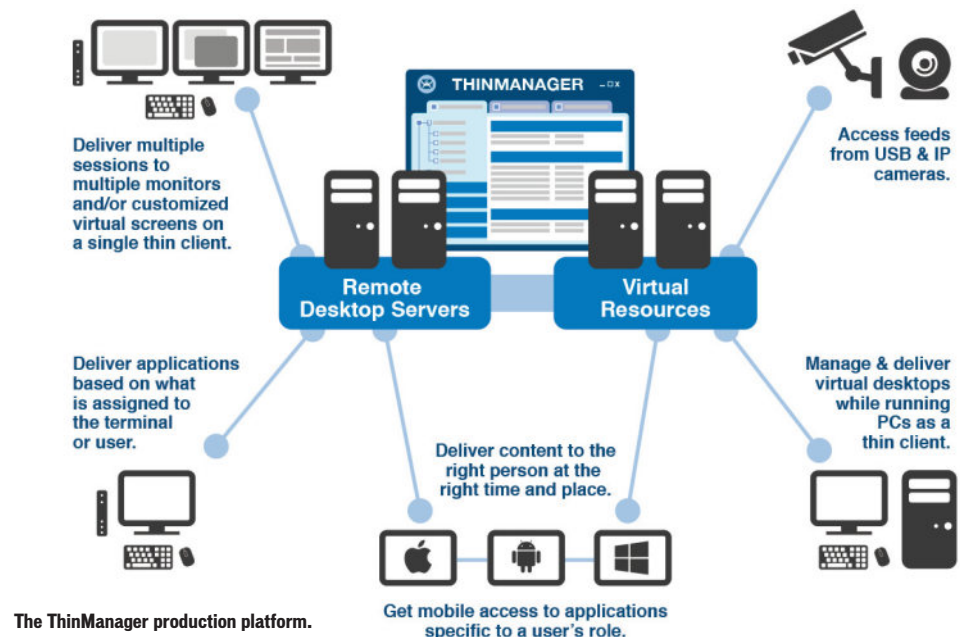
But with some estimates placing high levels of automation at just 3% of all goods produced, there is a need for business owners to wake up to the benefits technology can provide in building future factories. Ian Millington, managing director of adi Automation, a division of adi Group, discusses how an accelerated adoption of technology can help fix supply chain vulnerabilities and boost business prospects in 2021.

A weak link in the chain

Before Covid-19 arrived on the scene, a business's ability to adapt and respond to marketplace changes was a strong indicator of its industry success. Fast forward to today, and without this kind of business mobility, manufacturers expose themselves to a ruthless economic climate, whereby manufacturers across the world are having to down tools and shut up shop, maybe for the last time.

Supply chains have been particularly exposed at this point in time, as manufacturing resiliency, flexibility and scalability are put into perspective with increased food demands, data centre needs and medical responsibility.

Owners have had to learn the hard way that a dependency on human labour and access to physical space makes it vulnerable to disruption. So with the manufacturing industry looking to fight back against the virus, we'd argue now is the time for automation to achieve a responsive manufacturing ecosystem.



Automating fear

Manufacturers have long intimated a desire to automate systems, yet this has been juxtaposed by an ingrained resistance for decades. The cost of implementation and a fear for the loss of human jobs has been well publicised over the years.

Low cost at a reasonable rate of quality has become the norm for the past twenty years, often meaning manufacturers have looked overseas for cheap labour, land and shipping infrastructure. But with Covid-19, now is the time for manufacturers to step up and act differently.

Robot and human efficiency

Firstly, there is solid evidence out there that automation does not really lead to a loss of human jobs. Think of one of the oldest industries out there – farming. It is true that in the early 20th century, there were more than 10 million farmers in the US alone, compared to one million today. Yet this decline was

accompanied by new technology, which created jobs in the service, blue collar and white collar industries. Automation creates jobs in digital-based roles that are expected to have a global economic impact of more than £11trn (US\$15trn) by 2030.

Remote guidance

Capital expenditure has been in heavy retreat during the pandemic, so it is of some relief that by deploying robots to automate many of the mundane, repetitive tasks with manufacturing processes, firms can shift their spending from capital to operating expenses, minimising both cost and risk.

One of the huge benefits that has enabled many factories to continue operations as normal, amidst social distancing guidelines, is remote working practices. At adi, we've seen the benefit of this in our partnership with Rockwell Automation and its ThinManager production platform.

Delivering centralised data management via a single server-based technology, manufacturers are able to shield themselves from costly periods of downtime and production outages.

Understanding this further, consider how manufacturing environments can be quite inhospitable to electronics such as computers. A typical PC may break down within two to five years depending on conditions. If you had 20 PC stations in one plant, that could result in a massive outage or loss of data to your business, taking eight hours to fix at best. That's one outage every two months.

ThinManager utilises Thin Clients instead of bulky PCs connected to screens on the production environment. With no moving parts, thin clients are less prone to overheating and breakdown, while they can operate as 'plug and play' devices, meaning any downtime is minimal. ■

Image Credit: adi Automation

MAN Truck & Bus introduces TG range for the Middle East and Africa

The range has been adapted for an array of applications across diverse topographies and operating conditions.

MAN Truck & Bus has introduced the new TG range for its markets in the sales area of Middle East, Africa and Latin America, covering 47 countries including South Africa. This comes after a year of the global launch of the New Generation Truck range. The development of the new trucks was based on customer feedback, to provide them with vehicles that meet their operational requirements – for today and for the future.

The range represents MAN Truck & Bus as a provider of sustainable transport solutions. It underlines the high competence of MAN's engineering team that has always delivered robust, reliable and efficient vehicles. These trucks also showcase the high build quality in MAN factories.

The TG Range wears a distinct look with a new cabin that makes it stand out among its competitors. The new look is both visually appealing and functionally efficient. These vehicles offer highest levels of reliability and efficiency for diverse applications and operating conditions.

Joerg Mommertz, senior vice president, head of sales area Middle East, Africa and Latin America (MEA&LA), MAN Truck & Bus SE, said, "The launch of the new range is a milestone moment for all of us. It reflects MAN's focus on helping our customers in their business. These trucks are built to be highly reliable; able to withstand rugged use over their typical operating life, while delivering best-in-class performance. As a result, customers get the optimum uptime and attractive total cost of ownership."

He added, "We have on offer a three-year warranty on the complete driveline on truck tractor models. We also have service contracts that can help customers in terms of preventive maintenance, predictable costs, optimised vehicle up-time and roadside/on-site assistance. Overall, we are offering the best ownership experience to customers."

MAN also reaffirms its commitment to "Simplifying Business" of its customers. The company aims to do so with effective aftersales for service and parts; a range of digital and financial solutions; and business advisory, besides



Image Credit: MAN Truck & Bus

the reliable and efficient products. Among the digital solutions on offer is the telematics suite from MAN. This is a powerful enterprise grade

solution for customers and it is designed to support improved levels of fleet efficiency and safety, and reduce environmental impact. ■

STAND-OUT QUALITIES WITH THE TG RANGE

Great efficiency & economy

The engine range remains robust, reliable and efficient as before. It will continue to deliver consistent high-performance over long duty cycles. It offers engines that conform to emission norms ranging from Euro 2 to 4, 5 and 6d, depending upon the selected model. Substantial improvements on the product, and in the areas of maintenance and service, can reduce service life costs. These trucks also offer significant pay-load advantages for weight-sensitive application sectors.



Image Credit: MAN Truck & Bus

Close-up view of the TGX truck.

Strong partner – competent and personal partnership

Partnership has been key to MAN's successes, and its importer partners have done a commendable job to achieve customer satisfaction. The TG range also follows a product logic, which is oriented towards the application profile. This allows for a new MAN TGX, TGS, TGM or TGL to be put together that fits the exact transport task, using flexible configuration options.

Optimised uptime – utmost availability over the entire service life

The operational efficiency of a truck is largely dependent on the parameter of reliability and how easily it fulfils its task, each day. MAN endeavours to make the tried and tested even better with the TG range. These trucks will perform just as before as the powertrain retains its characteristics from the previous generation.

Kiira Motors aim to modernise public transport in Uganda

Kiira Motors Corporation has announced that it is working with reputable strategic partners to produce 30,000 buses for the regional market, with 65% parts and components localised by 2030. This builds on the successful development of the Kayoola electric and diesel buses built through technology transfer and utilising the facilities and resources at the UPDF National Enterprise Corporation Luweero Industries in Nakasongola, central Uganda.

Kiira Motors and the partners plan to produce and deploy 1,030 buses by end of 2021, 50 of which will be electric. The initiative is aimed at modernising public transport in the urban centres in Uganda and beyond, while building the indigenous motor vehicle industry through technology transfer and localisation of auto parts manufacturing.

Kampala and other cities in the region have for decades faced challenges of road and traffic congestion, pollution, unemployment and under employment resulting in low fuel economy, poor air quality, low labour productivity, and compromised road safety. To solve these problems, there have been calls for the establishment of robust integrated and inclusive mass transport systems based on environmentally friendly transport solutions, coupled with localisation of capabilities to develop, make and sell vehicles and components. The Kiira initiative will do just that and will provide an opportunity for transforming the economy drawing on the demographic dividend of Uganda.

The establishment of Mass Transit Bus Systems, supported by the domestic manufacturing of buses and components for the regional market, is consistent with Uganda's aspirations and pathways to Vision 2040 outlined in the National Development Plan III and the NRM Manifesto 2021 – 2026. Specifically the promotion of local manufacturing of motor vehicles; the establishment of an efficient, integrated, sustainable, safe and inclusive public transport system; and the promotion of environmentally friendly transport solutions. These developments are projected to create over 30,000 jobs directly, 100,000 jobs indirectly, and catalyse investments by small and medium enterprises in the manufacture of motor vehicle parts. The long-term focus on electric buses for the cities further demonstrates Uganda's commitment to enhance environmental stewardship.



Fifty of the 1,030 buses deployed this year will be electric.

IVECO AND PLUS TO DEVELOP AUTONOMOUS TRUCKS

IVECO, a brand of CNH Industrial N.V. and a leader in the manufacturing of vehicles powered by alternative fuels, has announced that it has signed a Memorandum of Understanding (MoU) with Plus, a global autonomous trucking company, to jointly develop autonomous trucks.

Under the terms of the MoU, IVECO and Plus will integrate IVECO's latest-generation S-WAY heavy-duty truck with the PlusDrive full-stack autonomous driving system. The cooperation will also explore using IVECO's liquefied natural gas engine system to power the jointly developed autonomous trucks.

The partnership combines IVECO's expertise in heavy-duty truck development, manufacturing, and sales with Plus's cutting-edge autonomous driving technology to bring a safe, fuel efficient, and scalable self-driving truck to market quickly, across Europe and other geographies.

Marco Liccardo, chief technology and digital officer at IVECO, said, "The cooperation with Plus represents an excellent opportunity to accelerate the development of the highest levels of automation of heavy trucks. IVECO is already working on ADAS solutions together with selected companies, but when it comes to level 4 autonomy, it is necessary to create an ecosystem of partners. Thanks to its technology leadership, its non-linear thinking, and established relationships with the same key component suppliers, Plus is the perfect partner for accelerating in this process."

Shawn Kerrigan, COO and co-founder of Plus, added, "We're thrilled to partner with IVECO, who shares our vision for a more sustainable future through autonomous trucks. Our teams will work closely to develop autonomous trucks, including one that is powered by natural gas."

HINO SOUTH AFRICA ROLLS OUT FLEET SYSTEM

A full fleet management system, HINO-CONNECT, will be installed as a standard fitment on the full range of trucks offered by Hino South Africa (Hino SA), including the Dyna, 300, 500 and 700 models, in a joint venture with Cartrack, an international mobility solutions provider.

HINO-CONNECT will provide positioning data for tracking and recovery as well as distances travelled; vehicle performance data including fuel consumption, oil and water temperatures and speed; and Diagnostic Trouble Code (DTC) fault reporting to Hino SA and the dealer concerned, who will know what is wrong before servicing the vehicle, thereby achieving a quicker reaction time to get it back on the road.

"This comprehensive telematics solution includes a three-year subscription from date of fitment and will be an important, additional tool to ensure we continue to provide the highest levels of customer satisfaction," explained Ernie Trautmann, vice president of Hino SA.

BRIEFS



The buses are equipped with a Marcopolo Torino body.

Volvo buses arrive in DRC

The first batch of 110 Volvo buses B270F of the 440 vehicles ordered to SMT Africa have been delivered to Kinshasa with the second batch already dispatched from Brazil.

The buses will be operated by the Kinshasan public transportation company Transco, reinforcing the 150 buses that make up their existing fleet. They have been acquired to alleviate the transportation issues, currently being experienced by the dense city of about 16 million.

Sasol and TSAM to demonstrate hydrogen mobility



Sasol have a broad experience in the green hydrogen market.

Toyota South Africa Motors (TSAM) and Sasol have announced a partnership to develop a green hydrogen mobility ecosystem in South Africa, demonstrated by a pilot project using one of the country's main freight corridors for hydrogen powered heavy-duty long-haul trucks. TSAM will explore the introduction of hydrogen fuel cell vehicles into South Africa and the parties are also evaluating the installation of hydrogen refuelling stations for the project.

Simplifying shipping through digital solutions

Embracing digital can unlock value for sea freight companies with benefits such as streamlining business and managing real-time disruptions to supply chains - highlighted by the recent blockade of the Suez Canal. Robert Daniels reports.

