www.africanreview.com

African Review

FEBRUARY 2022

of BUSINESS and TECHNOLOGY

P16

REFORM EFFORTS REQUIRED

Regional diversification strategies could lay the foundations for a faster economic recovery

P26

DANGOTE REFINERY

Processing start in sight with heavy lifting complete

P48

"With Covid-19, the issues around clean water were laid bare and now we are starting to see momentum regarding addressing water challenges."
Semano Sekatle, DuPont Water Solutions regional commercial manager

58 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964


Looking for the best?
LIEBHERR
www.liebherr.com
info.lex@liebherr.com · www.facebook.com/LiebherrConstruction

Cover picture: Liebherr's new L 550 wheel loader in action
©Liebherr
Cover Inset: Semano Sekatle, DuPont Water Solutions regional commercial manager
©DuPont Water Solutions

Acting Editor: Martin Clark
Email: martin.clark@alaincharles.com

Deputy Editor: Robert Daniels
Email: robert.daniels@alaincharles.com

Editorial and Design team: Mariam Ahmad, Prashanth AP
Fyna Ashwath, Miriam Brtkova, Praveen CP, Shivani Dhruv, Matthew Hayhoe
Lucia Mathurin, Unique Pattnaik, Tulana Nayak, Prince Kariappa
Rahul Puthenveedu, Deblina Roy and Louise Waters

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 and Nelly Mendes
E-mail: production@alaincharles.com

Chairman: Derek Fordham

Printed by: Buxton Press

Printed in: FEBRUARY 2022

ISSN: 0954 6782

SUBSCRIPTIONS:

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 the February issue of African Review magazine. Inside this month, we've got all the essential news, views and features you need to get up to speed on some of Africa's key industries, from transportation and construction to power generation.

This month, we're looking at one of Nigeria's flagship projects, the vast Dangote refinery, and how the large international contractor team involved has worked together to make it a reality (page 26).

We've also got exclusive economic insight and analysis on key trends in Africa (page 16), as well as interviews with business leaders such as Mikir Shah, the chief executive of Africa Specialty Risks (page 19). The pan-African reinsurance group is now helping to facilitate and de-risk billions of dollars worth of investment into the continent.

Also inside this month, there's a look at the rise of hybrid power solutions, blending traditional thermal energy with more sustainable technologies (page 28), and autonomous vehicles, another emerging area, and a reflection of the ongoing changes impacting the continent (page 40).

Africa remains a dynamic and fast-evolving market, but you can stay one step ahead with African Review — your trusted business partner for almost 60 years. Remember to log on to the African Review website as well for 24/7 coverage on all things African business.

Martin Clark, *Acting Editor*

Contents

New grinding centre in Nador to be operational by July 2022

Aerial view of the Nador grinding centre.

Ciments du Maroc, a subsidiary of HeidelbergCement, has announced that its new grinding centre, located 18 km from the city of Nador in the municipality of Ouled Settout, Morocco, will be operational from July 2022.

The new unit will have a production capacity of 700,000 tonnes of cement per year, which will enable it to support the development of the region and meet the growing demand for cement, while optimising the domestic use of Ciments du Maroc's clinker capacity.

Since the start of the construction site in 2020, nearly 250 people have been working every day for the construction of the centre which has been entrusted to Moroccan companies.

The grinding centre should generate no less than 200 direct and indirect jobs as soon as it starts up later this year.

This project will contribute to meeting the regional demand for cement despite the context of overcapacity in clinker which has impacted the national market for several years. It will thus make it possible to develop a wide range of standard, special and innovative products in the northern and eastern regions in order to meet all needs in residential, non-residential and infrastructure projects.

"The investment in this grinding centre in Nador is a major turning point for Ciments du Maroc, which will now be present throughout the national territory. This grinding centre represents an important step in our geographical diversification" Matteo Rozzanigo, managing director of Ciments du Maroc.

"This investment reflects the confidence of our reference shareholder, the German group HeidelbergCement, in the Kingdom of Morocco."

Ciments du Maroc is the second-largest cement manufacturer in Morocco and the leading operator in ready-mixed concrete and aggregates. The cement industrial system is made up of three integrated cement plants and four grinding centres alongside four aggregate quarries and 26 concrete plants located throughout the main cities of the Kingdom.

EGYPT BEGINS PLANT CONSTRUCTION IN 2022

The first phase of construction on the nuclear facilities in Dabaa (El-Dabaa Nuclear Power Plant) in Egypt has launched on the Northern Mediterranean coast, involving designs, infrastructure and equipment.

Egypt is expected to be granted international permission for the construction of two further nuclear plants for electricity generation in the second half of 2022, cited Amjad Al-Wakeel, chairman of Egypt's Nuclear Power Plant Authority. Al-Wakeel elaborated that the NPPA is coordinating with the Rosatom of Russia contractor to obtain international permission for further developments.

"Phase 3 will start after obtaining permission for the nuclear facilities...afterwards, we will begin trial operation for nearly one year...we have nearly completed Phase 1 and are preparing to enter Phase 2... construction work and equipment installation will begin after we obtain permission for the project," Al-Wakeel concluded.

BABYLON BEGINS CONSTRUCTION ON TWO PROJECTS IN NAC

Babylon Urban Development, an emerging real estate development and investment company, has commenced construction and for its projects 'Senator' and 'Heritage' in the administrative district of the New Administrative Capital (NAC).

Babylon has contracted with a selected group of engineering consultants, including architectural consultant ZODIAC ADC, Design Master, and Diar for the projects' management, and I-CON and Rowad Modern Engineering for concrete works.

Chairperson of Babylon Urban Development, Hossam Farag, said that Babylon is the only company to go to the work site and start construction in the NAC's administrative district after obtaining architectural and construction drawings and the necessary licenses to start the site's work.

Farag said that the company was keen to pick the right location for its projects, adding that the investment costs of the two projects exceed EGP500mn (approx. US$32mn).

He disclosed that the company is eyeing recording more than EGP750mn (approx. US$48mn) in sales on the two projects and that it intends to direct around EGP250mn (approx. US$16mn) of investments in the current year.

The NAC is a state project and is designed in a smart way that contributes to the expansion and real investment brought about by developers. Farag commented, "An architectural plan was drawn up in which all previous faults and problems would disappear in all urban cities, and developers were strictly bound by this plan, which would make the NAC a real investment destination for local and foreign developers.

"This is why developers must support the state and keep pace with its investment to boost the sector and place it in the ranks of developed countries."

BRIEFS

Spring marks shipment milestone

One million shipments have been processed since 2019.

E-commerce logistics provider Spring, founded in 2019, has processed one million shipments. The company offers technology-enabled, end-to-end solutions for e-commerce merchants. "Our end-to-end solution relies on two pillars, our innovative technology along with a solid delivery network. We've used data science to carefully design our delivery stations' locations and efficiently have a network on ground," said Mohamed Deif, founder and CEO of Sprint.

EBRD supports green transition

The European Bank for Reconstruction and Development (EBRD), supported by the Green Climate Fund and the European Union, is providing a financial package of up to approximately US$28mn to Banque marocaine pour le commerce et l'industrie (BMCI), in support of Morocco's green transition. The financing will be extended as sub-loans by BMCI to citizens, small and medium-sized enterprises (SMEs) and corporates for investments in climate change mitigation and adaptation technologies.

Financing will be extended as sub-loans.

World's largest green ammonia plant announced for Nelson Mandela Bay

Hive Hydrogen and Linde have announced the establishment of a 780,000 ton/year US$4.6bn green ammonia plant with its own dedicated power supply at the Coega Special Economic Zone alongside the Port of Ngqura.

According to Hive, there is a massive surge in demand for ammonia globally to meet current agricultural, chemical and mining requirements and this, together with the future switch to Green Ammonia as the main fuel in the maritime industry and for coal substitution, makes it the perfect time for stakeholders to invest in this commodity.

Image Credit: Hive Hydrogen

Hive Hydrogen are also being supported by InvestSA.

Thulani Gcabashe, chairman of Hive Hydrogen South Africa and executive chairman of Built Africa, stated, "Hive Hydrogen is truly delighted to bring this landmark Green Ammonia project to Nelson Mandela Bay. This certainly heralds a new era for the country in its commitments to greener solutions for industry. The pure scale of the project and the clean technology being used is truly remarkable."

Hive explained that, through the use of renewable energy, water is desalinated in the green ammonia plant and hydrogen is extracted from it through an electrolysis process. Nitrogen is simultaneously extracted from the air utilising an air separation unit.

The hydrogen and nitrogen are then combined through ammonia synthesis and green ammonia is produced. The ammonia is cooled, liquified and stored for export. Once the ship arrives in the port the liquid ammonia is dispatched directly via a pipeline from the storage tanks and loaded onto the ship.

Eugene Johnson, mayor of Nelson Mandela Bay, added, "This is the breakthrough project for South Africa and indeed Nelson Mandela Bay in the global drive for sustainable green industry. We are proud to be leading the way and working closely with Hive Hydrogen and Afrox on establishing the Coega Green Ammonia plant with its green power requirements.

"The investment in job creation, training, new and clean industry, and the significant community benefits that this brings will be a great boost to the transformation programme we are planning for the region."

TRIGON METALS ANNOUNCES FIRST CONCENTRATE PRODUCTION AT KOMBAT MINE

Trigon Metals Inc. has announced that the first copper concentrates have been produced at the Kombat Mine in Namibia. The company said that the teams worked through the Christmas period to complete the installation of filter presses and run ore through the full production process to achieve this milestone, meeting management's forecasted goal.

According to Trigon, the concentrate demonstrates that the combination of new equipment from Xinhai and refurbished equipment from the historic operation are operating well. The feed material for this initial production was sub-optimal lower grade ore, while grind size, residence times and reagent use are being optimised, but satisfactory copper grades were achieved approaching 20% copper and over 600 g/t silver, well ahead of expectation at this stage of start-up.