While the race to distribute vaccinations has highlighted the importance of fast-moving transportation methods such as aviation, it remains true that global trade is, and will continue to be, dominated by sea freight shipping for the foreseeable and long term future. As of today, around 90% of global freight traffic is transported on water, a statistic that has been highlighted by the recent blockade of the Suez Canal which had a dramatic on the world's economy – it has been estimated that the six day halt caused just over US\$1bn in losses and damages.

According to the International Chamber of Shipping, 11.5 billion tons of goods are transported each year by ship and this number is set to increase with the world's burgeoning population and expanding economy. To help cope with and facilitate this, most logistics companies have now turned to advances in new technology and most importantly digitisation to enhance areas such as vessel supervision, real-time port management, planning capabilities, supply chain maintenance, and many more. This is a global phenomenon that has also been embraced by companies operating within the African region.

Maersk

For an integrated container logistics company such as Maersk, that has operated for more than 100 years on the continent and calls at approximately 60 ports in sub-Saharan Africa alone, digitalisation is a necessity rather than a matter of choice. In a correspondence to African Review, the company noted that the natural geography of the continent causes bottle necks throughout the supply chain and the



Image Credit: Adobe Stock

Embracing digitalisation can enhance many areas of the maritime trade industry.

expansion of additional services, incorporating digital advancements, aids their customers to meet their growth aspirations and deal with these challenges. Kerry Rosser, regional communications manager for Africa at Maersk, commented, "We continue to evolve to remain strong in a world, where innovation,

agility, digitalisation and customer-centricity shape market needs and expectations – this is no different in Africa. This will allow us to continue serving our customers and meeting their changing needs, hence our drive to become the global integrator of container logistics." Over a number of years, Maersk has been working towards digitalisation

with the aim of reducing the complexity of shipping and logistics for their customers through their tailored online services. Observing that most of their customers want seamless user experience for their business, the company has attempted to create platforms to facilitate this, which has found much favour in the Covid-19 pandemic with most customers now considering digital solutions as a standard part of their business. On the African continent, some of the most popular digital solutions include the Maersk app and Maersk Flow to help small and medium sized businesses manage their supply chain, (see more about Maersk's solutions opposite). Rosser continued, "Throughout the Covid-19 pandemic, and more recently through the Suez Canal situation, we have ensured that all

“Innovation, agility, digitalisation and customer-centricity shape market needs and expectations – this is no different in Africa.”

KERRY ROSSER, REGIONAL COMMUNICATIONS MANAGER FOR AFRICA AT MAERSK

customers are able to gain access to necessary and updated information for any location in the world on the operational impacts, but more importantly access the solutions we can provide for their supply chains dependant on their specific needs. Investments in digital solutions play a key role in enabling this shift, now and into the future.”

Hapag-Lloyd

Another company that has recognised the benefits of digitalisation is Hapag-Lloyd, a spokesperson of which commented, “Logistics companies need to harness digitalisation’s efficiency efficiently, deliberately, incrementally. Digital solutions must work across the entire system to enable transparency, visibility and cost savings. But those solutions must also focus on creating a customer-centric ecosystem with buy-in from all stakeholders. For more robust digitalisation, it is important how we work and that’s why are educating employees, colleagues, friends on digitalisation and on change management.”

“We see cloud computing, automation and artificial intelligence coming on strong but we have noticed that small- to medium-sized companies, even larger ones, are reluctant to adopt disruptive technological solutions either because of cost or misunderstanding digitalisation’s enormous potential. We, as Hapag-Lloyd, have to play two games at the same time, building on one side, making the core business day by day better, and on the other side, getting knowledge about what’s around the corner.”

Leaning into this trend, Hapag-Lloyd has developed the QuickQuote solution, capable of generating a real-time rate quotation at any time, allowing customers to get their booking process underway as quickly as possible. This platform accommodates transparent pricing and facilitates the tracking of bookings and shipments for management across the entire supply chain.

The spokesperson continued, “The usage of Online Quotations, Booking or the BL Draft Corrections

“Businesses in Africa should embrace digitalisation as it will improve their day-to-day business, their speed, their competitiveness and their growth.”

HAPAG-LLOYD

reduces lots of paper work leading to improved turnaround times and less associated problems in doing business with customers.

Additionally, it has led to reduced transcriptional errors, less working steps and it improves the efficiency and productivity for an overall better quality for customers, stakeholders and partners all around Africa.”

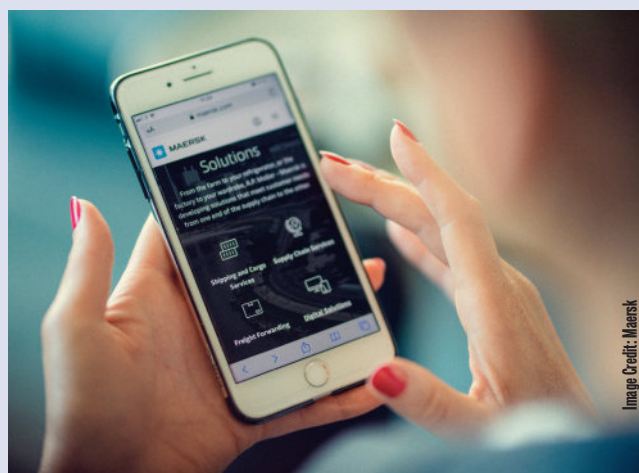
“Better decisions are now possible between ports and cargo management through continuous improved data management, data quality and transparency. This communication and collaboration between port/terminals in Africa, is powered with the help of EDI / API

(transmitting of bulk information between stakeholders) which leads to better accessibility to cargo and port management information and implemented security protocols, such as data protection.”

“Digital tools give better planning opportunities, such as helping both line and port authorities to plan cargo operations and increases the agility, connectivity and transparency of processes. This is why businesses in Africa should embrace digitalisation as it will improve their day-to-day business, their speed, their competitiveness and their growth. Those who stay behind in digitalisation will stay behind in growth perspective.” ■

MAERSK’S DIGITAL SOLUTIONS

- Maersk.com and the Maersk app – allowing customers to search schedules, book cargo, track shipments, submit documentation, manage invoices as well as raise claims or queries. During 2020 there was a large increase in usage of these offerings across Africa.
- Maersk Spot – enabling customers to book cargo online and providing a loading guarantee at a fixed, upfront price. Since its launch in June 2019 Maersk Spot has grown and is now available for all trades in and out of Africa.
- Maersk Flow – launched to further assist small and medium sized businesses with the complexity of managing their supply chains, this provides customers and their



Maersk’s digital services aim to reduce the complexity of shipping and logistics for their customers.

- partners with a digital platform to take control of their supply chain, from factory to market.
- TradeLens – jointly developed by Maersk and IBM, this

platform is an open and neutral industry platform underpinned by blockchain technology, supported by major players across the global

shipping industry. There are currently a number of customers across Africa actively using this and they expect to see a continued uptake in usage throughout 2021 and into the future.

- Remote Container Management (RCM) and Captain Peter – to create full visibility into the conditions of the perishable goods during transport, RCM allows customers to virtually have eyes on their cargo from the moment the goods are locked inside the container, right up to when they are delivered to their final destination. Meanwhile, the digital assistant Captain Peter helps customers monitor and handle their perishable goods during transportation.

ACWA Power signs final project agreements on Egypt's Kom Ombo PV plant

ACWA Power, a leading Saudi developer, investor and operator of power generation and desalinated water plants, has finalised the project agreements for the 200MW Kom Ombo PV plant in Egypt.

The signing of the 25-year Power Purchase Agreement (PPA), Network Connection Contract and Usufruct Agreement was conducted via a virtual ceremony held with senior government officials and representatives from the Egyptian Electricity Transmission Company (EETC), the New and Renewable Energy Authority (NREA), and ACWA Power.

Financial closure of Kom Ombo PV is scheduled for the third quarter of 2021, following the securing of a US\$40mn senior debt financing and a US\$14mn equity bridge loan from the European Bank of Reconstruction and Development (EBRD), in addition to a US\$27.2mn loan from the African Development Bank (AfDB) to finance the project construction, development and design.

Construction of the plant is expected to begin in the third quarter of 2021 and upon completion, Kom Ombo PV will cater to the power needs of 130,000 households and offset 336,000 tons of carbon dioxide per year.

Kom Ombo PV will be one of the largest privately developed utility scale solar plants in Egypt and will support the country in increasing its renewable energy capacity, in line with the national targets to generate 22% of Egypt's power from renewables by 2022 and 42% by 2035.

"Finalising the project agreements for Kom Ombo PV, marks a significant milestone towards fulfilment of the project," said Rajit Nanda, chief portfolio management officer and acting chief investment officer at ACWA Power.

"The tariff is the lowest in the African continent for a project that is soon to achieve financial close and commence construction, which demonstrates that globally-competitive tariffs are possible in North Africa and the wider African region. We remain on track to achieve commercial operation in Q3 2022, utilising ACWA Power's operational excellence and technological know-how in delivering electricity and desalinated water across the markets we serve."



The signing of the project agreements.

Image Credit: ACWA Power

WÄRTSILÄ SUPPORTS NIGERIAN ENERGY SUPPLIER

Wärtsilä has signed a long-term optimised maintenance agreement covering power plants in three locations owned by Paras Energy, a privately-owned independent Nigerian energy provider connected to Nigeria's national grid. The aim of the agreement is to ensure the plants' continued high levels of availability, reliability and efficiency, while providing important cost predictability for future budgeting purposes. The agreement was signed with Wärtsilä in the first quarter of 2021.

The plants covered by the five-year agreement are operated with Wärtsilä 345G gas-fuelled engines producing a combined total output of approximately 132MW. Based on an average connected capacity of some 6.5kW for each Nigerian home, this will represent the annual consumption equivalent of close to 20,300 domestic households.

"We have worked successfully with Wärtsilä for twelve years, during which time we have developed a strong spirit of mutual respect and trust. Until now we have managed and maintained these plants ourselves, but as we grow and expand our operations we are convinced that Wärtsilä's professional approach will provide the support needed as we develop our core business," said Yashwant Kumar, managing director, Paras Energy & Natural Resources.



Image Credit: Wärtsilä

The key benefits of the Wärtsilä technology include flexibility and the ability to quickly adjust the load in response to supply fluctuations from renewable energy sources.

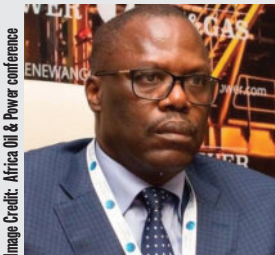
IEA FORECASTS RISE OF RENEWABLES

Renewable electricity generation is expected to increase by more than 8% to reach 8,300TWh in 2021, according to the Global Energy Review 2021, released by the International Energy Agency (IEA).

Wind is set for the largest increase in renewable energy generation in 2021, with the IEA predicting it will grow by 275TWh, almost 17%, while PV solar generation is expected to increase by 145TWh globally, a rise of 18%, to reach 1,000TWh.

The report noted that renewable energy use rose by 3% in 2020, with demand for all other fuels declining as a result of the Covid-19 pandemic. The primary driver was a 7% growth in electricity generation from renewables sources. The IEA report stated that long-term contracts, priority access to the grid and the continuous installation of new clean energy plants led to a growth in renewables despite lower global electricity demand and supply chain challenges for projects.

► BRIEFS



Paulino Jerónimo, CEO of Angola's National Oil, Gas and Biofuels Agency (ANPG).

ANPG promotes bid round

Angola's National Oil, Gas and Biofuels Agency (ANPG) has outlined its timetable for the evaluation of its ongoing 2020 bid round, as interest in the acreage on offer continues to grow. ANPG is holding digital and in-person roadshows in key international markets to promote the blocks to be awarded. These include three blocks of the lower Congo onshore Basin CON1, CON5 and CON6; and six of the Kwanza onshore Basin (KON5, KON6, KON8, KON9, KON17 and KON20).



The Vertex S modules are designed for rooftop applications.

Trina Solar's bumper sales

Trina Solar has announced that the total volume of orders for its Vertex 500W and Vertex S 405W PV modules has surpassed 2GW, which have gone to the distributed market all over the world. The first batch of Vertex S modules have arrived in Europe for mass installation on thousands of project sites. The new series Vertex S is a new generation of high-efficiency PV modules specifically designed for distributed residential and commercial rooftop applications.

Adapting to a digital world

Ronan O’Sullivan, digital lead for ABB Energy Industries IMEA region, discusses how digitalisation is shaping the post-Covid-19 recovery in the energy sector and supporting sustainable operations. Louise Waters reports.



Visualising real-time data on smart devices can lead to optimised performance across plants.

There can be no doubt that the Covid-19 pandemic has accelerated digital transformation, driving the need for remote and automated operations and forcing companies to fundamentally adapt their working practices. ABB Energy Industries has had to adapt its operations in two key aspects, Ronan O’Sullivan explains.

“One is the service aspect and how we take care of our existing customers. Our service models have had to adapt to difficulties in sending people to sites. We had to overcome that very quickly through

some of our digital solutions to connect our customers in the field with our subject matter experts sitting remotely, or where customers themselves were unable to get to

their sites, connecting a subject matter expert sitting in their headquarters or at home. So it has certainly accelerated all the remote connectivity to enable us to provide

services for customers.

“On the project side too, we’ve really had to adapt. Last year we launched Adaptive Execution, a project methodology leveraging years of experience which offers an optimised way of executing projects. So we incorporate our people, SMEs or an expert team that could be connected globally for a project, we look at the years of project execution, and have streamlined that into our Adaptive Execution methodology.

“The other part of it involves making more use of our technologies, and making them

“There’s a big acceleration around utilising data in order to run operations more efficiently, and really start moving the industry towards autonomous operations.”

RONAN O’SULLIVAN, DIGITAL LEAD FOR ABB ENERGY INDUSTRIES IMEA REGION

more modular and more standard, so that we can deploy projects globally in a more efficient and effective way.