DIGITAL REALTY ACQUIRES A MAJOR STAKE IN TERACO

Teraco Data Environments, one of Africa's leading carrier-neutral data centre and interconnection solutions providers, has announced that Digital Realty, the largest global provider of cloud and carrier-neutral data centre, colocation and interconnection solutions, has entered into a definitive agreement to acquire a majority stake in Teraco from a consortium of investors, including Berkshire Partners and Permira.

The Digital Realty transaction will result in a combination providing Teraco continued access to capital to grow. The Teraco and NAPAfrica brands will continue.

Being backed by a global leader will enable Teraco to access skills and knowledge from the Digital Realty global platform and continue to grow the Teraco ecosystem.

"We are excited to enter our next chapter by joining forces with Digital Realty to create a truly global, scaled platform serving our customers in Africa and beyond," remarked Teraco chief executive office, Jan Hnizdo.

"Our combined platform will be uniquely positioned to serve the full customer spectrum with the ability to support their growth around the world. We look forward to working with the Digital Realty team to extend our state-of-the-art data centre and connectivity solutions to capitalise on the favourable industry trends and tremendous market opportunity."

After closing, Digital Realty will own approximately 55% of the total equity interests in Teraco, while the remaining 45% will be held by a consortium of existing shareholders, including management, Berkshire Partners LLC, Permira, van Rooyen Group, Columbia Capital, Stepstone Ventures and the Teraco Connect Trust. The Teraco management team will remain in place and maintain day-to-day responsibility for operations in South Africa.

BRIEFS

Investments for renewable energy startup OnePower


Image Credit: Adobe Stock

1PWR will deploy a raft of technological innovations, including PV trackers.

The EU-funded Electrification Financing Initiative (EDFI ElectriFI) and the UK-funded Renewable Energy Performance Platform (REPP) have each invested US$4.9mn in equity and senior debt in a project-financed vehicle led by OnePower (1PWR), an innovative social enterprise with deep roots in Lesotho. EDFI ElectriFI, REPP and 1PWR have reached financial close on the mini-grid transaction which will provide first-time electricity access to 20,000 people.

SEFA to fund Botswana's energy transition


Image Credit: Adobe Stock

The fund is a step forward to facilitate IPPs, renewable energy sources and cost-reflective tariffs.

The Sustainable Energy Fund for Africa (SEFA), which is managed by the African Development Bank (AfDB), has approved a US$1mn grant to facilitate Botswana's transition to clean energy.

The technical assistance project supports the Government of Botswana in closing critical gaps in policy, regulatory and legal frameworks, which were identified at the Africa Energy Market Place (AEMP 2019).


IVECO T-WAY
IVECO S-WAY
DRIVE THE NEW WAY
IVECO
IVECO
NEW IVECO T-WAY: HIGH PRODUCTIVITY AND SAFETY ON OFF-ROAD TERRAINS
With a complete line-up of AWD and PWD versions and the the 16-speed HI-TRONIX automated gearbox, the IVECO T-WAY features a host of functionalities such as Rocking Mode, Off-road Mode, Creeping Mode and 4 reverse gears to tackle with ease the toughest off-road conditions. The new architecture of the EBS system, combined with disc brakes on all wheels, greatly improves the vehicle's performance and the driver's safety in the most demanding applications.
NEW IVECO S-WAY: HIGH TECHNOLOGY AND EFFICIENCY FOR ON-ROAD MISSIONS
The new IVECO S-WAY, with a completely redesigned and reinforced cab, offers a wide choice of Euro III/V diesel engines, a delivering class-leading power from 360 HP to 560 HP Euro III / 570 HP Euro V and superior fuel-saving devices, such as anti-idling feature, Ecoswitch, Ecoroll and Smart Alternator. 12-speed HI-TRONIX automated transmission with the most advanced technology in its category, electronic clutch and best-in-class torque-to-weight ratio.
IVECO

CONAKRY TERMINAL AWARDED GREEN TERMINAL LABEL

Conakry Terminal, a subsidiary of Bolloré Ports and operator of the container terminal of the Autonomous Port of Conakry, has been granted the Green Terminal label following an audit conducted by Bureau Veritas.

The Green Terminal label rewards the efforts made by the company to reduce the impact of its activities on the environment by implementing eco-responsible measures.

The audit was based on the eight pillars of the labelling process, which include work processes, building infrastructure that comply with international standards, acquiring environmentally friendly handling equipment, waste management and training employees in best practices related to environmental issues.

Image Credit: Bolloré Ports

Conakry Terminal has operated the container terminal at the Port of Conakry since 2011.

Conakry Terminal is participating in the fluidity of the supply chain for Guinea and the countries of the sub-region through its commitment to a programme to modernise its infrastructure. The company has introduced a number of innovative solutions, such as the digitalisation of transport documents and electronic payment, which help to reduce travel and therefore, greenhouse gas.

"Being granted this label constitutes recognition of the efforts of all the employees of Conakry Terminal. It has given us the opportunity to organise several training courses on best practices related to environmental issues for our employees, which complement and reinforce our actions as for recycling, dematerialisation of documents or electrification of handling equipment. We will continue our efforts to further reduce the environmental impact of our activities," explained Emmanuel Masson, managing director, Conakry Terminal.

Bolloré Ports, a leading operator of port terminals in Africa, Asia and the Americas, launched the 'Green Terminal' environmental labelling process in June, which aims to reduce the carbon fooprint of its activities by using a precise methodology that covers all environmental issues.

A first in the port sector, this approach has been validated by Bureau Veritas, one of the world's leading companies in testing, inspection and certification.

LAGOS LINE RAIL PROJECTS ON COURSE

In line with his administration's commitment to traffic management and transportation, Lagos State governor, Babajide Sanwo-Olu assured Lagosians that the Red and Blue line rail projects in the State will be completed by the last quarter of 2022.

During an assessment and inspection tour of the projects at Ikeja, Yaba, Ebute Metta and Marina Stations, Sanwo-Olu expressed satisfaction with the pace of works at the stations. "Our promise on the Blue and the Red line is still on course. We believe that, by coming on a quarterly basis to supervise them, we would ensure that before the end of this year, we will see the trains on top of the tracks."

Sanwo-Olu also disclosed the plan by the state government to relocate the market around the train station at Yaba. The line rail is part of the intermodal transportation system implemented to reduce gridlock and ensure interconnectivity in different parts of the state.

FMO ANNOUNCES SUPPORT FOR FIN'ELLE

The COFINA Group has announced a new partnership with FMO, which has approved a US$5.7mn investment for Fin'ELLE, La Finance pour ELLE, its subsidiary dedicated to supporting women entrepreneurs in Côte d'Ivoire and offering adapted and accessible financial services.

This financing from FMO will strengthen Fin'ELLE's position in meso finance and continue to facilitate access to credit for many women entrepreneurs and SMEs active in agricultural value chains, with a strong social and environmental impact.

Fin'ELLE aims to increase the proportion of women in Africa eligible for financial services and to increase the volume of loans allocated to them. To date, Fin'ELLE has been able to support more than 5,000 women clients, offering them products tailored to their needs in terms of pricing, insurance and skill building.

Marema BAO, president of the board of directors of Fin'ELLE, said, "It is with a definite commitment that we have established this partnership. Supporting female entrepreneurship through inclusive finance is at the heart of Fin'ELLE's actions.

"This partnership allows us to strengthen the implementation of our common vision, to participate in the empowerment of women in Côte d'Ivoire."

FMO's MASSIF portfolio manager, Jeroen Harteveld, confirmed, "We are proud that FMO, through its MASSIF fund, supports Fin'ELLE in its ambitions to increase access to finance for women entrepreneurs and women-led SMEs in Côte d'Ivoire, as this is strongly aligned with our own mandate. The realisation of this latest partnership between the two entities demonstrates that FMO considers Groupe COFINA a preferred regional partner in its goals to increase its presence and impact in Francophone Africa."

BRIEFS

NFE to develop an energy hub in Mauritania

Image Credit: Adobe Stock

NFE technology will be deployed to produce LNG for local as well as international markets.

New Fortress Energy (NFE) has signed a MoU with Mauritania to develop an Energy Hub, including natural gas, power, liquefied natural gas and blue ammonia, utilising existing offshore gas reserves off the coast of Mauritania.

NFE will deploy its 'Fast LNG' liquefaction technology to produce LNG in the Atlantic coastal basin. and supply natural gas to both the existing 180MW Somolec Power Plant and a new 120MW combined cycle power plant to be developed.

IFC and Proparco invest in Dolidol

Image Credit: Adobe Stock

The financing will support Dolidol's entry into Nigeria.

A financing package of US$22.8mn from IFC and Proparco will help Dolidol, a Moroccan manufacturer and distributor of polyurethane foam and bedding products, expand its production and sales to Nigeria, and green its operations in Morocco, creating hundreds of direct and indirect jobs in the countries.

The financing will support Dolidol's entry into Nigeria, where it plans to purchase Mouka, the country's leading mattress and bedding supplier.

BLEND

blendplants.com

E-SERIES COMPACT MOBILE PLANTS

CONCRETE

COLD ASPHALT

CEMENTITIOUS MIXTURES

A240

MOBILE PLANT FOR L A R G E PRODUCTIONS

ITALY | blendplants.com | info@blendplants.com | + 39 0307689730

BLEND

The Republic of Rwanda and Africa50 unveil Kigali Innovation City urban masterplan

Image Credit: Rwanda Development Board

The event was marked by the signing of the shareholders agreement.

Africa50, the pan-African investment platform, Rwanda Development Board (RDB) and the Ministry of ICT and Innovation of Rwanda have released the urban masterplan for the development of the Kigali Innovation City (KIC) project, during an official ceremony in Kigali.

The masterplan serves as the blueprint for the 61 ha KIC site which entails the development and construction of a mixed-use world-class and smart innovation hub, which is aimed at developing cutting-edge solutions to help stimulate economic growth in Rwanda, the region and on a continental basis.