"Last but not least, is looking at infrastructure as a catalyst, utilising cloud technology to have remote connectivity project execution on a cloud-based infrastructure, to allow that acceleration of project optimisation as a whole.

"We have brought all these key areas together in our Adaptive Execution."

Utilising data

The uptake from the energy industry has been huge, O'Sullivan comments, as with the current constraints, customers have to use what they currently have in a better way to run their businesses.

"What they have today is data, and the possibility of us connecting remotely. So there's a big acceleration around utilising data in order to run operations more efficiently, and really start moving the industry towards autonomous operations.

"We've got various tools we can utilise from a data perspective, but what's really helped us focus is our launch last year of our ABB Ability Genius platform. That allows our customers to gather data from operational technology, IT and engineering technology, bring that together, contextualise it and be able to drive further value out of that data. That's been a big area of discussion for our customers.

"There's also the data gathering part, and that's where we've launched our Edgenius Operations Data Manager, to be able to take data from our various plants in a secure and efficient manner to a central location, whether that's a cloud or an on-premise data centre. We're seeing a big uptake on this, from data collection to data gathering, contextualisation and integration, and then applying our machine learning and even our advanced analytics and AI."

Every step of the way

O'Sullivan points out that it is a

different challenge for each client, depending on their digital experience. He said, "Some of our customers are very mature on the digital transformation curve; they already have connectivity to all their data sources, bringing it centrally and visualising it. Now they want to explore what they can do with industrial analytics and AI to drive value within their use cases, and deploy it on the problems they're trying to solve.

"With other customers we're having conversations around connectivity, from the smart sensing on equipment, to data gathering, to bringing that data into a central location and then getting more into analytics, machine learning and AI. So within the industry we have customers at different stages of their transformation journey."

There is scope to do more, even with mature customers, he adds, given that industry analysis indicates that only around 20 to 30% of data is being utilised by customers, whether OT, IT or engineering data.

"Whether it's a customer far along the digital maturity scale or one starting out on their transformation journey, there's an untapped potential. There are a lot of things we could do around that uncaptured data, even for the customers who are further ahead."

Focus on sustainability

Turning to sustainability, an increasing focus for energy companies, O'Sullivan comments that this goes back to the data piece, with real-time business environments providing the ability, for example, to visualise the performance of multiple plants from



Ronan O'Sullivan, digital lead for ABB Energy Industries IMEA region.

a smart device, tablet or phone and generate real time data in order to optimise performance across plants. This provides the ability to make predictions and devise prescriptive maintenance strategies to sustain the plant and equipment.

These technologies also minimise the chance of unwanted shutdowns or disturbances in the plant that could cause harm to the environment, or prevent particular processes from being carried out in a sustainable way, he adds.

Enhancing and improving asset predictability and helping customers adapting their end product for various market demands in the current shifting scenario are a current focus.

Accelerating automation operations

Outlining how he sees the drive towards autonomous operations playing out, O'Sullivan says, "Certainly it's going to start with some fundamentals to build up to autonomous operations, and that's

going to be a driver around the utilisation of the data, so we're looking at IT and OT data integration, increased automation around our customers' processes, as well as the enhancements of digital twins and AI. So utilising data, utilising AI, and then the automation piece; these three combined are the future. We already have use cases where customers want a single push-button start-up of a facility. That requires a lot of automation, a lot of advanced analytics and machine learning, and eventually AI.

"By enhancing automation and utilising digital technologies such as AR and VR the worker in the field can have access to the control system and all the data to enable them to work more efficiently, with visualisation over process areas, equipment conditions and so on, so they have the information to perform tasks in a safe manner.

"It's about more data connectivity, more automation, and the utilisation of AR and VR into the mix. In hazardous areas there will be more use of robotics, both in terms of robotics working side by side with humans but also mobile robotics, performing tasks that will keep humans away from hazardous areas or tedious types of work, enabling them to focus on other aspects of the process.

"So we are moving to autonomous production with data-driven and AI, along with automation and the evolution of digital twins."

Concluding, O'Sullivan stresses the priority ABB attaches to deploying these digital solutions in a cyber-secure way and mitigating the threat of cyber attacks.

"It is critical to ensure that when you're adding in digital solutions and extracting data you are utilising what we refer to as reference architecture, so that these solutions and connectivities are handled to the highest of cyber security standards," he says.

"This is a big priority for us as the industry and our customers evolve towards autonomous operations." ■

“It’s about more data connectivity, more automation, and the utilisation of AR and VR into the mix.”

RONAN O’SULLIVAN, DIGITAL LEAD FOR ABB ENERGY INDUSTRIES IMEA REGION

Supporting countries in the energy transition

Siemens Energy's recently appointed managing director for Africa, Nadja Haakansson, shares insights about the critical role the company's solutions play in enabling a reliable power system for Africa. Samantha Payne reports.

In the next 20 years, we can expect to see an increase of 50% in global electricity generation demand. However, vast numbers of people, around 770 million today, are still lacking access to electricity, of which the majority of these people are in Africa (around 580 million).

Opening the Siemens Energy Service Solutions for Africa webinar to the press on 9 March, Nadja Haakansson, managing director for Africa at Siemens Energy, explained, "Energy availability is going to be key to fulfilling the potential and economic development of Africa. This is where Siemens Energy can support in enabling an available and reliable energy system for Africa."

The strength of Siemens Energy lies in its long heritage of 150 years in transforming and contributing to the electrification and transformation of the world with their various technologies, and also having a portfolio that covers the entire energy value chain. This covers solutions, products, systems and services across generation, industrial applications, renewables, transmission, and recently, in the new energy business with their electrolysed technology for hydrogen.

"Also in generation," she continued, "We have a wide ranging portfolio from medium gas turbines, small gas turbines to compressors, mainly in the oil and gas segments where we are actively supporting customers to transition to a more sustainable solution."

In their innovation portfolio, there are three main pillars: low to zero emission power generation, the transport of electricity and

Image Credit: Siemens Energy



Nadja Haakansson, managing director for Africa at Siemens Energy.

storage of energy and the reduction of carbon footprint and consumption in industrial applications.

"Many countries have already committed to zero emissions targets in the next 30 to 40 years and we see our role here as very critical in supporting societies to make that transition."

Siemens Energy's pioneering lead can be seen in their work in making their gas turbines future proof for the hydrogen economy.

"The idea is the accessible excess renewable energy coming from wind and solar that can be used to produce hydrogen by electrolysis, which can then be reelectrified and used in other industries; from transport to heating buildings, mobility and synthetic fuels that can also be used in the petrochemical industry and further manufacturing industries – linking the energy sector to the energy consuming sectors."

Haakansson showed the example of their best-in-class gas turbine combined cycle power plant solution with their medium gas turbine SGT-800, range up to 60MW, which is available in their markets worldwide.

"The excellent part of this solution of a combined cycle power plant is its efficient use of energy. When we deliver these solutions to our markets globally around the world today or in the future when the hydrogen economy is ready, our gas turbines are ready to be used with hydrogen."

It is hoped that the gas turbine will be able to run 100% on hydrogen. "This is a great solution which I believe is going to be very suitable for Africa's need of development," said Haakansson, adding, "The importance of having local regional services near our customers is critical and where we're dedicated in Africa with our capabilities and service support, from spare parts, field service engineers to repairs, overhauls modernisations, upgrades and long-term service programmes, dedicated to high reliability of assets, operations and maintenance. We've years of experience in Africa where we operate and maintain a power plant for our customers." ■

SIEMENS: FIVE FIELDS OF ACTIONS INSTRUMENTAL IN THE ENERGY TRANSFORMATION

Energy storage: Siemens Energy is developing technologies and partnering with other technology providers to enable storage of energy through either chemical, thermal or other media.

Decarbonised heat and industrial processes: The company provides solutions to transform and improve existing infrastructure in industries like oil and gas.

Power to X: It is a very exciting area that enables excess renewable power to produce

hydrogen and synthetic green fuels that can be used in other industries and applications.

Service solutions: Siemens Energy is working very actively on having a digitalisation and data analytics portfolio, which is critical in multiple areas for providing smarter services, remote connections to support customers and the ability for predictive maintenance and remote connectivity.

This enables regions and countries to troubleshoot more quickly to do planned and

unplanned maintenance, which is a very important area for them.

Resilient grids and reliability: As the industry sees an increase in renewables, this creates new challenges with the intermittency of renewable power systems and increases the need for solutions around grid stability. Siemens Energy offers such solutions through transmission abilities, systems and solutions as well as gas turbine technology which enables grid stability.

Closing the rural-urban smart grid divide

Inmarsat's director of sector development, Steven Tompkins, talks on how the future development of the smart grid can bridge the rural-urban divide.

Building 'smarter' grids has always been a major area of investment for the utilities sector, but Covid-19 has pushed it to the top of the agenda.

The need for 'smarter' grids has been compounded by the push towards a distributed-generation, low-carbon economy, with end users taking active steps to reduce their energy consumption. Consequently, utility companies are increasingly looking at how power is being produced and consumed across the globe, with smart grids representing an opportunity to manage this.

However, while the utilities sector has accelerated its digital transformation efforts in recent years, suppliers still fall short of raising the quality of service they provide to end users, particularly in rural areas. One of the key problems for electricity providers is connectivity; cellular coverage often does not reach or is not reliable enough to use, which creates coverage dark spots. This is where satellite connectivity comes into play, providing a robust, cost-effective solution for any utilities network looking to extend its reach.

The evolution of the smart grid

Smart grid devices, communications and control technologies are being increasingly applied to create a 'two-way' communications system, enabling companies to monitor, manage and improve their distribution networks. In contrast to the traditional 'one-way' electrical grid, with power going from the grid operator to the customer, without any data going back to the provider explaining how the grid is performing.

Deploying 'smarter' technologies across distribution networks to build 'digital twins' helps grid



Image Credit: Adobe Stock

managers to make smarter, more informed decisions. They are able to identify power outages faster and dramatically reduce maintenance costs.

There are many technologies that contribute to the modern smart grid, but three core applications are centralised automated reclosers, advanced metering infrastructure (AMI) and substation automation. These are supported by supervisory and control (SCADA) systems, which acquire data from Remote Terminal Units (RTUs) or Intelligent Electrical

Devices (IEDs) and connect this to sensors through a communications network.

Key benefits of these technologies include reduced peak consumption by shifting demand loads, optimised distribution (helping to minimise carbon footprint) and lower maintenance costs.

The power of satellite

There is where satellite comes into its own. While satellite-enabled solutions have traditionally been deemed as costly or reliant on bulky

hardware, much has changed with recent advancements in technology.

Today's satellite terminals provide an easy-to-integrate, real-time, IP-based connectivity service, making them ideal for backhauling data from smart grid applications installed anywhere in the power grid.

The bottom line here is that it is no longer acceptable to have smart grid capabilities in urban areas, while neglecting remote areas. Utility companies looking to improve their service quality and close the rural-urban smart grid divide must, therefore, prioritise satellite connectivity as a foundational imperative. From supporting the integration of smart grids into smart cities, to providing the infrastructure needed for the new generation of plug-in electric vehicles (PEVs), satellite's unparalleled reach makes it a critical component in the future of smart grids. ■

“Utility companies are increasingly looking at how power is being produced and consumed across the globe.”

STEVEN TOMPKINS, DIRECTOR OF SECTOR DEVELOPMENT, INMARSAT

TRAFO'S DRY-TYPE TRANSFORMERS



A 3,000kVA dry-type transformer with an IP54 enclosure for a coal mine application.

Trafo Power Solutions has customised two dry-type transformers for a coal mine in South Africa's Limpopo province, allowing the units to be fitted into existing enclosures while meeting the customer's demanding duty requirements.

"While we would normally supply the transformer together with its enclosure, we are also able to design the solution according to the dimensions available on site," says David Claassen, managing director of Trafo Power Solutions.

This required one of the transformers – a specialised 3900kVA unit – to be copper-wound to achieve a smaller footprint suitable to the space constraints without compromising the technical performance. With 11kV capacity on the primary windings, this transformer included four separate secondary windings – for 1810V, 1515V, 1360V and 1210V output.

"Being located outdoors on a coal mine, the transformer had to be well protected from fine dust and moisture, requiring a specially designed IP54 enclosure," says Claassen. "At the same time, the transformer's large size meant substantial heat loss, which needed to be extracted from the enclosure. The design, therefore, included an air-to-air heat exchanger to recycle cool air in a closed loop."

The second transformer supplied to the mine was a 1600kVA unit for indoor application, stepping down from 11kV to 550V. Working closely with transformer repair experts Koratech Services, who applied certain modifications to the enclosure, Trafo Power Solutions was able to meet the dimensional and electrical requirement of the application.

"Underground mining often presents space constraints which have to be considered in the design of the transformer or the miniature substation," he says. "With our expertise and our strategic partnership with leading Italy-based manufacturer TMC Transformers, we can readily cater for these conditions."

He notes that Trafo Power Solutions also supplies dry-type transformers to the marine industry, which requires not only that transformers can be safely employed indoors, but that they often be accommodated in cramped spaces. This experience enhances the company's technical capability in underground mines.

CANTONI
MOTOR



DRIVING YOUR BUSINESS



ELECTRIC MOTORS
from **0,04kW**
up to **6000kW**

www.cantonigroup.com

John Deere expands construction brand into 18 African countries

John Deere has announced plans to expand its construction line-up to eighteen countries across southern and western Africa, where Deere-branded construction products were not previously available. Impacted countries include South Africa, Botswana, Zimbabwe, Swaziland, Namibia, Zambia, Kenya, Uganda, Mozambique, Angola, Malawi, Tanzania, Ethiopia, Egypt, Rwanda, Burundi, South Sudan, and Sudan. This expansion, which will include the availability of backhoe loaders, excavators, wheel loaders, motor graders, and crawler dozers, will be sold and supported by independent, newly appointed John Deere dealers, which will be announced later.

"This expansion provides an opportunity for us to increase our global footprint in the construction industry, as we build upon our existing presence in Africa and deliver our product portfolio under the John Deere brand for the first time to these key markets," said Jaco Beyers, managing director for John Deere Africa Middle East.

Each piece of John Deere construction equipment will be supported and serviced by highly trained and certified equipment technicians who are in turn supported by a network of regional parts distribution centres, including the nearest one in Kempton Park, Gauteng, South Africa. Customers will also have access to the John Deere suite of technology solutions, including JDLink Telematics, which provides valuable fleet insights on the job site.

"We have a deep-rooted presence in Africa in the agriculture market, and we know construction customers in these markets are eager for access to the John Deere brand and its many advantages," said Griffiths Makgate, sales manager, John Deere Construction & Forestry, John Deere Africa Middle East. "By providing access to our high-quality equipment, outstanding dealer network and parts availability, and productivity enhancing technology solutions, we can help operators in Africa increase productivity and boost their bottom lines on a daily basis."



This expansion marks the first time that the John Deere construction products are sold under the John Deere name in these key markets.

CONSTRUCTION OF NIGERIA RAILWAY LINE COMMENCES

Lagos State Governor, Babajide Sanwo-Olu, has performed the ground breaking ceremony for the construction of the 37km Lagos Rail Mass Transit Red Line, from Agbado to Marina, which is projected to transport more than one million commuters daily, according to newspaper reports.

He said the project, which comes under the Lagos Metropolitan Area Transport Authority (LAMATA) will be implemented in two phases, transporting the first passengers in the fourth quarter of 2022. It is envisaged that the first phase of the Blue Line (Marina to Okokomaiko) will also be in operation by the fourth quarter of 2022, he said.

The governor said the Red Line would have 12 stations and the first phase will cover Agbado to Oyingbo, with nine stations.

Three of the stations will be constructed with the Lagos-Ibadan Railway Modernisation Projects by the Federal Government at Agbado, Agege and Ebute Metta Junction, with the remaining six constructed as independent stations at Iju, Ikeja, Oshodi, Mushin Yaba and Oyingbo.

Phase two, which will be mostly elevated, will have stations at Iddo and Ebute-Ero before terminating at Marina.

Sanwo-Olu highlighted the desire of government to achieve improved connectivity among transport modes, making commuting within Lagos easy for every resident and visitor. Certain stations will integrate with bus terminals, and Sanwo-Olu said the Red Line will integrate with the Ikeja Bus Terminal, Oshodi-Abule-Egba Bus Rapid Transit, the future Orange Line, which would go from Ikeja to Agbowo, and Aviation Terminal One of the Murtala Muhammed International Airport.

"It will also help to reduce congestion, have predictable travel time and improve the GDP of the state," he said.

BAUMA CONEXPO AFRICA CANCELLED

Messe Muenchen South Africa, organisers of bauma CONEXPO AFRICA, have announced that this key pan-African trade show for construction, building materials, mining, agriculture and forestry machinery and vehicles, will not take place in 2021 as planned due to Covid-related issues.

The event was scheduled to be held in Johannesburg, South Africa, from 13-16 October. But after consultations with industry stakeholders and amid ongoing bans and restrictions on international travel to and from South Africa due to the pandemic, it has now been cancelled altogether.

Suzette Scheepers, CEO of Messe Muenchen South Africa, said, "Due to the challenges the industry is facing, and uncertainty in the market around the Covid-19 pandemic and associated travel restrictions, the bauma CONEXPO AFRICA advisory board concluded that we could not guarantee the international stature and the usual return on investment of this show in 2021."

► BRIEFS



Orascom Construction is active in data centre construction.

Success for Orascom

Egypt's Orascom Construction has reported a backlog of US\$5.4bn and net income of US\$90.9mn in the financial year of 2020. The company's new awards ranged across core sectors such as transportation, infrastructure, data centres and logistics, and complement its existing backlog as it initiated work on important projects including the world's longest monorail system in Egypt and additional scopes in the data centre sector in the USA.



The construction of the Makupa bridge will take one year.

Bridge under construction

The Kenya National Highways Authority (Kenha) has begun construction of the new 457m long Makupa bridge, which will replace the Makupa causeway that links Mombasa Island to the mainland, according to a report in allafrica.com. The construction of the bridge is due to last one year, and will cost Sh4.5bn (US\$42mn). China Communications Construction Company (CCCC) has been awarded the construction contract.

A JOHN DEERE COMPANY



WIRTGEN GROUP



Eco? Logical!

► www.wirtgen-group.com

CLOSE TO OUR CUSTOMERS

If the load-bearing capacity is impaired, the complete road structure has to be rehabilitated. The trend: fast, cost-effective cold recycling. Take advantage of innovative solutions from the market leader.

► www.wirtgen-group.com/smartsynergies

WIRTGEN / VÖGELE / HAMM / KLEEMANN / BENNINGHOVEN

Supply chain shuffle

Down, but not out: Africa's construction sector is poised for digital supply chain reshuffle as project activity levels seek to recover after the Covid crisis. Martin Clark reports.

Africa Construction Trends Report 2020 | Africa construction in focus

Africa Construction Trends Report 2020 | Africa construction in focus

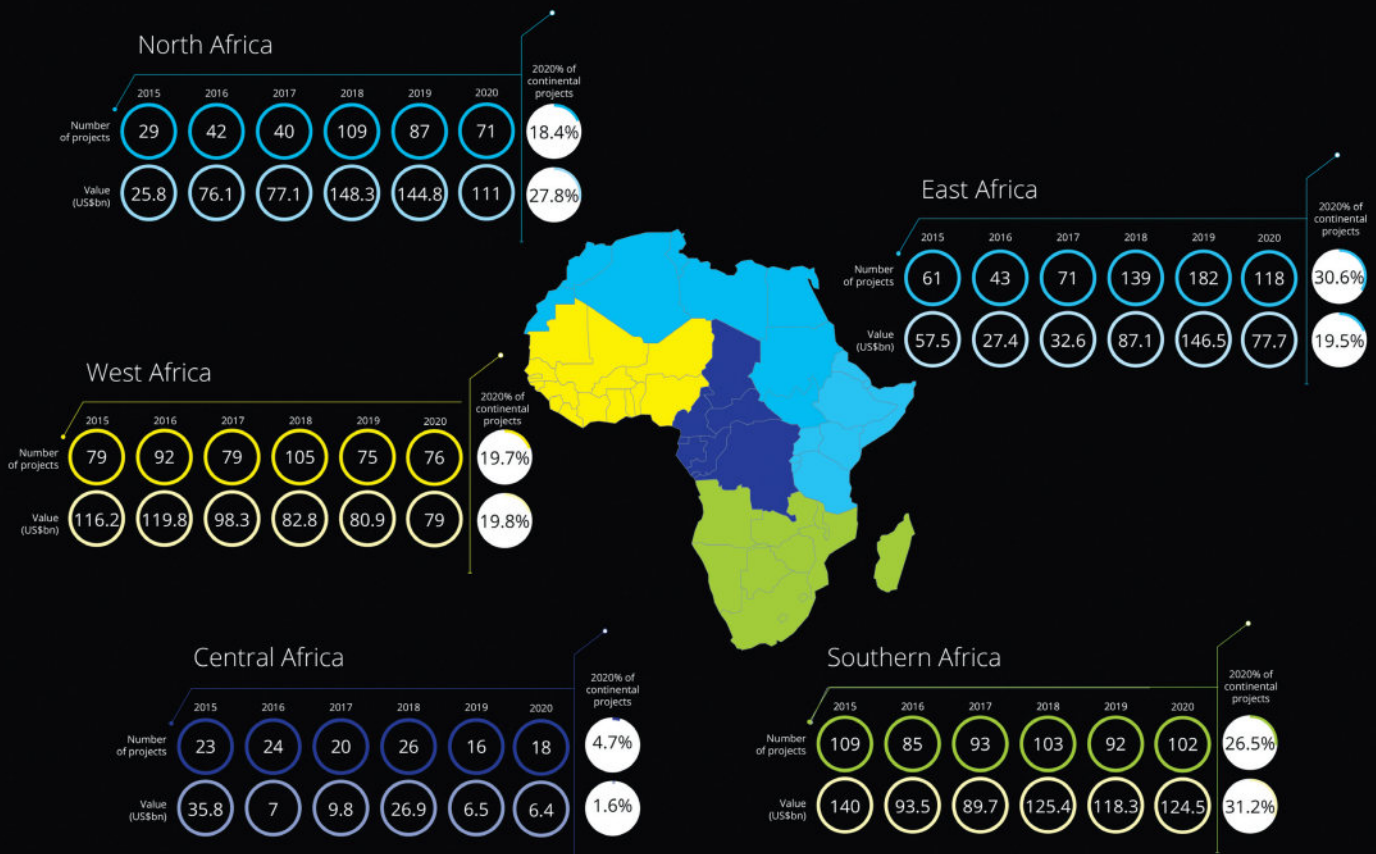


Image Credit: Deloitte analysis, 2020

In common with most industries, Africa's construction market has faced a tough year – but it brings with it a moment to pause and reflect on how things get done in the future.

According to a new report, now is the time to reconfigure supply chain risk in order to embed greater resilience and deliver projects with confidence going forward.

Deloitte's *Africa Construction Trends Report 2020* highlights the rise of the digital supply chain as a tool to optimise projects and their delivery.

"In today's globally-connected and fast-changing business world, supply chains have become more complex and intricate as organisations look

for smarter ways to deliver their end-to-end supply chain to achieve capital, operational and financial efficiency, competitive advantage and customer centricity," the report notes.

The pandemic has "radically challenged" project execution strategy to integrate supply chain, procurement and logistics during the planning process to achieve real-time visibility across the end-to-end supply chain and improve agility, productivity and stakeholder management, it adds.

Market update

Building a digitally enabled, resilient supply chain to proactively identify and manage risk could

become integral to the smooth functioning of major projects going forward, and that may help Africa's construction sector mend some of the pains of 2020. On a year-on-year basis, the total number of projects covered in Deloitte's report – those valued above US\$50mn that have broken ground by 1 June each year – fell by 14.8%, while the total value of projects dropped by 19.8%. In total, the report includes 385 projects with a total value of US\$399bn.

East Africa once again recorded the highest number of projects (118), with a 30.6% share; it was followed by Southern Africa, with 26.5% (102) and West Africa, with 19.7% (76).

The single biggest national markets for activity, however, were Egypt and South Africa, with 40 projects each – Egypt's project value of US\$93.7bn represents almost a quarter of the entire continental value.

Transport, energy and power, and real estate were the main sectors, accounting for around two thirds of all projects identified, and even more in terms of value.

The region's mega projects – those above US\$10bn – were spread evenly across Africa. Of these, the top three include Egypt's New Administrative Capital, worth US\$58bn, Mozambique's Offshore Area 1 Liquefied Natural Gas (LNG) project worth US\$23bn, followed by Nigeria's Centenary City worth

US\$18bn. These three major projects account for a total value of US\$99bn, a quarter of Africa's combined project value.

East Africa

Indeed, infrastructure development has been on the rise for the past few years, and looks set to continue as a catalyst to recovery in the wake of the pandemic.

East Africa was once again the busiest region for overall project activity – yet it also experienced the sharpest declines.

Within the region, Uganda, with 27 projects, and Kenya, with 26 projects, recorded the highest number of projects. This keeps them among the top five countries in the continent in terms of project numbers. Tanzania, however, was among the highest value markets, with US\$33.5bn worth of activity. The number of projects overall in East Africa, however, dropped by 35% compared to 2019, while the total project value dropped 47%, in part, due to the completion of several large projects.

Among the region's current crop of larger projects are the Bagamoyo Mega port and the Tanzania-Rwanda-Burundi Railway project.

Southern Africa

Southern Africa also increased its work on infrastructure during 2020. The region notched up 102 projects with a total value of US\$124.5bn, according to Deloitte. The number of projects also increased by 10.9%

to 102 in 2020, from 92 projects in 2019. This was down to a number of new projects, such as the Mauritius Light Rail Transit (LRT) Line, which is expected to reduce traffic congestion in the country.

Project values across the region also climbed by 5.2% in 2020, from US\$118.2bn to US\$124.5bn. This was fuelled by several large schemes now underway in Mozambique, such as the Offshore Area 1 liquefied natural gas (LNG) project in the Rovuma Basin, and the Mphanda Nkuwa hydropower plant. The region accounted for 26.5% of project activity across Africa, and 31.2% of the total value.

West Africa

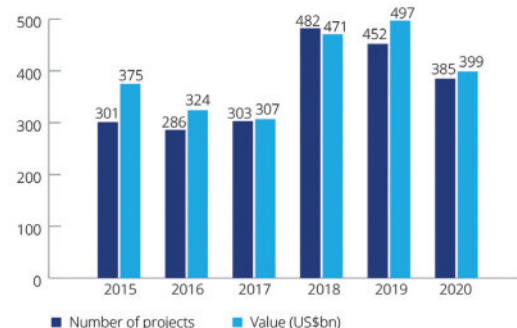
The total number and value of projects overall in West Africa was mostly unchanged from the previous year, with some 76 projects worth US\$79bn.

Nigeria scored the highest number of projects, at 26, followed by Ghana with 16 projects and Côte d'Ivoire with 10 projects.