KIC already houses two world-class universities – Carnegie Mellon University Africa and Africa Leadership University. A third university, the University of Rwanda Centre of Biomedical Engineering and e-health, is under construction. The rest of the development will include additional universities, Grade A office spaces, research and development facilities, and start-up business incubators, alongside supporting facilities for retail, hospitality, and accommodation.

While designing KIC, special attention was paid to leveraging the physical infrastructure to foster the connected and collaborative ecosystem KIC and the Government of Rwanda envisions. The masterplan integrates smart solutions for facility management and incorporates green principles into the transportation modes and building design, construction and management. It also allows for adequate green and open spaces to foster collaboration and exchange of ideas within the ecosystem.

The urban masterplan will be implemented in phases in line with the project's objectives and demand forecast. The implementation of the masterplan will start with the construction of the horizontal infrastructure, such as roads, drainage systems, street lighting, walkways, etc., as well as a mixed-use first building and visitor centre in 2022. This will help catalyse further investments into the project.

Paula Ingabire, Minister of ICT and Innovation of Rwanda, who was represented by Yves Iradukunda, permanent secretary of ICT and Innovation, said, "Rwanda's social and economic transformation agenda requires bold investments in innovation and technology. KIC provides both the physical infrastructure and ecosystem as we position Rwanda to become a pan-African innovation hub."

BHP TO MAKE INITIAL INVESTMENT IN KABANGA NICKEL AND LIFEZONE

Kabanga Nickel Limited (Kabanga Nickel) has announced that BHP, a world leading resources company, has invested US$40mn into Kabanga Nickel. The money will be used to accelerate the development of the Kabanga Nickel Project in Tanzania, the world's largest development-ready nickel sulphide deposit.

In parallel, BHP has invested US$10mn into Lifezone Limited to advance the roll-out of its patented hydrometallurgical technologies. Lifezone hydromet is more cost-efficient than smelting and has a significantly lower environmental impact.

Chris Showalter, Kabanga Nickel CEO, said, "It highlights the world-class nature of the Kabanga deposit and its importance in helping meet the crucial decarbonisation challenge facing the world today… BHP's investment reflects the project's strong ESG credentials."

MR GREEN AFRICA GETS A BOOST FROM DIVERSE GROUP OF INVESTORS

Mr Green Africa, a Kenyan plastics recycling pioneer, has been boosted by a major round of investment by impact driven investors and key industry stakeholders to scale its business model across the continent.

The investment will allow Mr Green Africa to build on its success and scale its business model. The company will do so by improving the supply chain and paying its waste pickers a living wage. It also plans to increase the capacity of the production plant to process 15,000-20,000 metric tonnes of plastic waste in the East Africa region.

Mr Green Africa's purpose is to turn 'waste to value' and make a localised circular economy. The deal shows the company was able to attract impact investors to embed sustainable environmental and social impact at its core.

It was also able to engage critical plastics supply chain stakeholders to ensure business decisions are guided by contextual expertise and remain future proof.

The deal involves some of the leading pioneers, including: DOW, a leading material science company that will support MGA innovations on plastic collection and recycling; AlphaMundi Group (AMG), a Swiss impact investing manager specialised in small enterprise finance in emerging markets, with a regional office in Nairobi, investing through its AlphaJiri Investment Fund; The BESTSELLER Foundation, a circular economy focused impact investor that helps innovators reduce waste and reuse and recycle valuable resources; DOB Equity, a leading Dutch family-backed impact investor in East Africa; and Global Innovation Fund, a non-profit innovation fund headquartered in London, that invests in the development, rigorous testing, and scaling of innovations targeted at improving the lives of the world's poorest people.

BRIEFS

Rwanda's Cimerwa doubles net profit

Image Credit: Adobe Stock

Last year, the firm's sales revenue rose from US$6mn to US$6.5mn.

Cimerwa, a Rwandan cement maker, has reported that its net profit for the nine months to September 2021 doubled to US$3.9mn from US$1.89mn in the same period last year, driven by its new route-to-market strategy.

"This excellent performance was driven by growth in revenue as the business executed its route-to-market strategy so as sustain the dominant market share position as well as margins," said John Bugunya, Cimerwa's chief finance officer.

Telkom launches app to enhance customer experience

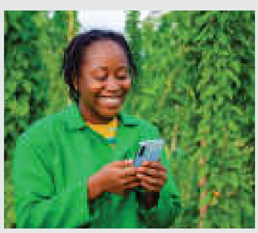


Image Credit: Adobe Stock

Telkom is currently upgrading its 4G coverage in the coast region.

Telkom, an integrated telecommunications provider, has introduced the T-kash app that will enable its customers to access a wider service offering on its digital financial services platform. The app will enable its customers to send money to a mobile wallet within the Telkom network, to an MPESA wallet and soon to an Airtel Money wallet, or to a bank account; to buy airtime and data bundles for their own Telkom line or for another Telkom customer; and much more.

Upcoming Events Calendar 2022

FEBRUARY

16-18

SOLAR POWER AFRICA
Cape Town, South Africa
www.solarpowerafrica.za.messefrankfurt.com/capetown/en.html

23-24

POWER TRANSMISSION IN AFRICA
Virtual
www.web.cvent.com/event/61ab568f-8d54-4f4d-957e-d5bd391116f7/summary

MARCH

1-3

AFRICA ENERGY INDABA 2022
Live (Cape Town) and online
www.africaenergyindaba.com

1-3

MAURITANIDES
Nouakchott, Mauritania
www.mauritanidesmr.com

7-9

MIDDLE EAST ENERGY
Dubai, UAE
www.middleeast-energy.com/en/home.html

8-11

PROPAK AFRICA 2022
Johannesburg, South Africa
www.propakafrica.co.za/

11-13

ELECTREX AFRICA
Nairobi, Kenya
www.mxmexhibitions.com/electrex_africa/

16-18

POWERING AFRICA SUMMIT
Washington DC, The USA
www.poweringafrica-summit.com

23-25

SECUREXPO EAST AFRICA
Nairobi, Kenya
www.securexpoeastafrica.com/

APRIL

11-12

FUTURE OF ENERGY
Amsterdam, The Netherlands
www.futureofenergy-event.com/#home

12-14

15TH MICROGRID GLOBAL INNOVATION FORUM
London, UK
www.microgridinnovation.com/EMEA

MAY

12-14

7TH LIGHTEXPO AFRICA 2022
Nairobi, Kenya
www.expogr.com/lightexpo

17-19

SUSTAINABLE ENERGY FOR ALL
Kigali, Rwanda
www.seforall.org/forum

MIDDLE EAST ENERGY MAKES AN EXCITING RETURN TO LIVE, IN-PERSON EVENTS IN DUBAI

The 47th edition of Middle East Energy, formerly known as Middle East Electricity, is set to take place from 7-9 March 2022 at the Dubai World Trade Centre.

Hosting more than 800 international exhibitors such as Perkins, Baudouin, Newage Stamford AVK, Riello UPS, and Cummins, to name a few, Middle East Energy 2022 brings a unique experience with alternative energy suppliers and professionals from across the sector to showcase the latest in energy products and solutions while discussing the future of energy in emerging markets.

The event is held under the patronage of HH Sheikh Maktoum Bin Mohammed Bin Rashid Al Maktoum, Deputy Ruler of Dubai, and hosted by the UAE Ministry of Energy & infrastructure.

Keeping in line with an evolving need for a diverse, digitised and sustainable future, the event will feature five specific product sectors – smart solutions, renewable and clean energy, transmission and distribution, energy consumption and management, and critical and backup power.

Visitors and exhibitors have the chance to network with government officials, experts from the utility sector, contractors, distributors, manufacturers, energy consultants, project financiers and build long-lasting business relationships and gain new perspectives on the energy industry.

Middle East Energy will also be supported by the Global Energy & Utilities Forum, which provides a foundation to the core messaging of Middle East Energy by bringing together industry experts and providing them with a platform for thought leadership, collaboration, and

Image Credit: Informa

The event will be hosting more than 800 international exhibitors.

solutions for meeting this drastic shift within the global energy sector.

Delivered through high-level strategic panels, technical sessions, roundtable discussions and workshops, the forum has been developed around the central pillars within the energy transition, featuring key themes such as decarbonisation, finance and investment, digitalisation, technologies and such.

Register for the event here: https://middleeast-energy.me/3ne3TD8

"Some of the obstacles that women face to access green jobs in energy, infrastructure or the circular economy are rooted in social norms. Changing those takes time. We are at an acceleration moment. We need to act now to ensure that the transition to the green economy in the region does not leave women and girls behind."

Image Credit: UN Women

OULIMATA SARR

Regional director for West and Central Africa, UN Women

"With high unemployment rates in South Africa, creating a platform for up-and-coming homegrown entrepreneurs to raise more funding for their businesses is important, particularly where the result creates more opportunities for others. We understand that the SMME sector is critical to create opportunities in South Africa."

COLLEN DLAMINI

Group executive of corporate affairs at MultiChoice

"The value of the credit gap alone in sub-Saharan Africa is at US$90bn – that requires an increase of over 350% service to close the gap. To tackle these challenges, Africa needs transformational interventions. The formal banking landscape in sub-Saharan Africa supports around 20% of Africa's bankable population with the majority of people excluded from access to finance and wealth creation. This is a massive opportunity for FinTechs like Paylend."

Image Credit: Paylend

ELIUTHERIUS JUMA

CEO of Paylend

"The lesson from developing economies is simple. More electricity means more economic activity and better jobs, more profitable private capital investments, increased manufacturing and technological capacity, increased food production, more innovation, better healthcare and education, greater use of telecommunications, and better quality of life in general."

JULIUS MAADA BIO

President of Sierra Leone

"Africa is at a 'positive disadvantage' as only 17% of the road infrastructure required on the continent has been built. For the remaining 83% of roads that are yet to be built, an opportunity lies for ensuring that they are resilient to both current and projected climate impact."

OLUFUNSO SOMORIN

East Africa regional principal officer for climate change and green growth at the African Development Bank

"There are a lot of world-class energy producers active in the region, so it is important that their leadership join the conversation and showcase opportunities. We will bring international and regional players to help drive the discussions around energy development and transition, enabling environment, local content and capacity building and the development of an environmental safety culture."