In Nigeria, the region's largest market, the transport sector was significant, notably roads and bridges. It also recorded the highest project value in the region at US\$52.4bn, followed by Ghana with US\$15.5bn.

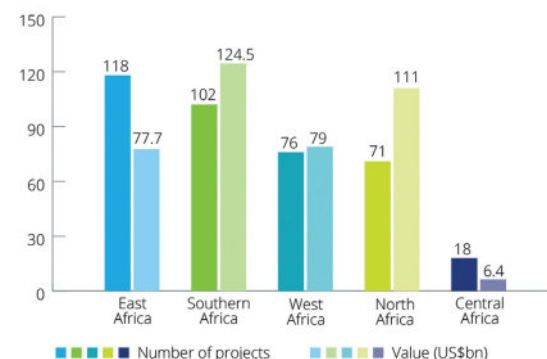
Again, energy and power, and real estate were the next most important sectors, after transport. The real estate sector in Nigeria was boosted by the construction of the Centenary City, worth US\$18bn.

Continental statistics



Source: Deloitte analysis, 2020

Regional split



Source: Deloitte analysis, 2020

Another of its mega projects is the Dangote Refinery project worth US\$14bn.

Central Africa

The smallest of the regions, as classified by Deloitte, is Central Africa, which this year recorded 18 projects – a small increase on the previous year – amounting to US\$6.4bn.

The numbers were also dampened by the completion of some notable projects, such as the Zongo 2 power plant in the Democratic Republic of Congo (DRC).

For 2020, Cameroon leads the pack, with 11 registered projects; the country also recorded the largest share of project value at 66.1% (worth US\$4.2bn). In its analysis, Deloitte's said the DRC had the second most projects, with five in total, while Congo-Brazzaville and Gabon both recorded just one project each.

North Africa

In North Africa, while project activity levels and values both dropped in 2020, the region remains a powerhouse of activity for the continent.

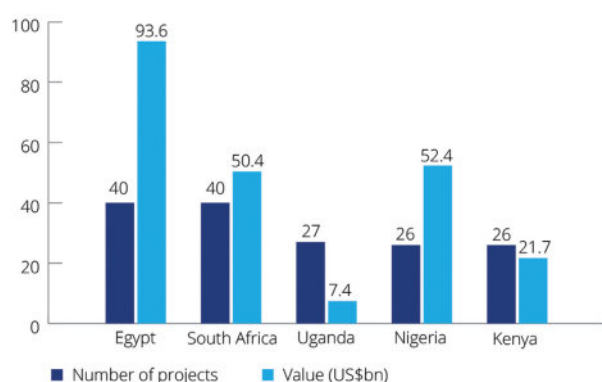
The total number of projects in North Africa declined by 18.4% between 2019 and 2020, while the total project value dropped by 23.3%.

These declines were largely due to the suspension of several projects, including the Thenia (Boumerdes)-Bordj Bou Arreridj Double Rail Line in Algeria.

Egypt continued to record the highest number of projects with 40 projects, worth US\$93.6bn, followed by Morocco with 19 projects.

The real estate sector accounted for over two-thirds of overall project spend, boosted by Egypt's new capital city in Cairo, worth US\$58bn, as well as the Tunis Financial Harbour Project in Tunisia, which costs US\$3bn. ■

Top 5 countries by number of projects



Source: Deloitte analysis, 2020

Firm foundations

Specialist concrete solutions providers are set to underpin Africa's construction recovery. Martin Clark reports.



AfriSam is well placed to bring more capacity on stream as and when there is an upswing in South Africa's roadbuilding sector.

Image Credit: AfriSam

Demand for concrete and allied products has long been tied to construction sector activity and, while this has slowed somewhat over the past 12 months or so, there is still plenty of activity on the ground.

This includes major state-sponsored infrastructure works, as well as large and small transport, real estate and energy and power projects.

Although it has been a turbulent year for so many, one filled with great anxiety and uncertainty, it has not stopped innovation in the building materials sector – and many of these breakthroughs are now bearing fruit.

Key industry players are making

an impact in delivering robust projects and, increasingly, with a strong environmental focus.

They include innovators such as the Convergent Group, an expert in concrete chemical treatments, among many other providers. Concrete manufacturers themselves

are also responding to the challenge, with South Africa's AfriSam the first in southern Africa to publish an environmental policy – as early as 1994.

There is also a sustained belief in the underlying strengths of the African market, despite the ups and

downs of the past year.

At the end of 2020, construction chemicals group, Chryso, announced that it had taken a majority stake in APTEx in Morocco, one of the region's more dynamic building markets. APTEx has been operating in construction chemicals since 2018 and has a unit and an application laboratory in Casablanca.

Chryso itself has been present in the North African country for more than 30 years, with its admixtures solutions used on some of the largest construction sites in recent times.

“The whole construction sector is looking forward to the release of more road upgrade projects this year, especially on the N2 and N3 national highways.”

AVI BHOORA, CONSTRUCTION MATERIALS EXECUTIVE, AFRISAM

Val de Vie Berg River Bridge project

At the other end of the continent,

South Africa has long been a showcase for some of these advanced technologies.

Chryso recently played a key role in the Val de Vie Berg River Bridge project in the Western Cape, near the historic city of Paarl.

This involved the largest pre-cast beams cast to date used in the province – weighing 64t each, the 18 pre-stressed beams for the bridge measured over 35 metres long and two metres high.

The large volume and tight spacing of the reinforcing steel, coupled with the presence of stressing cables, meant conventional concrete would not suffice, so the local Southern Africa team worked in conjunction with the pre-cast contractor to design, test and submit a self-compacting concrete mix. Chryso Premia 310 superplasticiser and Chryso Dem Bio 10 environmentally-friendly release agent formed part of the solution for the successful casting of the beams, and were also used in the project's large facing panels, coping and culverts.

Once all beam strands were evenly stressed, readymix concrete was placed and a combination of external and poker vibration was

used for compaction, which provided good surface finish with minimal blow holes.

After pouring, a tarpaulin was placed over the mould and steam was injected under the cover to accelerate hydration.

Using this method, a strength of 40 MPa was achieved in 20 hours, enabling the production of one beam a day; the final strength required was 60 MPa, which was achieved within 28 days.

Before the casting process, Chryso Retarder paste was also applied at the end of each beam shutter and the concrete washed off with water the following day after the shutter was removed. This created a rough, exposed aggregate finish to provide a better bonding surface for the assembly of the bridge.

Once all pre-cast beams were in position, five diaphragm transverse beams were cast in-situ between them. Permanent deck shutters closed the remaining gaps between the pre-cast beams, resting on recesses cast into the beams for that purpose.

Readymix concrete using Chryso Plast Omega 126, a water-reducing plasticiser, was then poured onto the shutters to create the deck.

“When contractors must deal with lower quality material on site, this generally needs to be modified with the use of lime.”

AVI BHOORA, CONSTRUCTION MATERIALS EXECUTIVE, AFRISAM

South Africa roadbuilding expansion

Another Africa specialist that is bullish about Africa's prospects is Afrisam.

Avi Bhoora, its construction materials executive, says the company is well placed to bring more capacity on stream when there is an upswing in South Africa's roadbuilding sector.

It has already secured some important road contracts for 2021, including supplying construction material to the significant upgrade from Lynnfield Park to Dardanelles, south of Pietermaritzburg.

“The construction materials market is now only about a third of its 2012 level, when roadbuilding in the country was at its peak,” says Bhoora. “The whole construction sector is looking forward to the release of more road upgrade

projects this year, especially on the N2 and N3 national highways.”

He says there are nine work packages expected to be released by the road authority, which could together add up to around R40bn (US\$2.7bn) in contract values.

AfriSam has recently been active in the Watt Street Interchange Project in Wynberg near Sandton, where it provided almost 9,000 m³ of readymix for concrete works. This contract included two large, challenging concrete pours of over 550 m³ each. Again, the environmental angle is an increasingly important one. Bhoora notes that roadbuilders who are concerned about their carbon footprint will prioritise having a commercial supply of construction material as close to their project as possible to reduce emissions from trucks transporting materials.

“Road contractors look to AfriSam for solutions to two important aspects of achieving a quality road: modification and stabilisation,” says Bhoora. “When contractors must deal with lower quality material on site – with high clay content and plasticity index – this generally needs to be modified with the use of lime.”

This means that higher quality – or ‘bluer’ materials from the underlying rock layers rather than from the overburden – may require additional strengthening through stabilisation. AfriSam's Roadstab cement, manufactured at the company's Dudfield and Ulco factories, is a popular solution, with its 32.5 classification in terms of the SANS 50917-1 standard.

While activity may be subdued for now, concrete specialists are ready to respond when the call comes. ■



This overhead crane was specifically bought for the Val de Vie Berg River Bridge project.

Nigeria cement sales rise despite Covid-19 pandemic

2020 was a record year for Dangote Cement, with sales up by 16% year-on-year from US\$2.18bn in 2019. Now the company wants to focus on its vision to make the West African region cement self-sufficient. Samantha Payne reports.



Image Credit: Dangote

Established in 1981 as a subsidiary of Dangote Industries by Aliko Dangote, Dangote Cement has become Africa's leading cement producer, with a combined installed capacity of 48.6Mt across 10 African countries and revenues in excess of US\$2.3bn.

In total, it has three cement plants in Nigeria – Obajana, Ibese and Gboko, (employing more than 18,000 people, excluding transport staff) and another due to be commissioned in 2021 in Okpella, which will provide an additional 3Mt. They have also recently commissioned two export terminals in Lagos.

Last year, the coronavirus pandemic impacted many companies and industries, but for Dangote Cement, business has never been so good, recording sales of US\$2.52bn in 2020, up by 16% year-on-year from US\$2.18bn in 2019. Earnings before interest, taxation,

depreciation and amortisation (EBITDA) increased by 21% to US\$1.17bn, while total cement sales volumes rose by 8% to 25.7Mt and Nigerian cement sales rose by 13% to 15.9Mt from 14.1Mt.

Commenting on the results, chief executive officer Michel Puchercos said, "Despite the impact of the Covid-19 pandemic, 2020 was a record year for Dangote Cement across the board. Several firsts made 2020 a productive year such as our maiden clinker shipment, maiden bond issuance and successful

buyback programme. We increased our capacity by 3Mt/yr in Nigeria, commissioned our two export terminals and commissioned our gas power plant in Tanzania. All this was achieved whilst we focused on protecting our people, customers, and communities from the impact of the pandemic."

Navigating the pandemic

At Dangote Cement, the health and safety of its employees, customers, suppliers and communities has remained a priority during

the pandemic.

As Puchercos explains, "We have put measures in place to protect our communities and help them overcome their hardships during this very difficult time.

"In addition, we are proactively monitoring key dimensions of our operations to prevent and mitigate adverse effect of the pandemic on our colleagues."

First clinker shipment

Last June, Dangote Cement made its first successful clinker shipment from Nigeria to Senegal, which is part of its export expansion strategy in West and Central Africa.

Puchercos continued, "Our vision is to make the region cement self-sufficient. Dangote Cement plans to serve West and Central Africa from our Nigerian factories and therefore eliminating the need for importation of clinker from Asia or Europe."

“Several firsts made 2020 a productive year such as our maiden clinker shipment, maiden bond issuance and successful buyback programme.”

MICHEL PUCHERCOS, CEO OF DANGOTE CEMENT

Buyback programme

And to make the company increasingly attractive to investors now and in the future, in December last year they launched their innovative buyback programme.

“Dangote Cement repurchased 0.24% of its shares at an average price of 243 naira per share. As in our approach to run the company in general, we decided to deploy an innovative solution to returning cash to our shareholders in addition to the annual dividend payment. Our strategy remains to make the company more attractive to investors in the near-term and for future long-term growth,” Puchercos said.

To secure its long-term expansion

business plans, it has deployed its first 300bn Naira bond issuance.

The company, which is Nigeria’s largest listed entity by market capitalisation on the Nigerian Stock Exchange, has gained approval from its board of directors to access the capital market to “support business growth and maximise available sources of debt funding”.

In a statement on its website, it read, “Subsequent to obtaining regulatory approvals, the company intends to explore its medium to long-term debt funding options through the debt capital market, subject to favourable market conditions. When raised, the proposed funding will be used for capital expenditure of the

“Dangote Cement plans to serve West and Central Africa from our Nigerian factories and therefore eliminating the need for importation of clinker from Asia or Europe.”

MICHEL PUCHERCOS, CEO OF DANGOTE CEMENT

company’s expansion projects, short term debt refinancing, and working capital requirements.”

Its strong financial standing has also been boosted further in March this year when Global Credit Ratings upgraded the long term Issuer rating of Dangote Cement to AAA, and

affirmed the short term issuer rating of A1+(NG), with a stable outlook.

According to GCR, the ratings upgrade is underpinned by Dangote Cement’s strong competitive position as Africa’s leading integrated cement manufacturer, evidenced by very strong earnings, robust cash flows and moderate gearing metrics.

Puchercos added, “We’re delighted to be the first Nigerian corporate, and one of the few in Africa, to receive the AAA issuer rating by Global Credit Ratings. The AAA rating, the highest rating issued by Global Credit Rating, affirms our resilient financial position and high creditworthiness. We continue to report strong cash generation and remain committed to maximising shareholder value creation.”

Business at Dangote Cement seems to be getting better and better. ■

Image Credit: Dangote



Left to right: Project manager, Apapa Clinker Export/Gypsum Import Terminal (Dangote Projects Limited), Engr. Francis O. Obiakor; managing director, Greenview Development Nigeria Limited, Akin Omole; group executive director, Dangote Industries Limited, Alhaji Sada Ladan-Baki; director, Export, Dangote Industries/Dangote Cement Plc, Ekanem Etim and SGM, head community affairs and environment, Dangote Cement Plc, Engr. Tukur M. Lawal, during the sail-off vessel conveying clinker to Senegal from Dangote Cement Export Terminal, Apapa, Lagos.