Image Credit: RichAfrica Consultancy

NDAPWILAPO SELMA SHIMUTWIKENI

Managing director of RichAfrica Consultancy

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

VERY COMPACT CRANE DELIVERS HIGHER THAN NORMAL LIFTING HEIGHT

Image Credit: Condra

The 30/10-ton maintenance crane being prepared for load test, showing digital readouts (left of photo) and the underslung auxiliary hoist in the background.

Condra has manufactured and delivered a 30/10-tonne overhead crane designed to marry two mutually opposing tender specifications: high lift height and tight overall dimension. The double-girder electric overhead travelling crane is for dragline house maintenance. A 30-ton crab-mounted main hoist will service hydraulic cylinders, motors and gearboxes within the house while an auxiliary 10-ton underslung hoist executes additional duties, including external loading and unloading of equipment. Condra delivered the machine which was ordered in August last year.

The crane design was made complex by two customer specifications: first, the need for the main hoist to deliver a higher-than-normal lifting height measured as a percentage of the available vertical dimension; second, the requirement for overall dimensions to be sufficiently compact to enable the working crane to move in and out of the existing crane aperture in the wall of the dragline house.

These two design requirements run contrary to one another in that a greater lift height is usually achieved by designing a physically bigger hoist working from a larger crane. Condra's machine will clear the aperture frame with just 50 millimetres to spare.

"In a nutshell, we met the customer specification by designing key crane elements to be smaller but stronger," explained Marc Kleiner, managing director, Condra.

SIBANYE-STILLWATER PICKS TENOVA PYROMET FOR PGM FURNACE UPGRADE

Image Credit: Adobe Stock

Tenova Pyromet has designed and supplied 8 circular PGM smelting furnaces in South Africa.

Sibanye-Stillwater, a multinational precious metals mining company, has selected Tenova Pyromet, a Tenova company specialising in the design and supply of submerged arc furnace technology for the metals industry, as their technology partner for the upgrade of their largest Platinum Group Metals (PGM) smelting furnace.

Sibanye-Stillwater's main objectives with the furnace upgrade are to further improve reliability, campaign life and availability in the long run. The company awarded a feasibility study in November 2020 to Tenova Pyromet to develop the upfront engineering and budget estimate for the upgrade of the crucible of their Furnace no. 1 at Marikana, North West Province, South Africa.

Subsequently, in July 2021, Tenova Pyromet was awarded the contract for the detail design, supply and construction of the furnace crucible upgrade. Since then, the detail engineering and procurement phase has begun, and the construction phase is due to start during the second quarter of 2022.

Bennie du Toit, Sibanye-Stillwater vice-president of smelting, commented, "We selected Tenova Pyromet for the Furnace no. 1 upgrade based on their innovative technical offering as well as our positive experience with Furnace no. 2, which has been reliable and stable for almost a decade." Furnace no. 2 was designed, supplied and constructed by Tenova Pyromet and started up in 2012.

BOTSWANA HAS DOUBLE-DIGIT ECONOMIC GROWTH ON THE CARDS

Image Credit: Adobe Stock

The real GDP growth in Q3 2021 mainly reflects stronger output in the diamond and wholesale and retail industries.

Statistics Botswana's (StatsBots) latest data release shows that the real GDP has expanded by 8.4% year-over-year in the Q3 2021 compared with a contraction of 4.5% year-over-year in the Q3 2020.

The real GDP growth in Q3 2021 mainly reflects stronger output in the diamond and wholesale and retail industries.

Most industries improved in Q3 due to the low base set during the corresponding quarter in 2020 due to the slow recovery from harsh global lockdowns in Q2 2020. The only exceptions were agriculture, forestry and fishing (-4.0%); public administration and defence (-1.1%); and finance, insurance and pension funding (-1.4%). The agricultural sector continues to be constrained by lower numbers of cattle marketed, while public services may have declined relative to Q3 2020 when more government support was needed during a critical period of the pandemic.

Meanwhile, mining and quarrying (+29.8%) rose markedly on the back of higher diamond production, which reflects the improved appetite for rough diamonds after Covid-19 travel restrictions curtailed last year's sight holder events. In addition, stronger activity in the wholesale and retail (+8.2%) and real estate (+5.2%) industries buoyed growth in non-mining GDP, also supported by more relaxed COVID-19 containment measures compared to last year.

AFRICA DATA CENTRES UNVEILS NEW 10MW DATA CENTRE IN LAGOS

Image Credit: Adobe Stock

Nigerian data centers were part of a Continental network of data centers rolled out in key cities of Africa.

Africa Data Centres, the largest network of interconnected, carrier- and cloud-neutral data centre facilities on the continent, has officially opened its new 10MW data centre facility in Lagos, Nigeria.

CEO of Africa Data Centres, Stephane Duproz mentioned Nigeria as one of the company's key markets as there is a rapidly-growing demand for data centres in the region, hungry for digitisation.

Duproz also announced that the new facility is the first of four faculties being earmarked for Nigeria, adding that the company has plans to also build an additional facility in Lagos at a separate location to ensure full disaster backup, while Abuja, and Port Harcourt will also get their own facilities.

Duproz also announced that the new facility is the first of four faculties being earmarked for Nigeria, adding that the company has plans to also build an additional facility in Lagos at a separate location to ensure full disaster backup, while Abuja, and Port Harcourt will also get their own facilities.With this in mind, Duproz said, "Africa Data Centre is witnessing an unprecedented demand for fintech services, apps, broadband, cloud technologies, and more, all of which are seeing data demand skyrocket."

This announcement is in line with the major data centre expansion plans that will see the company building hyperscale data centres throughout Africa.

Africa needs concerted reform efforts

Key challenges facing Africa in 2022 are the need to accelerate inclusive recovery through industrialisation, digitalisation, and prioritising infrastructure investments; reverse social inequality amid pandemic downturn; and ensure better economic governance.

Image Credit: Adobe Stock

Scaling up vaccinations, strong global trade rebound, and elevated commodity prices could strengthen the SSA economy.

Growth in sub-Saharan Africa (SSA) remains below global trend-growth (Table 1), leading to widening divergences. The region must grow twice as fast to regain 'pre-crisis' output by 2023. Scaling up vaccinations, strong global trade rebound, and elevated commodity prices could strengthen the regional economy. Multilateral support, which remains equally vital for SSA, faces additional external funding needs of US$425bn up to 2025, according to the International Monetary Fund (IMF).

Seeking greater resilience

Structural reforms to address labour and product market rigidities and improving competition and logistics will help reallocate resources toward viable sectors, thus raising aggregate productivity growth. Educational systems should adapt to the evolving post-pandemic labour demand as technology fosters skilled jobs in

> "Besides macro-prudential policies, a vibrant economy requires a growth-friendly business climate."

Table1: SSA's Growth Projections in context of Global Perspective (annual % change)

	2020	2021	2022
World Output	-3.1	5.9	4.9
Advanced Economies	-4.5	5.2	4.5
Emerging & Developing Asia	-0.8	7.2	6.3
Emerging & Developing Europe	-2.0	6.0	3.6
South America & the Caribbean	-7.0	6.3	3.0
Middle East & Central Asis	-2.8	4.1	4.1
Sub-Saharan Africa	-1.7	3.7	3.8
Excl. South Africa & Nigeria	0.0	3.7	4.8
World Trade Volume* (goods & services)	-8.2	9.7	6.7
Crude Oil US$/barrel **	41.3	71.5	79.4
Non-Energy Commodity Price Index*	3.0	22.5	2.5

**Annual percent change; ** International Energy Agency forecast.*

Note: Africa's economy until the outbreak of global pandemic was on an upward trajectory. The Covid-19 downturn weighed on trade and foreign direct investment, which fell to US$30bn in 2020, along with a mounting toll on the region's social infrastructure and increased public debt levels.

Sources: IMF, World Economic Outlook October 2021.

mid high-end manufacturing, engineering, and information & communication technologies (ICT).

Besides macro-prudential policies, a vibrant economy requires a growth-friendly business climate that boosts private investment; increases the contestability of markets; removes key bottlenecks (such as unreliable electricity); establishes a level-playing field between public and private firms; lowers red tape; and supports small medium enterprises (SMEs) – the engine of job creation. Prioritising strategic sectors – network industries and services such as logistics, distribution, finance, ICT plus healthcare and education – will not only improve competitiveness, but also protect the future output capacity of a nation.

Africa boasts ample resources to join global value chains (GVC) in areas where it enjoys competitive advantages, notably heavy metals (aluminium smelter, steel-making); hydrocarbons (oil refining and petrochemicals); precious metals (gold refineries, diamond cutting/polishing); and agriculture (supplying raw materials for agro-processing). Investments in transportation links, energy supply and skill upgrades are prerequisites for climbing GVC networks.

Reduced trade barriers and export restrictions among member-states under the African Continental Free Trade Area (AfCFTA) protocol would allow markets to operate efficiently, while withstanding global disruptions, attracting foreign direct investment (FDI) and promoting food security. The UN Economic Commission for Africa estimates AfCFTA has the potential of boosting intra-African trade by more than 50% from the current level of 14.4%.

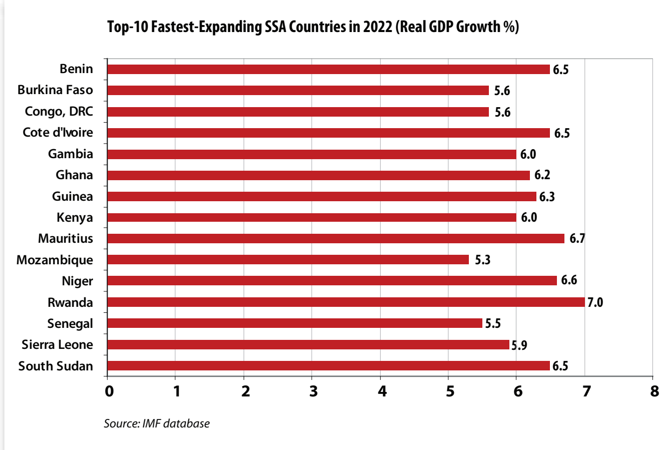
Urbanisation and digital connectivity

The urban population in SSA has doubled since 2000 to reach more than 440 mn by 2019. The average age of Africa's population is also very young. Demographic dividends could make SSA a source of global demand as the population is forecast to reach two billion by 2050. Growing urbanisation bolsters demand for materials and consumer durables – thereby stimulating industrial growth and income generation.

> Businesses embracing digital models are better equipped for a lasting recovery and investing in broadband would bridge the digital divide across Africa."

Furthermore, the IMF projects half of the globe's new job entrants over 10-15 years will come from SSA. An estimated 12 mn Africans enter the labour market every year. Higher education is crucial for productive jobs and supporting diversification agendas. School curricula should focus on science, technology, engineering and mathematics (STEM) to teach the core skills demanded in today's sophisticated global economy. "To create such a transformation towards the jobs of tomorrow, economies must fundamentally upgrade technical/vocational training and university education for both students and workers on an ongoing basis," stated IMF.

An expanded IT-ready infrastructure and regulations that incentivise high-tech innovations will attract investments; enable more remote working, education, telemedicine, e-government; increase transparency; improve public service delivery; expand access to global markets; and create skilful jobs. Businesses embracing digital models are better equipped for a lasting recovery and investing in broadband would bridge the digital divide across Africa. The digital economy requires increased power-generation and transmission.



COP26 commitments

The majority of the Africa Union's member countries (35) have made pledges towards net-zero emissions by achieving the 1.5°C global warming target by 2050, but the required investment just to transition the region' current energy mix – approximately US$2.8 trillion – is clearly unaffordable. That being said, SSA is the world's smallest contributor to greenhouse gas emissions – comprising only 3% of global emissions (PwC Africa Energy Review 2021).

Renewable energy could be a huge business in Africa in coming decades. By 2050, energy production from solar and wind is expected to swell by 110 and 40 times, respectively. The current total renewable capacity is at 58 gigawatts (GW). The energy transition holds the potential to boost skills capacity – resulting in five million total renewable power-related jobs by 2030 (PwC estimate), compared to about 324,000 currently employed across Africa.

SSA needs a collective effort to tackle climate change through a mix of adaptation (adjusting to the effects of global warming) and mitigation (preventing or limiting the GHG emissions). On the former, wider measures for irrigation, introducing drought-resistant crops, and upgrading infrastructure for more efficient land management through digital solutions are needed. But IMF's adaptation estimate (US$30-50bn/year) is very costly for SSA countries.

"Africa will have no choice but to adapt to this new world, but greater focus on equitable policy, markets and investment is clearly required," stated PwC. African countries can seize the opportunity of climate

Table 2: Top-10 Largest African Economies by Gross Domestic Product

	GDP 2021 (US$bn)	Population 2021 (mn)	Real GDP Growth 2022 Proj.	Sovereign Ratings
Nigeria	514.05	211.4	2.7	B-
Egypt	394.28	102.9	4.5	B
South Africa	329.53	60.5	2.2	BB-
Algeria	151.46	45.0	2.3	
Morocco	124.00	36.3	3.4	BB+
Kenya	106.0	49.8	6.0	B
Ethiopia	93.97	98.73		
Ghana	74.26	31.3	6.2	B-
Cote d'Ivoire	70.99	27.6	6.5	BB-
Angola	66.49	31.9	2.4	CCC+

Sources: Statista.com, IMF, World Bank and Standard & Poor's.

change to transform the economy and create jobs. Policy makers need to leverage climate change technologies to improve and/or increase industrialisation and the non-agricultural labour force—for instance, the insertion into GVCs associated with green metals as their price increases with decarbonisation, according to IMF. It explained the region has the opportunity to leapfrog high-emitting manufacturing technologies and systematically erect a low-carbon manufacturing sector.

Such efforts will require US$2 trillion in manufacturing and power-generation, and deliver 3.8 million jobs over the next three decades. Of these investment needs, US$600mn is needed to decarbonise existing manufacturing industries and power networks, while US$1.4 trillion would create new low-emitting businesses that replace or supplement high-emitting legacy sectors—for instance, coal-to liquids, low-sulphur fuels, low-carbon petrochemicals and liquefied natural gas.

Global Energy transition

Low-emission technologies – including renewable energy, electric vehicles (EVs) and hydrogen – are gradually replacing fossil fuels as leading energy sources. Solar panels, wind turbines and EVs require more industrial metals and this is fuelling demand for strategic minerals such as cobalt, copper, nickel, zinc, lead, lithium, manganese, aluminium, chromium and vanadium.

Mineral resource demand and prices are projected to exceed fossil-fuel counterparts (oil, gas and coal) – hence 'windfalls' for producers. According to Eurasia Review analysis, prices for copper, nickel, cobalt, and lithium could sky-rocket in a net-zero emissions scenario, with the total value of production rising four-fold over 2021-40.

> "Africa has unrivalled potential for renewable energy, particularly solar power."

Africa is endowed with abundant metals and minerals needed for clean energy technologies. It accounts for two-thirds of global cobalt production, 80% of platinum and half of manganese and bauxite output. Congo (DRC) holds about 50% of global cobalt reserves, whilst the largest reserves of bauxite ore (raw material for aluminium) are in Guinea. The International Energy Agency (IEA) stated, "Responsible development of these resources is crucial to support the continent's economic prosperity and global energy transition."

New energy research provider BloombergNEF estimates 10,252 tons of aluminium, 3,380 tons of polysilicon and 18.5 tons of silver are needed to manufacture solar panels with 1 GW capacity. Global installed solar capacity is projected to quadruple by 2030 to 3,000 GW. It takes about 154,352 tons of steel, 2,866 tons of copper, and 387 tons of aluminium to construct wind turbines and infrastructure with the power capacity of 1 GW as per BNEF estimates. 1,731 tons of copper, 1,202 tons of aluminium, and 729 tons of lithium are needed to manufacture 1 GWh of Lithium-ion batteries.

Africa also has unrivalled potential for renewable energy, particularly solar power.

The Sahara Desert boasts the potential to be the biggest renewable energy source in the world. The estimated solar energy available exceeds 22bn GWh a year, according to professor Amin Al-Habaibeh of Nottingham Trent University.

In summary, regional diversification strategies should lay the foundations for a faster, smarter, greener recovery aligned with worldwide efforts. ■

Moin Siddiqi, Economist

Table 3: Divergent Recoveries Across SSA's Geographic Regions

	2018	2019	2020	2021*	2022*
EAC-5	6.1	6.3	1.0	4.9	5.6
ECOWAS	3.5	3.5	-0.6	3.6	4.0
SADC	2.2	1.3	-4.3	3.9	3.0
CEMAC	1.0	2.0	-2.5	2.6	2.8

**Projections.*

Source: IMF database.

The East African Community (EAC-5): Burundi, Kenya, Rwanda, Tanzania and Uganda. The Economic Community of West African States (ECOWAS): Benin, Burkina Faso, Cabo Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. The Southern African Development Community (SADC): Angola, Botswana, Comoros, Congo DRC, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe. The Central African Economic & Monetary Community (CEMAC): Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea and Gabon.

Africa has unrivalled potential for renewable energy such as solar power.

Image Credit: Adobe Stock

De-risking investment into Africa

Africa has weathered the storm of recent times pretty well, says Mikir Shah, chief executive of Africa Speciality Risks, who tells African Review how his company is helping to de-risk major investments into the continent.

In just one year, Africa Specialty Risks (ASR) has established itself as a leading niche player in Africa's insurance and reinsurance market, supporting projects and investments in some 44 countries across the continent.

The London-based company, which is headed by chief executive, Mikir Shah, who originally grew up in Kenya, has some heavyweight backing behind it too.

A breakneck start

ASR was launched in September 2020 by Helios Investment Partners, a leading private equity firm focused on Africa. It has wasted no time in delivering results since it commenced actual operations, in February 2021.

"In terms of pure investment, we have helped de-risk about US$3.4bn of investments into Africa since we launched," Shah told African Review in an exclusive interview.

After all the uncertainties surrounding the pandemic and its impacts on the economies of Africa, it is a genuine good news story.

"Yes, absolutely…investment continues into Africa and development continues as a result of that."

ASR's own leadership team brings with it a wealth of experience. Shah himself was former CEO of AXA Africa Specialty Risks, while his chief financial officer, Bryan Howett, was former CEO of Old Mutual's pan-African reinsurance operations.

"The general provision of insurance cover is widely available across Africa, and that's a positive. What we focus on is the speciality lines of business, which is readily available in developed markets, but not so much across Africa. We're here to provide that."

Sharing expertise

ASR works closely with other insurers, both within and outside of Africa, as well as offering input directly to corporates and other partners.

"Most of the risk we write is through brokers, but if anybody wants our input into anything we're happy to do that. What we want to do is to bring people into Africa and show them how to do it.

"We're happy to provide advice because we have a specific niche that we focus on, which is just a positive for the market."

Image Credit: Africa Speciality Risks

Mikir Shah, chief executive of Africa Speciality Risks.

As well as facilitating and de-risking investments, this expertise is being shared on the ground with insurers across the continent to bolster local know how.

"We do training sessions for insurers across Africa so they understand how to risk mitigate some of the lines that we write, which are speciality lines…so the skillset we have, you wouldn't naturally expect to be in-country."

> "Obviously, there was a genuine fear about what the impact of covid would be on the economies of Africa, but we haven't seen the level of defaults in payments that people had expected."

That role is helping to nurture mutually beneficial partnerships with the local African insurance and reinsurance industries.

"We understand the technicalities of some of these risks, but we're working with insurers and reinsurers on the ground who will understand the local landscape better than we will…that's how we work across Africa."

That's an important assignment given its considerable geographical spread, which takes in some of the continent's least developed nations as well as those that boast a more sophisticated financial services sector.