LIEBHERR POWERBLOC PROVES ITS VALUE IN CONCRETE PUMPING

According to Liebherr, the advantages of the innovative Powerbloc technology convince customers they made the right decision every day they use it on construction sites. Following the presentation of the world first Liebherr Powerbloc at Bauma 2019, the truck-mounted concrete pump 42 XXT with the Powerbloc pump unit has been able to demonstrate its capabilities several times. The 42 M5 XXT truck mounted concrete pump has now been in constant use at Betonpumpen-Union (BPU) in and around Ulm for two years. Most recently even during the concreting of a very massive base



Image Credit: Liebherr

A truck mounted with the concrete pump 42 XXT.

plate at the Liebherr factory in Ehingen, Germany where mobile and crawler cranes are manufactured. To ensure the

consistently high quality of Liebherr cranes, a highly load-bearing test area is necessary. For this purpose, a testing plate

consisting of around 750 m³ of concrete was pumped with the help of the 42 M5 XXT truck-mounted concrete pump. The full concreting work was completed in one day. Another Liebherr truck-mounted concrete pump, the 37 XXT, was also on site.

A major highlight of the new 42 M5 XXT truck-mounted concrete pump is the newly developed Liebherr-Powerbloc drive unit. It is characterised in particular by the complete integration of all hydraulic switching and measuring elements. This eliminates the need for numerous hydraulic hoses and other components previously required.

Layher's reach expands in Southern Africa through strong partnerships

Layher, the world's largest producer of high-quality system scaffolding, was established in 1945 in Eibensbach, Germany. Over the years, Layher has pioneered the development of advanced scaffolding systems and is consistently at the forefront of innovation, safety and quality.

Layher South Africa

Layher established in South Africa in 2012 and has ever since supplied many EPC Contractors at Sasol, Sapref, Eskom, Sappi and all over Southern Africa with the multidirectional, hot dip galvanised and lightweight Layher Allround.

Their range of additional services includes training, design, planning and on-site technical support. These have allowed their customers to offer efficient savings to high profile production plants in South Africa through strong partnerships.

The expansion to Mozambique was an inevitable step as the country is undergoing industrial developments which require better and safer access solutions.

A strong partnership in Mozambique

MLS Scaffolding is a full-service scaffolding company providing scaffolding inspection, erection and dismantling services by a highly skilled and certified staff. Their professional and innovation-driven approach to scaffolding placed them as an ideal contracting partner.

MLS Scaffolding became the first local company using the versatile Layher Allround scaffolding system in Mozambique and began finding solutions which were previously not feasible with the material at their disposal.

Aided by the training and support of Layher's engineering team, the



Layher Allround Scaffolding® assembled by MLS Scaffolding in Mozambique.

MLS Scaffolding team were equipped with the possibility for precise and efficient solutions beyond their previous capacity.

"You can literally think of a solution and put it in place. Definitely, more possibilities," said Miguel Chau, commercial director, MLS Scaffolding.

Within the next five years, MLS Scaffolding plans on becoming the

local leader in industrial scaffolding. Their scope includes oil & gas, mining and coal, food and brewery, extending to civils, bridges, and roads.

A Layher spokesman said, "We look to continue supporting MLS Scaffolding in their growth in Mozambique because our customer's success is our success. Together, we're on the way up." ■



MLS Scaffolding receiving Layher Allround Training in Matola.

Doka recognised for accurate wall positioning solution

Doka has been awarded an Innovation Award of Excellence by the CTBUH 2021 Awards Programme for its DokaXact solution.



Image Credit: Doka

DokaXact has been named winner of the Innovation Award of Excellence and competes for the Overall Category Winner at the Council on Tall Buildings and Urban Habitat (CTBUH) Tall + Urban Innovation Conference, which will be held virtually from 18-20 May.

DokaXact is an interactive sensor-based solution that enables the accurate positioning of wall formwork for vertical structures at a new level. It is a tool for surveyors and crews that allows site teams to quickly and precisely plumb and align wall formwork used with Doka climbing systems.

According to Wojciech Jawor, surveyor at AJ Morrisroe & Sons, the system was used first on Elephant Park in London and brought significant benefits.

Jawor said, "The DokaXact system supported me ideally in my daily work as a surveyor. I did not need to be present for aligning and plumbing the formwork elements. However, I was able to monitor the site progress from anywhere at any time. This gave me more time and flexibility for other surveying processes on-site."

The expectations on the precision of built in-situ concrete structures continue to rise, for example, those for the installation of vertical transport systems or the connection of prefabricated concrete elements to the in-situ concrete core. DokaXact supports this with its

high system accuracy of +2mm. The system consists of multiple sensors attached to defined surveying points of the wall formwork, which communicate wirelessly with a centralised processing unit.

Increasing productivity

DokaXact assists and speeds up the surveying process before pouring. The site crew can align the formwork prior to the final position check by app assistance with predefined routines. This reduces the amount of remeasurements by the surveyor and possible formwork adjustments that would be required.

Live monitoring

DokaXact provides a quality assurance tool to build more accurately. With the live monitoring function, potential movements of the formwork can be made visible at all phases. Site managers are now able to observe their building tolerances 24/7 from anywhere, allowing preventative actions to be taken in order to avoid cost intensive reworks after pouring.

Learning from the past for the future

On the DokaXact web portal, the data is made accessible for site managers and surveying engineers. The portal is the reporting, monitoring and analysing platform to improve and optimise the routines and processes for the cycle to come. ■



Layher SIM[®]

FROM DIGITAL PLANNING
TO THE SUCCESSFUL PROJECT

- ▶ Planning and scheduling certainty at the site
- ▶ Transparency in all work steps and cost control
- ▶ Increase in safety and profitability for every project
- ▶ Your access to BIM

Find out more at:
industry.layher.com

Layher. 

More Possibilities. The Scaffolding System.

Lift off

The cranes at the centre of Africa's most important developments and port expansions.

ROUGH TERRAIN CRANE



From left to right: Aliyu Isa (Bulet International Nigeria) and Yves Pelleteret (Liebherr Service Technician).

Bulet, one of Nigeria's leading construction contractors, has purchased a Liebherr LRT 1090-2.1 – the first Liebherr LRT series rough terrain crane in the country. The high safety standards and VarioBase variable support base were the reasons behind the decision to buy the rough terrain crane.

Aliyu Isa, CEO at Bulet, which has built the majority of the infrastructure and government buildings in Abuja, said, "The Liebherr crane will help us pursue our growth policy. At the same time, it will enhance safety on our sites."

High safety levels in every respect are the main priority for the design of Liebherr's new series of LRT cranes. They feature an outrigger monitoring system as standard. The outrigger status, on tyres or supports, is detected automatically and saved to the crane controller. Bulet will use the LRT 1090-2.1 to help with tower crane assembly and hoisting work.

SHIP-TO-SHORE GANTRY CRANES



Three new ship-to-shore gantry cranes.

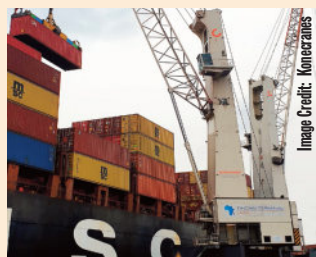
DP World Berbera, a regional maritime hub in the Horn of Africa, has welcomed the arrival of three new ship-to-shore (STS) gantry cranes, as part of its current project to expand and further develop the Port of Berbera. The three cranes were brought to the port by the vessel Zhen-Hua 29, and were safely off-loaded in a meticulously planned exercise carried out by DP World Berbera's management and engineering team.

The cranes, at 51m high, each have a capacity of 65 tons with an outer reach of 24 rows of containers, and will serve some of the largest container ships afloat today, allowing importers and exporters to make the most of the resulting economies of scale. The arrival of the cranes follows eight new rubber-tyred gantry (RTG) cranes at the port in January. Suhail Albanna, CEO and MD of DP World Middle East and Africa region said, "The arrival of the cranes is another key milestone in the development and expansion of Berbera Port."

MOBILE HARBOR CRANES

Konecranes will deliver two eco-efficient Konecranes Gottwald Model 7 Mobile Harbor Cranes to Tincan Island Container Terminal (TICT) in Lagos, Nigeria. The order, booked in January 2021, shows Konecranes' commitment to helping customers and industries grow and transform so they run more efficiently, sustainably and safely.

TICT, a subsidiary of Bolloré Transport & Logistics (Bolloré), the largest transport and logistics operator in Africa, placed the order in anticipation of expanded container traffic in 2021 and beyond. The cranes, to be delivered in August 2021, will also allow TICT to accommodate larger vessels. The cranes will be operated by TICT in the Tincan area of the Port of Lagos, where they will handle containers alongside a fleet comprising of six Model 4, two Model 6 and two other Model 7 Konecranes Gottwald Mobile Harbor Cranes already on site.



Two Konecranes Gottwald Model 7 Mobile Harbor Cranes are in operation at Tincan Island Container Terminal (TICT) in Lagos, Nigeria.

CRAWLER AND ALL-TERRAIN CRANES

Mammoet, the world's largest engineered heavy lifting and transport service provider, has expanded its fleet with the addition of eight cranes in the Middle East, Africa and Caspian (MEA) region. A 600-tonne crawler crane, a 400-tonne, two 250-tonne and 100-tonne capacity all-terrain cranes, as well as three 35-tonne rough terrain cranes have been added to the regional fleet.



Eight cranes have been added to the MEA regional fleet.

In March, two of Mammoet's largest super heavy lift ring cranes, the PTC 200 DS and PT 50, completed key lifts to help support the ongoing development of Dangote Refinery in the Lekki Free Trade Zone in Lagos. The combination of mobility offered by crawler cranes on site and the lifting power over 3,000t of the ring cranes meant there was equipment on site to meet a wide range of lift requirements.

Exceptional in their class

BOBCAT E50 AND E55 MINI EXCAVATORS



Image Credit: Bobcat

Bobcat's most popular mini excavators in Africa are the E50 and E55 in the 5-6 tonne segment in terms of sales. Looking at their market share in Africa, it is more than double that for EMEA, which is a strong sign of the dealer focus and market acceptance.

The Bobcat E50 and E55 mini excavators work in confined areas without sacrificing digging performance. The E50 features minimal tail swing action with a small tail overhang. The E55 features conventional tail swing action again with a small tail overhang.

The E50 is available with a long arm option that maximises dig depth, reach and dump height clearance. The E55 is available with maximised dig depth, reach and dump height clearance. Angle blade options are available. Even though the volumes are smaller, Bobcat also has good shares in the E17 (1-2 tonne segment) and E35 (3-4 tonne segment).

VOLVO EC75D COMPACT EXCAVATOR



Image Credit: Volvo CE

Volvo CE has recently launched the EC75D compact excavator in Africa and Middle East.

The seven-tonne EC75D compact excavator from Volvo Construction Equipment offers class-leading digging capacity, stability, serviceability and operator comfort in the African and Middle Eastern markets.

The undercarriage of the EC75D from Volvo Construction Equipment (Volvo CE) is wider and longer than those of its competitors, which ensures excellent stability and lifting capacity, together with high ground clearance and an extensive working range. Thanks to its larger size, the Volvo EC75D compact excavator can be used with a bigger bucket than similar machines in the same class, helping to increase productivity. The boom and arm are made from high strength steel for maximum durability and uptime and are fixed to the superstructure at the side of the cab for improved stability and visibility of the work area.

CAT 306.5 MINI EXCAVATOR



Image Credit: Caterpillar

The Cat 306.5 mini hydraulic excavator marked Caterpillar's entry within the 6-tonne class offering in Africa, Middle East and Eurasia. Designed with an improved customer experience in mind, the 306.5 mini excavator is built to exceed customer expectations with strong performance, enhanced operator experience and simplified maintenance with extended service intervals. With standard exclusive features like Stick Steer and a new Next Generation LCD monitor, it provides a great value for customers and boasts versatility with industry-leading performance.

JCB MINI EXCAVATORS 35Z-1 AND 36C-1

JCB is recording steady growth in the mini excavator market across the African continent, as contractors in Algeria, Morocco, Egypt and South Africa see the productivity benefits of compact machinery.

The company, which recently expanded its well-established distribution network with the appointment of Bell Equipment for the crucial market of South Africa, offers a full line of mini excavators, from 1.5-tonnes to 8.5-tonnes operating weight.

The line-up starts with the 1.5-tonne 16C-1 conventional tailswing model and the 18Z-1 zero tailswing machine. There are two models in the 2.5-tonne class, the 8025ZTS and the 8026, while the company has introduced two new mini excavators at 3.5-tonnes, the 35Z-1 and the 36C-1.

For those customers that require a midi machine, JCB offers the 48Z-1 and the 55Z-1, at 5.0-tonnes and 5.5-tonnes respectively, with the 65R-1 reduced swing machine at 6.5-tonnes operating weight. The line-up is completed by the 8.5-tonne class 85Z-2 and the 86C-2 models.



Image Credit: JCB

New distributor for JCB to boost wheeled loader sales in Africa

JCB has appointed Bell Equipment as its distributor for the crucial market of South Africa. The company will promote a full line of JCB wheeled machines, from the compact 5-tonne 406, through to the 24-tonne 467 ZX, in plant hire, construction, quarrying and mining markets.