"We work across all of Africa. Obviously we do our sanctions checking, but subject to that, we are happy to write business across the whole of Africa and it's important for us to be able to provide that."

Support for a recovering continent

ASR is also active across all industry sectors – from energy to property – though it steers clear of sensitive industries, such as defence and military.

In terms of pure financial investment, ASR has de-risked investments in 15 of the 44 countries it has done business in, a measure of its commitment to some of the continent's less developed economies.

This investment will no doubt play a key role as Africa emerges from the uncertainties posed by Covid-19 and any subsequent impacts following economic shutdowns.

Overall, Africa appears to have weathered the last couple of years perhaps better than most, reckons Shah.

His expectation is that Africa's economy is going to bounce back to growth during 2022 – some welcome news for all.

"I think, in general, Africa's fared a bit better than the rest of the world," he says.

"Obviously, there was a genuine fear about what the impact of covid would be on the economies of Africa, but we haven't seen the level of defaults in payments that people had expected. Yes there is pain there, but fortunately the IMF (International Monetary Fund) and World Bank have been proactive in helping these economies." ■

Unlocking value from ESD programmes

Mpopi Khupe, executive director at Zevoli Growth Partners, explains why an implementation partner is important for corporates and small, medium and micro enterprises (SMMEs) to capture value from enterprise supplier development (ESD) programmes.

ESD programmes are widely acknowledged as critical tools to levelling the playing field that benefit both SMMEs and corporates, yet they do not always go according to plan due to various reasons.

When this happens, corporates, as well as their small and growing businesses (SBGs), could be left feeling like the entire process does not live up to expectation in terms of the time, effort and resources expanded to yield the desired benefits.

Yet, getting it right is vitally important, as successfully executed ESD programmes are not only beneficial to corporates and SMMEs, but to the economy as a whole.

A typical ESD programme is designed to bridge the capacity and capability gap between SGBs that want to work with corporates, which in turn are usually reluctant to work with SMMEs. This hesitancy often stems from concerns about working with a small and growing supplier with whom no prior relationship exists. Corporates are often concerned about aspects of capability, capacity, quality, price, service and delivery that a new, small and growing suppliers offers.

Poorly prepared

Despite these concerns, most corporates find themselves trying to include SMMEs in their supply chains, but often grapple with balancing ESD and supply chain strategy design and endorsement, execution capacity and experience, and ESD programme KPI achievement.

On a local level, ESD programmes help businesses meet Broad-based Black Economic Empowerment (BBBEE) requirements. On a global level, most corporates are committed to helping drive supplier diversity.

However, from the outset, it needs to be stated that ESD programmes should never be viewed as a 'grudge buy' or 'tick box exercise', simply done for the purposes of BBBEE compliance or to demonstrate alignment with SDGs. Rather, a deliberate effort should be made to ensure that ESD brings real benefits to both corporates and SMMEs, thus the critical need for ESD programmes to be aligned with broader business objectives.

Corporates must recognise that, by their nature, SMMEs possess a level of agility that more established suppliers simply do not. Not only are SMMEs well placed to be responsive to meeting the corporate's objectives, but they are also agile enough to keep up with its evolving needs. In some cases, SMMEs can even be ahead of the curve and predict the next innovation or respond to anomalous change that is coming, while having the flexibility to rapidly respond to how they approach a corporate's problem.

Mpopi Khupe is the executive director at Zevoli Growth Partners.

The pitfalls

The main problem is that a lot of corporates devise an ESD strategy and strive to be the implementation custodian thereof themselves. Yet, this is tantamount to being the player and referee at the same time and this approach seldom yields sustained success.

Essentially, once a corporate develops its ESD strategy following a best practice strategy framework, it achieves clarity on not only its ESD strategic imperatives, but also the objectives, approach, and tactics thereof. This enables the corporate to create a conducive environment for the ESD strategy to thrive. Done right, this means teaming up with a knowledgeable and experienced ESD implementation partner that will bring on board a robust team of subject matter experts to ensure the realisation of the ESD strategy's objectives.

Many corporates that try to develop and implement an ESD strategy find that they don't always have the depth and breadth of skills to execute it. Rather, their focus should be on providing the right conditions for successful execution and then leverage the right partners to achieve this.

Another common mistake that corporates make is defining ESD strategic principles that are annual. This is more prevalent among corporates that have less experience with developing and facilitating the implementation of ESD programmes. Taking an annual view of an ESD strategy is akin to a shotgun approach, with the corporate rushing to reach as many of its ESD goals as possible in a 12-month period.

Long-term approach

Unfortunately though, this approach generally erodes the potential sustainability and impact of ESD programmes. In reality, a successful ESD strategy and the implementation thereof should span three to five years, with the focus shifting away from chasing a quick win to a long-term approach. This allows the corporate to incrementally deepen the impact and sustainability of its ESD strategic imperatives.

Implementation partners are also key to facilitating SMMEs' entry into the corporate supply chain by being deliberate in addressing the concerns of corporates that are reluctant to enter into a relationship with SGBs. This requires understanding and leveraging a supply chain's preferential procurement KPIs to frame the ESD programme. Framing the ESD programme around these desired outputs will ensure that SMMEs meet the corporate's non-negotiable supplier contracting requirements, which will alleviate its concerns and increase its willingness to engage with smaller suppliers.

A successful ESD programme must be a business imperative that is aligned to a business problem that a corporate is seeking to solve. If not, it will fail to achieve the tangible value and depth that stems from the innovation and agility that can be unleashed by adding SMMEs into a supply chain. ■

Investment needed 'urgently' for African tech start-ups

A new report highlights how Africa's start-up tech sector is lagging behind the rest of the world due to lack of investment and calls for more coordinated incentives from governments to accelerate new business.

Image Credit: Adobe Stock

Africa's digital economy could contribute nearly US$180bn to the region's growth by the by mid-decade.

Africa's start-up tech sector needs more investment 'urgently' if it is to catch up with the rest of the world and achieve its true potential, a new report states.

Start-up funding in Africa topped US$1.2bn in 2020 – a six-fold increase in five years, but still less than 1% of the value that US start-ups raised.

Similarly, the continent's research and development (R&D) investment is only a quarter of the global average.

The World Economic Forum (WEF) report, 'Attracting Investment and Accelerating Adoption for the Fourth Industrial Revolution in Africa' analyses the challenges the continent faces in joining the global knowledge-based digital economy.

It also presents a set of tangible strategies for the region's governments to accelerate the transition.

The report, written in collaboration with Deloitte, comes just weeks after the announcement by Google of a US$1bn investment to support digital transformation across Africa.

This centres on laying a new subsea cable between Europe and Africa that will multiply the continent's digital network capacity by 20, leading to an estimated 1.7 million new jobs by 2025.

Africa's digital economy could contribute nearly US$180bn to the region's growth by the by mid-decade, the report states — yet with only 39% of the population using the internet, it is currently the world's least connected continent.

"African governments urgently need to drive greater investment in the tech sector and the knowledge economy," said Chido Munyati, head of the WEF's Africa division.

"Policy-makers can make a difference by reducing the burden of regulation, embedding incentives within legislation and investing in science and technology skills."

The report highlights successful tech start-ups such as Kenya's mobile money solution Mpesa and online retail giant Jumia, which represent what the continent's vibrant small business sector is capable of.

But with less than 1% of the US$156bn raised by US start-ups in 2020, these success stories are harder to find.

In terms of R&D spend, Africa's investment represents just 0.42% of GDP in 2019, just a fraction of the global average of 1.7%.

The report flags three key policy enablers that could make a difference:

1. Pass legislation such as 'Start-up Acts' designed to spur private sector innovation, reduce the burden of regulation and promote entrepreneurship, in which Tunisia and Senegal are leading the way.
2. Embed incentives for start-ups in legislation, such as start-up grants, rebates on efficiency gains through the implementation of technology, co-investment of critical infrastructure, tax-free operations for the early years, and incentives for R&D.
3. Invest in workforce education, skills and competencies. Currently, only 2% of Africa's university-age population holds a STEM-related (science, technology, engineering, mathematics) degree.

However, the analysis of 188 government incentives for business across 32 African countries finds that just 14 incentives – fewer than 10%– facilitate investment in so-called 'Fourth Industrial Revolution' technology. Most of these incentive schemes lack an efficient monitoring and evaluation system to gauge their effectiveness, the report notes.

An opportunity for growth

It is, however, clear that digital transformation promises to boost economic growth in Africa, according to Delia Ndlovu, Africa chair, Deloitte. "Connecting the region to the global digital economy will not only open new avenues of opportunity for small businesses, but will also increase intra-Africa trade which is low at 16% compared to markets such as intra-European trade which is approximately 65% to 70%."

The report also states that African governments have much to learn from each other.

In Côte d'Ivoire, for example, an R&D tax incentive has been created to direct investment away from commodities and into innovation.

In South Africa, the Automotive Investment Transformation Fund created by the largest manufacturers in the country is facilitating the development of a diverse supplier base to realise the 60% local content target set by the Automotive Production and Development Programme (APDP).

Meanwhile in Tunisia, the government offers state salaries for up to three start-up founders per company during the first year of operations, with a right to return to their old jobs if the venture fails. ■

IVECO renews heavy line

The new IVECO T-WAY off-road and the IVECO S-Way long-haul trucks are the latest offerings released by IVECO.

The IVECO T-WAY is the off-road vehicle designed and engineered for the toughest missions in the most extreme conditions, which takes over from the legendary TRAKKER. It introduces a new HI-TRONIX automated transmission with functions specifically developed for off-road mobility.

The new rear disc brakes, heavy-duty rear suspension system for Tandem axles, lower kerb weight and a host of features such as the Off-Rode mode, together with ESP, Hill Holder and high-comfort cab together add up to outstanding efficiency and safety.