Designed to meet the needs of customers across the African continent, JCB's loader line-up is built for performance and productivity, with durable components and market-leading levels of service back-up, to keep operators working. The 406



JCB 467 offers ultimate extraction and loading performance.

articulated model is the ideal multiple-tool carrier for rental and industrial users, delivering large machine levels of operator comfort

and useability in a compact package. Those looking for a re-handling machine can choose from the 422ZX, the 426, the 432ZX and

the 436, weighing in between 11-16 tonnes and available with a choice of Z-bar performance digging booms or HT high-torque parallel link lift arms for load handling.

Quarry operators will look to the 455ZX, the 456 and the range-topping 467, for ultimate extraction and loading performance. Capable of handling buckets in the 3.1-4.0m³ range, these heavy machines, powered by proven JCB and Cummins diesel engines, offer the power, comfort, ease of serviceability and reliability to operate as prime movers on any mineral production site.

S450 SKID-STEER LOADER INCREASES BOBCAT LOADER LEADERSHIP IN MEA

Bobcat has launched a new version of the company's market-leading S450 radius lift path skid-steer loader, introducing Bobcat's bold new branding scheme for the first time in the Middle East and Africa (MEA) market. The Bobcat S450 skid-steer loader is designed to further strengthen its unrivalled number one position in its own class and in the MEA compact loader market overall, where the company has a market share of over 50%, reaching as high as 80% in some MEA countries.

Bobcat has continued to sell an average of well over 1,000 S450 machines every year in the MEA market since its launch over six years ago.

Gaby Rhayem, regional director Middle East and Africa at Doosan Bobcat EMEA, said, "The new S450 introduces a fresh look for our market-leading loaders in MEA. As well as being the most popular skid-steer loader in the region, the S450 is far and away the most reliable and as a result has the highest resale value on the market. A used S450 with four years/4000 h on the clock will typically sell for 60% of the original price, representing an unbeatable return on investment for our customers. The S450 continues Bobcat's better-built reputation with a range of features to minimise maintenance and to protect the machine such as machine shutdown protection, self-diagnostics and battery run-down protection. The S450 utilises the industry's only maintenance-free chaincase, which reduces maintenance and provides peace of mind."



Bobcat S450 skid-steer loader.

CAT 966 GC WHEEL LOADER DESIGNED FOR HIGH PERFORMANCE

The Cat 966 GC wheel loader has been designed for reliable performance and long-term durability in a wide range of applications, as well as for various tasks in governmental applications that require a capable, versatile machine that fits the budget.

The Cat C9.3B engine, with a maximum gross power rating of 239 kW (321 horsepower) and emitting equivalent to U.S. EPA Tier 3/EU Stage IIIA emission levels, features a common-rail fuel injection system designed for fuels available in emerging markets. An electronically controlled, hydraulically driven, variable speed cooling fan, combined with the Cat Engine Idle Management System, results in lower fuel consumption and reduced sound levels. An optional automatic reversing fan assists in cleaning cooling cores in high-debris environments. A high-ambient cooling package and cold-start system are also available.

The new loader uses a 4F/4R electronically controlled, planetary powershift transmission, designed and built by Caterpillar, and featuring an electronic clutch, pressure-compensated, single clutch shifting system for smooth, efficient gear changes in all operating situations.



Cat 966 GC wheel loader.

GET TO KNOW THE ECONOMICAL 966 GC



▶ Lowest cost per hour
The performance you need
Ease of operation & service



Simply Reliable, Durable,
Fuel Competitive & Economical

We call it the GC-effect

www.cat.com



© 2021 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Yellow," the "Power Edge" & Cat "Modern Hex" trade dress as well as corporate & product identity used herein, are trademarks of Caterpillar & may not be used without permission.

Top performers

Articulated trucks to watch out for in 2021.

CAT: 740 GC

The Cat 740 GC articulated dump truck (ADT) has added 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 lineup, 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 new 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.

The 740 GC cab features the external spinal-ROPS, found on other Cat ADTs in the range. The trucks uses the Cat C15 ACERT engine available in configurations to meet emission standards of both highly regulated (HRC) and less regulated (LRC) countries.

DOOSAN: DA30 AND DA45



The DA30 and DA45 articulated dump trucks (ADTs) are available in the Middle East and Africa (MEA). The DA30 has a payload of 28 tons, while that of the DA45 is 41 tons. 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.

TEREX: TA400 AND TA300



The TA400 – the biggest articulated hauler manufactured by Terex Trucks – is designed to meet the demands of the most extreme operations. This machine excels at delivering cost-effective production at large-scale construction projects, quarries and mines.

Terex Trucks specialises in articulated haulers, with a maximum payload of 41.9 tons. From the interior of the cab to the design of the chassis, this durable machine has been created to perform in some of the most challenging applications. The TA400 boasts a heaped capacity of 23.0 m³ (30.3 yd³) and is powered by a fuel efficient Scania DC13 engine that develops gross power of 331 kW (444 hp) and a maximum torque of 2,255 Nm (1,663 lbf ft). The TA400's fuel efficient engine range is globally emissions compliant as is the TA300.

TOMRA launches unique XRT FR solution for diamond recovery

TOMRA Sorting Solutions has released the TOMRA COM XRT 300/FR Final Recover sorter, able to supply a full diamond recovery solution using X-Ray Transmission (XRT) technology from 2mm to 100mm, coupled with all the benefits of cloud computing for monitoring and managing the entire process.

The TOMRA COM XRT 300/FR Final Recovery sorter delivers concentration factors up to one million with limited stages and is the only solution on the market that guarantees greater than 99% diamond recovery.

The sorter features high sorting efficiencies, high diamond-by-weight concentrate, and the benefits deriving from its focusing on a single consistent detection principal, diamonds.

TOMRA offers a complete partnered diamond recovery ecosystem with a flowsheet covering the entire process and includes custom development with the end-user all the way to installation, then continued management of the asset and support with specialised services and training.

The sensor information is analysed by the new Image Processing Pipeline to provide a detailed 'density image' of the material. If diamonds are detected, it commands the control unit to open the appropriate valves of the ejection module at the end of the conveyor belt. The detected diamonds are separated



Image Credit: TOMRA Sorting Solutions

The solutions aims to allow better compatibility and interconnectivity between the different applications of the recovery process.

from the material flow by jets of compressed air. The sorted material is divided into two fractions in the separation chamber.

"With TOMRA, the customer's entire recovery system falls into one ecosystem," explained Geoffrey Madderson, diamond segment manager for TOMRA Sorting Mining. "This allows for better compatibility and interconnectivity between the different applications of the recovery process. It gives our customers the full benefit of using cloud computing through our TOMRA Insight platform, which turns our sorters into connected machines. This enables customers to monitor and manage their recovery process in one easy-to-access place for both on-site and off-site management teams."

TREVALI MINING CORPORATION SIGNS PPA WITH EMESCO IN NAMIBIA

Trevali Mining Corporation has entered into a 15-year renewable power purchase agreement (PPA) with Emerging Markets Energy Services Company (EMESCO) to supply solar power to Trevali's Rosh Pinah Mine in Namibia.


Trevali has committed to achieving an overall Green House Gas (GHG) emission reduction target of 25% by 2025 from its 2018 baseline. The PPA with EMESCO is anticipated to deliver 30% of Rosh Pinah's power requirements during the life of the agreement and reduce GHG emissions at the company level by 6%.

EMESCO will be responsible for the design, permitting, financing and implementation of a solar energy system on a neighbouring property at no cost to Trevali. EMESCO will sell the power generated to Trevali at a fixed rate that is expected to reduce energy costs by 18% over the fifteen-year term of the agreement.

Ricus Grimbeek, president and CEO, Trevali Mining Corporation, said, "Our sustainability programme commits to significant reductions in GHG emissions, and with the signing of this agreement with EMESCO, we have taken a major step towards delivering on our commitment by securing renewable energy while also reducing our expected energy costs.

"The agreement with EMESCO has been designed to scale with the output of the mine so that when we are ready to make the decision to build the RP2.0 Expansion project, the delivery of power will increase to match our requirements."


If Trevali makes a positive investment decision on the RP2.0 expansion project, EMESCO will increase the delivery of power to Rosh Pinah to remain at 30% of the mine's annual energy consumption as regulated by the Modified Single Buyer framework in Namibia.




THESE CRANES HAVE BEEN ENGINEERED TO ENDURE

WORLDWIDE

Condra cranes and hoists are without equal in their quality, performance, reliability and overall lifetime cost. The endurance of all Condra products has been proven around the globe in highly corrosive and abrasive environments, and under wide extremes of temperature, humidity and altitude. Technical support and service are guaranteed worldwide.


condra®
Cranes & Hoists

11 Indianapolis Boulevard, Raceway Industrial Park,
Gosforth Park Ext 4, Germiston, Gauteng.
P O Box 752639, Gardenview, 2047, South Africa
Tel: +27 11 776-6000 | Fax: +27 86 669 2372
e-mail: sales@condra.co.za | www.condra.co.za



portal cranes | bridge cranes
cantilever cranes | hoists
end-carriages | single &
double-girder overhead travelling
cranes | crane components

CONDRA V-042019

A mining site in West Africa.

Firm grip

Darren Flint, vice president UK and West Africa, and vice president of Tyre Lifetime Services at Kal Tire's Mining Tire Group, talks to African Review about the retreading business in West Africa and their new end-of-life tyre solution.



Image Credit: Kal Tire

Set behind the luscious hills of Tarkwa in Ghana, sits Kal Tire's repair and retread tyre factory. The company began its tyre servicing operations here in 1989, which has developed into a world-class retread facility.

Since the 1990s, the company has grown extensively across Africa thanks to a series of acquisitions, and now has a presence across six West African countries including Ghana, Senegal and Mali and is on 46 sites in southern Africa, of which five are in Zambia and one in Mozambique.

Across the southern and western African regions, it is estimated that Kal Tire carries out thousands of tyre changes each year, leading to large savings for its customers.

Darren Flint, vice president UK and West Africa of Kal Tire as well as vice president of Tyre Lifetime

Services, says his role is to drive strategy and align the mining tyre group across the business in the UK, Europe and West Africa.

"Our mission is for customers to receive the same high quality service across all our retread shops whether they are in Canada or West Africa," Flint explains.

Kal Tire offers tyre management and tyre fitting services, and sells premium brand tyres to mining customers in Africa.

"Miners in Africa want Tier 1 products, such as Michelin, Bridgestone and Goodyear. Our

customers in West Africa are in gold mining and in southern Africa, they are mostly coal miners. Tier 2 brands from China and India are also available and are improving in quality."

Global pandemic

Despite the disruption caused by the global pandemic to operations and travel plans, Kal Tire's business in Africa has thankfully continued as normal.

"We, as a business, have adopted our own Covid protocols, such as social distancing, hand sanitising

and the wearing of masks. Where travel has been essential, workers have been quarantined in hotels before going onsite," he said.

"In West Africa, Covid has not really impacted Kal Tire's business too much. The mines have continued, with the implementation of strict controls. Some of the mines were closed for two weeks to prevent the virus from spreading, and there was a shortage of certain tyres with some delays, but from an operational point of view overall, we have been able to work around the Covid restrictions.

"On the positive side, without being able to travel, we have improved the way we communicate as leaders via video call platforms. When Covid first hit, we were meeting fortnightly from South Africa, West Africa, Canada, Australia and Latin America to discuss how

“ Kal Tire has taken strides to make retreading more attractive for customers by launching its Maple program.”

the business was doing around the world. Often, we had a better idea of what was happening globally than the media because of our operations in the different regions, and knew sooner when things were returning to normal.

"I'm optimistic about the outlook in 2021 as we have managed through a difficult situation. There are many opportunities in Mali and the Ivory Coast, and there is growing interest from junior miners who are taking on the smaller mines from major mining companies to make them more profitable and efficient due to new technologies available."

Maple Program

Since 2019, Kal Tire has taken strides to make retreading more attractive for customers by launching its Maple program.

"With the Maple Program, customers are rewarded for choosing to give premium tyres another life through our retreading process. Featuring an independently accredited carbon calculator to track and quantify the environmental benefits of retreading, the Maple Program helps mining companies work towards a sustainable future, on proven data.

"Some people think retreading is a low grade option and that it's not very high tech, but with the influx of less expensive China and India tyres, which don't last very long and are not retreadable, we saw the retreading market diminishing and needed some way of bringing it back to our customer base.

"Using process data taken from multiple Kal Tire retread facilities around the world, we have calculated individual carbon savings for all tyre sizes in our offering. Retreading uses far fewer raw materials than new production, less rubber is added and the energy needed during the manufacturing process is less intensive. This all carries significant CO₂, oil and cost savings for customers. Our data was approved by a third-party company specialising in environmental projects, which means we can pass these savings onto our customers to use in their own environmental reporting.

"If you are going to buy 100 tyres to run your fleet, those tyres wear out, so why not buy 100 tyres of which 60 can be retreaded and only pay out for the expense of another 40 tyres to top up your fleet? The customer, then depending on his percentage of fleet that goes on to retread can receive credits for being a part of the program, and can claim back on their carbon credits because they have a way of reducing their carbon footprint. The program has been received really well so far because mining and quarry companies have been pushed to reduce their carbon footprint. Companies want to adopt this program because of the environment saving and we have already started to roll out this program with our customers in West Africa."

Continuing their commitment to the environment, Kal Tire has successfully started running a



A worker at the Ghana retreading facility.

Image Credit: Kal Tire

thermal conversion plant in Chile to convert scrap mining tyres into an environmentally friendly solution instead of going to landfill.

It has been helped by the fact that Chile has made it law that mining tyres must have an environmentally friendly end of life

solution. Starting in 2023 to 2026, 25% of mining tyres must be recycled, this increases to 75% as of 2027, and to 100% as of 2030.