IVECO completes the IVECO WAY heavy range with the IVECO S-WAY, the on-road truck developed to deliver a complete package of features focused on the driver and efficiency. The IVECO S-WAY delivers a fuel efficiency increase of up to 4% with a new engine line-up, a redesigned cabin and advanced features, further reducing its Total Cost of Ownership and raising the stakes on business productivity.

IVECO unveiled the new IVECO WAY range for both off and on-road missions with the claim 'Drive the new way'.

The IVECO T-WAY is designed to provide maximum protection.

Engineered for robustness and reliability

The IVECO T-WAY has been intentionally designed and engineered to offer best-in-class performance in every off-road mission, robustness and torsional rigidity. It carries over from its predecessors the legendary robustness of the high-resistance steel chassis with a 10mm thick frame, with a Rail Bending Moment at the top of the segment at 177 kNm. The front axle has a maximum capacity of up to 9 tonnes and hub reduction on the rear axle is standard in order to maximise strength and performance.

The new heavy-duty rear suspension system for Tandem axles optimises vehicle weight and improves off-road performance with greater ground clearance and a better departure angle.

The IVECO T-WAY delivers all the power needed for traction and PTO with IVECO's reliable and efficient Cursor 13 engine (13 litres) that develops up to 470/480 hp.

The engines are coupled with the proven 16-speed HI-TRONIX automated gearbox, which now also features new functions specifically intended for off-road mobility including a Hill Holder function to help departure on steep slopes, Rocking Mode to help recover traction in slippery conditions and Creep Mode for ultra-low speed when idling; for the on-road sections of the mission.

Extreme flexibility

With both rigid and articulated versions, the IVECO T-WAY has one of the widest offering of driveline options on the market: Partial Wheel Drive on 6x4 rigid and articulated and 8x4 rigid models; as well as All Wheel Drive on 4x4 and 6x6 rigid and articulated, and on 8x8 rigid versions.

The All Wheel Drive range has been extended with new 4-, 4.2- and 4.5-metre wheel base models, which can transport special loads with no modification to the chassis.

The new HI-MUX electric and electronic architecture is fully compatible with the latest-generation control systems.

Driver comfort and safety

The cab of the IVECO T-WAY is available in two versions – AD short cab and AT long cab with standard or high roof. Driver safety is paramount in the harsh conditions typically faced by the IVECO T-WAY and so the vehicle is designed to provide maximum protection, with safety features which far exceed the type-approval requirements.

The new braking system features EBS as standard, full disc brakes are available on PWD models, and new ADAS (Advanced Driving Assistance Systems) are available.

IVECO S-WAY: The driver-centric long-haul truck

In the face of fierce competition, logistics operators need top-level uptime, efficiency and productivity from their fleets. The new IVECO S-WAY perfectly meets this requirement, providing a complete package of features without equal, developed with focus on driver centricity.

In redesigning the cab from the ground up, IVECO has sought to deliver cost savings and productivity gains to the benefit of the owner's profitability. All the elements of the new design work together to achieve a superior aerodynamic performance and deliver fuel savings up to 4% on top of the outstanding fuel efficiency that is the hallmark of this product family.

Designed around the driver

The IVECO S-WAY carries over all the advances introduced in the previous generations and adds a new cab entirely redesigned around the driver's to provide the ultimate driving environment with outstanding ergonomics and controls layout.

The ergonomic layout of the controls ensures all the key functions are within easy reach of the driver. The air conditioning system, and integrated parking cooler and heater systems ensure an ideal internal climate within the cab in all weather conditions, when driving or during stops. ■

Logistics experts target African expansion

At the start of 2022, a number of logistic companies have demonstrated their commitment to the African continent by announcing expansions into the continent.

DHL Global Forwarding, for example, has launched in Zimbabwe in order to formally extend its presence across Africa. The international air, ocean, and road freight services provider will give local and regional businesses within the greater Southern African Development Community (SADC) instant access to global markets.

Initially, the company has set up a legal entity which comprises a full suite of innovative technology solutions and exceptional market knowledge to address the challenges faced by the Zimbabwe's freight rforwarding and logistics industry. It intends to infuse the sector with international standards and show the market the possibilities of conducting business in a compliant manner.

The offering also includes the DHL subsidiary, Saloodo!, a digital road freight platform connecting shippers and transport providers. The platform maps all transport processes digitally, including shipment tracking, freight document management, invoicing and payment.

Shuvai Mugadza, country manager, DHL Global Forwarding Zimbabwe, commented, "The expansion of DHL's services in Zimbabwe will also accommodate the global export of agricultural products, a season-driven sector, as well as that of gold, the country's top mineral export. The focus on exports is constantly changing, and meeting these demands requires agile logistics partners on the ground, which is where DHL Global Forwarding can add noticeable value."

Image Credit: Adobe Stock

DHL Global Forwarding is looking to address Zimbabwe's freight challenges.

Also expanding its presence in Africa is Kuehne+Nagel, one of the world's leading logistics providers, which has significantly expanded its network of offices on the continent. Through the expansion, the company aims to provide its customers with better access to Africa markets while offering African manufactuers specialised and industry-sepcific solutions to meet soaring demand in markets such as pharma and healthcare, perishables, emergency relief and project logistics.

With this expansion, Kuehne+Nagel will be represented in 18 African countries, with all offices managed and supported by a control tower in Durban, South Africa.

Congo Terminal reaches handling milestone

Congo Terminal handled more than one million shipping containers in 2021.

Image Credit: Congo Terminal

Congo Terminal, a subsidiary of Bolloré Ports, has announced that across 2021 it handled more than one million shipping containers.

The official number of TEUs handled stood at 1,003,734 TEUs over the course of the year – an impressive performance that reflects the efforts Bolloré Ports has made to increase traffic in line with its commitments made as part of the plan to modernise the Port of Pointe-Noire.

Bolloré Ports has invested more than EU 400mn (approx. US$458mn) since 2009 to upgrade the container terminal's infrastructure and equipment. As part of the investment, docks G and D have been extended by 1,500 linear metres and increased their depth to fifteen metres. They have also strengthened the port's equipment, with 6 new STS cranes and 18 RTG cranes acquired.

The terminal operator has also carried out construction works, having built storage areas covering more than 32 useable ha, a multi-modal logistics area of 4.5 ha connected to the Congo–Ocean Railway, and a technical workshop dedicated to maintenance operations. It also uses the Navis N4 operating system for managing and automating operations in the terminal.

Séraphin Bhalat, director of the Port Autonome of Pointe-Noire, remarked, "This result attests to the success of the partnership between Congo Terminal and the Port Autonome of Pointe-Noire. Now that we have broken this symbolic level, our goal is to become a transhipment hub helping the national economy and subregion grow and an eco-friendly smart port."

Bolloré Group has also made headlines in recent weeks after it received an audacious bid from MSC Group to purchase Bolloré Africa Logistics. Bolloré has granted MSC an exclusivity until 31 March 2022 to submit a put option.

The sale could be worth a reported US$6.4bn and, while it would be subject to regulatory approval, would mark a major shift in the logistics landscape in Africa if it moves ahead.

Hot designs needed for cold storage warehousing

According to the West Africa Brief, agriculture and food production in West Africa alone is forecast to increase from US$293bn in 2020 to US$473bn in 2030. To accommodate this dramatic increase, the heat is on for building and maintaining efficient cold storage warehouses designed to maximise storage and distribution operations, maintain product quality and limit energy consumption.

The rising need for cold storage warehousing poses significant challenges for operators in Africa, the majority of which manage warehouse storage and distribution supply chains in hot and humid climate conditions. Many of these challenges can however be overcome by implementing an intelligent warehouse design as well as carefully selecting equipment from sealed doors to racking and conveyors. Doing so will serve to optimise the use of the available space, ensuring streamlined operations and maximised energy efficiency.

When designing and operating a cold storage warehouse, factors to consider include the cost of maintaining an ambient temperature and the amount of energy needed. The internal working environment is a significant factor to keep staff protected to enable them to work efficiently in temperatures as low as -30 degrees Celsius. Maintaining a consistent temperature within other warehouse areas such as goods-in and dispatch, ensures product quality is unaffected. Additionally, automation and semi-automation can also improve efficiency of pallet placement, retrieval and stock control whilst minimising the time staff spend in a potentially harsh working environment.

Across the agriculture and food production sectors, there is also an increase in demand for the installation of food-safe areas within a warehouse for storage, testing and/or quality control. A flexible modular system can be installed here, for example as a fully enclosed mezzanine level, to turn part of an existing warehouse facility into a temperature controlled environment using cold storage components.

Image Credit: Dexion

SEC Exports designs and installs bespoke warehouse and cold storage solutions using high quality storage equipment from providers such as Dexion.

SEC Exports has over 20 years' experience in designing and installing bespoke warehouse and cold storage design solutions across Africa using high quality storage equipment from providers such as Dexion. Their bespoke designs are based on real operational data which are proven to be the most efficient solution for ambient and cold storage needs.

Learn more at: www.sec-exports.co.uk

EnerMech starts 2022 with over US$568mn of new awards

Image Credit: EnerMech

Infrastructure tunneling workers being briefed.

EnerMech has kicked off 2022 by breaking into new geographies and business territories. It will start work in January on several significant campaigns, including numerous transformational mega-projects.

During 2021, the leading integrated solutions specialist, which operates in 26 countries, was awarded over US$568mn of business with new and existing clients across its target end markets, including the energy, renewables, infrastructure, nuclear and waste-to-energy sectors. With some projects already underway, and new ones commencing imminently, the firm has increased its headcount by approximately 30% compared to 2020.

Last year, in response to the headwinds caused by low oil prices and the impact of coronavirus restrictions, EnerMech adopted a swift and proactive approach to the market that complemented its diversification strategy, with a priority focus on the health and wellbeing of its people while continuing to deliver consistent and safe service to its clients.

The company also added innovative technologies and solutions to its portfolio, enhancing its capability offering to support its entry into new markets.

Sandeep Sharma, chief financial officer of EnerMech, said, “The diligent and responsive measures we adopted last year, as well as the investments we made, have had a truly positive impact on our people, our clients and our business. This success, combined with our ongoing resilience and determination, has set us on course for continued growth this year and beyond, growth that will safeguard jobs and create new ones.”