"One of the things we are most excited about is the total tyre life experience that we want to sell to the customer. With our first plant moving through testing phases in Chile, we now have a credible 'end of life' environmentally friendly solution to the mining tyre after it is no longer usable. Instead of going to landfill, it can be stacked up and reprocessed into usable oil, steel and carbon. From a commercial aspect we have a solution to the end of life tyre and can add to our revenue stream as we sell on the products that come out of the thermal conversion process. It could be brought to Africa but there needs to be a customer base, so it might take more time." ■



Kal Tire's factory in Ghana.

Image Credit: Kal Tire

SMART AND SUSTAINABLE MINING FILTRATION SOLUTIONS LAUNCHED

Metso Outotec has introduced a comprehensive range of smart and sustainable filtration solutions to meet the needs of the mining industry, including the most demanding concentrates and tailings dewatering applications. The selection includes 15 different filter types, ranging from pressure filters of up to 100 bar pressure to vacuum filters and polishing filters, coupled with an unmatched global service portfolio. The well-known Larox brand, of which Metso Outotec is the sole owner, will be reintroduced as a strategic product family name for selected filters and related services.

“Our unique filtration solutions portfolio is based on a thorough assessment of current and future customer needs and a detailed review of related technologies. As a result, we can now offer an industry-leading option for all types of

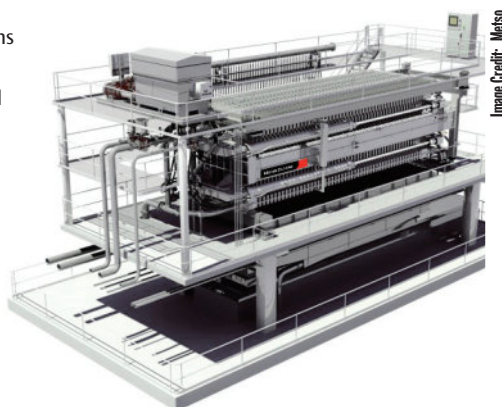


Image Credit: Metso

Metso Outotec VPA Filter.

mining dewatering needs,” said Jussi Venäläinen, vice president, Filters at Metso Outotec.

The entire Metso Outotec filtration solutions and service range has been designed to optimise total cost of ownership, as well as capacity and residual moisture to increase performance.

The filtration solutions feature a sustainable design to improve environmental performance through energy, emissions, and water-efficiency, and are part of the recently launched Metso Outotec Planet Positive offering. In addition, they comply with the highest safety standards, are easy to operate and maintain, and are equipped with highly automated features to support advanced process optimisation and remote support. The offering includes filtration solutions that enable environmentally sensitive tailings handling and management, and they form an integral part of Metso Outotec’s tailings filtration plant solutions.

Greater operational reliability in scrap and aluminium recycling

The new STEINERT XSS T EVO 5.0 sorting technology can solve challenges when aluminium manufacturers need their secondary raw materials to display consistently high levels of purity.

Thanks to Multilayer Data Evaluation (MDE), the sorting machine is able to use even more criteria for detection because of high-resolution object recognition and by undertaking classification in parallel. Complex sorting tasks, such as magnesium detection are solved easily. Automatic x-ray monitoring and calibration (AXM) of the x-ray sensors help achieve consistently high detection and sorting quality.

The hardware has also been improved. The high-resolution valve pitch of 6.25 mm enables even more efficient sorting of fine material down to 5 mm. The x-ray scan area is cleaned automatically in the new generation of machines. This vastly reduces the amount of manual cleaning needed and maintains a consistently high level of detection quality. The four-year warranty for the x-ray source and sensors provides operational reliability and keeps operating costs low.

A STEINERT spokesman said, “Given that aluminium is increasingly replacing conventional materials, such as



Image Credit: STEINERT

STEINERT provides a warranty on the x-ray source and x-ray sensors for the new “EVO 5.0” generation of machines; giving recyclers peace of mind for four years.

steel, and can be 100% recycled, this metal has a very promising future. What’s more, using secondary aluminium, also known as green aluminium, cuts energy use in production by up to 90% compared with virgin material. STEINERT’S key technology for saving energy is therefore an investment in a better future.”

Downloadable e-book for guidance on sorting options

A so-called solution guide can be downloaded as an e-book from <https://steinertglobal.com/metal->

recycling/aluminium-recycling to provide an initial overview of the opportunities provided for sorting aluminium scrap and other materials. Although aluminium scrap comes from different sources such as profiles and plates, incineration bottom ash, shredder systems or Dense Media Separation (DMS), the rough stages of the sorting process are similar: recovering non-ferrous metals and upgrading the recovered metals, i.e. producing pure metal types.

The e-book provides insight into the heart of the systems – the

STEINERT XSS T EVO 5.0 – and the upstream magnet technology and downstream fluorescence technology; of benefit to operators of aluminium shredders, secondary smelters or processors of waste incinerator ash. The downstream fluorescence technology produces pure heavy metal fractions such as copper, brass and zinc.

STEINERT is one of the world’s leading experts in sensor sorting and magnetic separation for waste and metal recycling as well as mining.

POWERSCREEN'S CONCEPT BATTERY-POWERED SCREENER IN RESPONSE TO CHALLENGE OF DECARBONISATION FOOTPRINT CHALLENGE

Powerscreen, the world's leading provider of mobile crushing and screening equipment, has responded to the industry's decarbonisation challenge by providing solutions that work towards minimised environmental impact and greater sustainability.

Powerscreen's decarbonisation story, which began with the introduction of the concept of mobile crushing and screening, has evolved to increase fuel efficiency and looks to the future with Powerscreen's electrification strategy, including a new concept for the future of crushing and screening – the Eco-Warrior battery powered screener.

Neil Robinson, Powerscreen product and applications manager says, "Working closely with automotive technology and using top of the range, hyper-efficient drives and intelligent control systems, the Eco-Warrior battery powered screener has been designed to deliver on the powerful screening action that Powerscreen machines are famous for, while being a self-charging, or plug-in, model that features a simple, quiet engine with no after-treatment requirements. The required engine size has been cut in half compared with the diesel hydraulic unit and the battery pack can mean emission-free running or give a power boost.

"To the best of our knowledge this is the first battery powered screener in the world and has been clocking up testing hours since it was built in 2019. It still delivers on the powerful screening action that Powerscreen machines are famous for and we are now exploring taking it from concept to mainstream. This isn't a publicity stunt; the drive for decarbonisation is real, with the UK and other governments ruling that carbon emissions

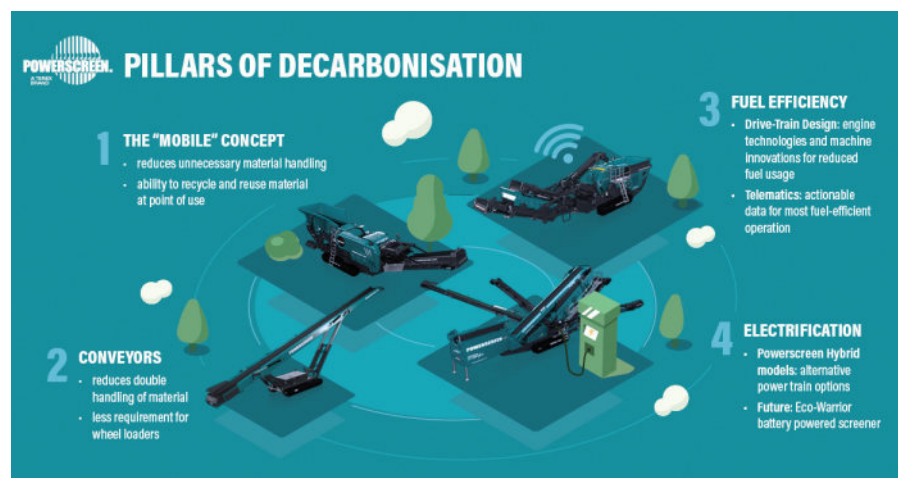


Image Credit: Powerscreen

have to be reduced by 80% by 2050. It's critical that we dramatically reduce our carbon footprint and Powerscreen has many solutions available today in support of this."

Powerscreen has evolved its product range to reduce environmental impact by making its crushing and screening equipment as fuel efficient as possible, using direct drive systems for its crushing range and improving engine capabilities and drive-line design for its screening range.

Robinson explains, "Direct drive systems are proven to be 13-18% more fuel efficient when compared with hydrostatic, resulting in significantly less carbon emissions, while improvements to our screening range have reduced engine speeds from 2,200rpm to 1,800rpm, which not only means cleaner engines with less emissions, but also reduced fuel usage and therefore carbon produced. For

example, a typical mid-size screener running at 1,000 hours per year, has a fuel usage reduction of approximately 450 litres, which equates to 1.2 tonnes less of carbon produced annually.

"Some may view this topic as a recent trend, but for Powerscreen, decarbonisation is multi-faceted and has always been at our core. The Powerscreen mobile concept has always contributed towards decreasing the carbon footprint per tonne of material produced. This is done by reducing unnecessary material handling of hauling and loading material to static plants in aggregate production or in the ability to recycle and reuse material at point of use, for example in roadbuilding projects where sub-base material is produced in situ. Using stockpiling conveyors as part of a track mobile set-up is another perfect example of how to cut-out unnecessary double handling, reducing fuel consumption and therefore carbon production."

Advertiser's Index

Cantoni Motor S.A.	29	Informa Middle East Limited (Middle East Energy 2021)	51
Caterpillar SARL	43	Liebherr Export AG	52
Condra Cranes and Hoists	45	Wilhelm Layher GmbH & Co. KG.....	39
Convergent Group SA.....	2	Wirtgen International GmbH.....	31
DAL Group Company Ltd	9		

Wastewater - challenges in a Covid-19 world

The threat of disease from water supplies in Africa, possibly as a result of poor wastewater management and outdated equipment, is very real. Monitoring wastewater at municipal plants offers potential to limit disease spread. Tim Guest reports.

Monitoring wastewater for disease

Poor wastewater management and processes at the best of times mean water supplies might pose a threat of spreading disease. In the current pandemic, that means Covid-19 might also be spread. Scientists from Africa and the UK have been awarded funding to monitor wastewater in cities in Africa, to provide an early warning system (EWS) of the potential spread of Covid-19. People infected with SARS-CoV-2 – the virus that causes Covid-19 – are believed to shed the virus in their faeces, even if asymptomatic, so sewage surveillance is widely seen as a promising way of rapidly identifying emerging disease hotspots before an outbreak spreads more widely.

The new project, 'Building an Early Warning System (EWS) for community-wide infectious disease spread: SARS-Cov2 tracking in Africa via environment fingerprinting', addresses wastewater monitoring challenges in African cities, including Lagos and Cape Town where sewage systems are typically informal and decentralised. In South Africa, the project is led by Prof Gideon Wolfaardt of Stellenbosch University, and in Nigeria by Dr Temilola Oluseyi, Lagos University Chemistry Department.

The work will initially see researchers from Bath University's Centre for Sustainable and Circular Technologies, Water Innovation Research Centre, the Milner Centre for Evolution and the Institute for Mathematical Innovation collaborate with colleagues from Stellenbosch and Lagos Universities, and local partners to set up a monitoring system comprising



Lagos is the epicentre of Covid-19 in Nigeria, having an estimated population of over 20 million people with many residents living in slums and informal settlements scattered across the city.

regular sampling and analysis of wastewater to track SARS-Cov2 RNA.

Early warning

Because the coronavirus exposed the acute inability to rapidly identify, contain and manage a virus due to the lack of an early warning system (EWS) based on rapid identification of SARS-Cov2 hotspots and response, this project plans to introduce an EWS that will do just that, in real time.

Dr Oluseyi, said, "Lagos is the epicentre of Covid-19 in Nigeria, having an estimated population of

over 20 million people with many residents living in slums and informal settlements scattered across the city. With an EWS put in place in Lagos, timely intervention and evidence-based decision making will provide key recommendations that other developing countries can adopt in terms of preparedness for infectious disease outbreaks. We expect that the outcome of this research will assist the government and other organisations to provide comprehensive interventions to improve the health and quality of life of the vulnerable population in

developing countries."

The project is expected to run to spring 2022.

Continuing challenge of open defecation

While the above project's monitoring will be conducted, in the main, at municipal wastewater facilities, a parallel challenge in most African nations continues to be that of open defecation, which, for obvious reasons, precludes the opportunity of monitoring for disease. It is estimated that some 47 million people still practice open defecation in Nigeria alone, one reason being reluctance to use public toilets, where available, for safety and hygiene reasons. In a recent move to change this situation at a local level, Nigerian hygiene and sanitation company, Hypo, part of the Tolaram Group, undertook an awareness campaign on the occasion of World Toilet Day, aimed at reducing the amount of open defecation in quite a localised area including Ojodu Berger, by taking over the maintenance of a number of public toilets in Lagos State feeding into regional wastewater treatment facilities, encouraging their greater use, thereby reducing the potential for disease. This brief first step by Hypo, under the watchful eye of the Lagos State Ministry of Health, aimed to encourage an increase in the building and numbers of public and domestic toilet facilities that feed into official sewage systems, and supports an ambitious 2025 target for the federal government to end the practice of open defecation altogether. The importance of such a goal, particularly in helping to reduce the spread of disease, cannot be understated. ■

“ The outcome of this research will assist the government to provide interventions to improve the health of the vulnerable population in developing countries.”

DR TEMILOLA OLUSEYI, LAGOS UNIVERSITY CHEMISTRY DEPARTMENT



Middle East Energy

Confident in powering a better world

Online: 17 May - 9 June 2021 | From your office or home

REGISTER NOW

www.middleeast-energy.com | info@middleeast-energy.com

Experience the Progress.