EnerMech CEO, Christian Brown, added, “We are delivering several milestone campaigns for existing and new clients in the sectors we have traditionally supported, as well as new end markets and new regions, where clients value the reliability and safe delivery across all phases of the project lifecycle for which we are known. We also have new opportunities on the near horizon. Our people are expert at listening to our clients’ needs and providing astute, tailor-made solutions, helping to grow our business and reputation for being a customer-focused, responsive partner.”

SOLARCENTURY AFRICA PARTNERS WITH RESA TO DELIVER MALAWI SOLAR PARK

Renewable Energy Services Africa (RESA) and Solarcentury Africa have signed a joint development agreement to deliver the Nkhoma Deka solar park project in Malawi. The Nkhoma project has secured more than 150 ha of land ideally located for the generation and export of solar power. The Nkhoma solar park with integrated battery storage will deliver some 50MW AC of clean, reliable and renewable power to the Malawi electricity grid, making a significant contribution to the Government’s plan to increase power generation.

The head of development for Solarcentury Africa, Jason De Carteret, said, “We are thrilled to be exploring other renewable power opportunities with them across Southern Africa.”

Stan Chikakuda, CEO of RESA, added, “We look forward to working with Solarcentury Africa, the local community at Nkhoma, and public sector stakeholders at national and district level to deliver this project.”

EDFI ELECTRIFI BACKS FIN’ELLE TO BOOST RENEWABLE ENERGY

EDFI ElectriFI, the EU-funded Electrification Financing Initiative, has contracted a US$1.7mn subordinated debt with Fin’ELLE, La Finance pour ELLE. The microfinance institution specialised in financing female entrepreneurs and MSMEs in Côte d’Ivoire is a subsidiary of COFINA and committed to ensure financial services are available, accessible and affordable for all.

The loan provided by EDFI ElectriFI is combined with technical assistance, including capacity building and other forms of non-financial support co-financed by Fin’ELLE and the EDFI ElectriFI Côte d’Ivoire Country Window.

“The solution provided by EDFI ElectriFI to Fin’ELLE consists in both financing and technical assistance. We will work with Fin’ELLE and a technical assistance provider to develop from scratch a green strategy that will include the design of a new lending product specifically for Ivorian entrepreneurs active in sectors such as renewable energy, energy access or energy efficiency,” said Lionel Dieu, ElectriFI senior investment officer at EDFI Management Company.

While more than 70% of women in Africa are either excluded from the financial institutions or unable to benefit from financial services, Fin’ELLE aims to increase the proportion of its women borrowers and to increase the volume of loans provided to women. Fin’ELLE has been supporting more than 5,000 female clients, offering them specifically designed products, including benefits in terms of pricing, dedicated insurance products, and dedicated training programmes. As a result, Fin’ELLE qualifies as a showcase of gender excellence complying with all the 2X Challenge criteria. Women empowerment principles are also applied internally as the company includes a majority of women in its workforce.

BRIEFS

Image Credit: Adobe Stock

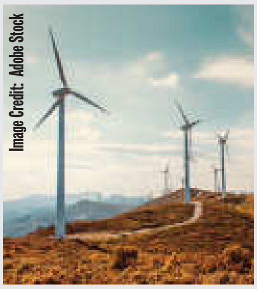
The US$36mn project is located in the Cuamba district.

Cuamba Solar PV and Energy Storage reaches financial close

Globeleq, an independent power company in Africa and its project partners, Source Energia, a Lusophone Africa energy developer and Electricidade de Moçambique, the Mozambican national power utility, have reached financial close on the 19MWp Cuamba Solar PV plant with a 2MW energy storage system.

Once operational, the Cuamba Solar plant will supply enough power for 21,800 consumers.

Image Credit: Adobe Stock



Nithio plans to provide energy access to 3.5 million people.

Nithio FI secures investment from Shell Foundation

Nithio, the AI-enabled energy financing platform that directly finances clean energy companies in Africa, has announced an investment from the UK charity Shell Foundation into its financing vehicle, Nithio FI (Financial Intermediary).

Nithio FI’s lending is powered by its unique Risk Analytics Engine, which leverages geospatial data. It provides receivables-backed lending to the solar companies in Kenya, Uganda, and Nigeria.

Heavy lifting complete at Dangote refinery

Originally scheduled to come on stream in 2019, Nigeria's flagship Dangote refinery project is nearing completion with start up now expected in Q3 2022. The scale of the venture brought together a small army of contractors from around the globe to get the job done. Martin Clark reports.

The venture brought together a small army of contractors from around the globe.

For a multi-billion dollar project like Nigeria's flagship Dangote refinery, which is scheduled to come on stream later this year, it takes an army of contractors to get the job done. And it is quite a job.

This 650,000 barrels per day (bpd) refining facility is expected to redefine Nigeria's domestic fuels production. Despite being a leading crude oil producer, the West African country has long been dependent on imported fuels to meet domestic demand. That could be about to change with the new refinery, which is under construction in the Lekki Free Zone near Lagos.

The huge project site covers a land area of approximately 2,635 ha, about six times the size of Victoria Island.

> "When it launches, the Dangote refinery is expected to be Africa's biggest oil refinery and the world's largest single-train facility."

A strategic project

When it launches, the Dangote refinery is expected to be Africa's biggest oil refinery and the world's largest single-train facility.

Its pipeline infrastructure alone is the most extensive anywhere in the world, with 1,100 km to handle the flow of crude oil, plus 3 billion standard cubic feet of gas per day.

In addition, the refinery boasts a 400 megawatts (MW) power plant that is able to meet the total electricity requirements of Ibadan DisCo, the local distributor.

When the project finally comes on stream, it should meet 100% of Nigeria's requirement of all refined products, as well as generate a surplus for export.

Nigeria's fuel supply squeeze is in large part down to to the dilapidated state of its older, existing refineries.

Key challenges

But there have been plenty of challenges along the way in getting lift off at Lekki.

A launch date is yet to be set, though it is expected to be during 2022, while cost overruns have also impacted the scheme — a common challenge among mega projects such as export refineries and liquefied natural gas (LNG) plants.

According to media reports, the overall cost has ballooned to US$19bn from Dangote's earlier estimates of around US$12-14bn.

Construction has also been impacted by delays arising from the Covid-19 crisis, which presented challenges for all businesses, including contractors working at the site.

Contractor team

The contractor team is as vast and diverse as the Dangote refinery project itself.

It includes Germany's MAN Diesel & Turbo supplying two compressor trains as part of a contract valued in the double-digit million dollars.

The highly efficient machinery trains each consist of an axial compressor driven by a steam turbine with about 30 MW of power. Delivered with a comprehensive auxiliary package, they will come into operation for the refinery process of Fluid Catalytic Cracking (FCC), thereby supporting the production of fuel.

The full team of contractors putting the finishing touches on the refinery is simply immense. Other well-known companies playing a supporting role on this ground-breaking scheme include Hyundai Heavy Industries (HHI), Sulzer Chemtech, SOFEC, Schneider Electric and Wabag, among countless others.

It's a trusted position for all, given the importance of the project to the economies of both Nigeria and the West Africa region as a whole.

Heavy lifting

One of the most important support stars behind this mammoth of a project is the distinguished heavy lifting specialist Mammoet.

The privately-held company is a world beater in engineered heavy lifting and the transportation of oversized and heavy objects, and it has long been a familiar face on some of the world's largest oil and gas projects.

It was originally assigned a contract for transporting, lifting and installing all over-dimensional cargo for the refinery, though its work has also moved into other areas too. It meant working closely together with its Nigerian partner Northridge Engineering.

Highlighting the scale of the challenges involved, Mammoet and its team set new records during their work on the project, including moving a 3,000-ton regenerator, which is the heaviest item ever to be transported over a public road in Africa.

Mammoet's meticulous level of planning and execution, along with the strong support of its Nigerian partners, ensured all vital components were delivered to site safely and on schedule.

Ground reinforcement

Its successful work here resulted in other awards as well. Mammoet Heavy Duty Pavement, a subsidiary company of Mammoet, landed a contract to provide ground reinforcement at the site.

The refinery will be the largest commercial project to date to use Enviro-Mat, Mammoet's innovative and sustainable solution for ground reinforcement.

Such a large-scale project requires extensive ground preparation works before any lift can take place. Enviro-Mat provides an efficient, cost-effective and sustainable alternative for ground reinforcement. Combined with the native soil and cement, the Enviro-Mat additive increases the ground bearing capacity up to 50 tons/ sq. m. It is also quick to install and therefore offers particular advantages on sites where ground reinforcement is required on a large area within a short timeframe. In this case, Mammoet is applying the product to lay down areas, hard stands and crane pads equating to over 500,000 sq. m of the site, which is located on reclaimed swamp land.

"As Mammoet's presence in West Africa grows, it is a great flexible solution for projects in the region – and Africa in general – because it is easy to transport to site, and it is quick and less disruptive to install," said Ronald Kleinjan, director of Mammoet Heavy Duty Pavement.

Project start

As the project nears completion, many key contractors such as Mammoet have begun to wind down operations at the refinery.

With the final 1,240t propylene mounded bullet installed at the refinery and petrochemical complex, it announced that it is demobilising equipment that has been deployed there over the past several years.

It concludes another successful project completed safely and delivered on time for the Mammoet specialists. The company was originally contracted to assist in the construction of the refinery in 2018, with a scope of work consisted of receiving, inland transport, on site lifting and installation of hundreds of components.

Like the other hundreds of contractors who have similarly played a role in this immense undertaking — and for Nigeria itself — it will be an immensely proud moment when the Dangote refinery finally roars into life. ■


Image Credit: Mammoet

Mammoet set a record moving the 3,000 ton regenerator.

> "It will be an immensely proud moment when the Dangote refinery finally roars into life."

Future proofing power solutions the way of the future

The rise of flexible, hybrid diesel genset and renewable energy solutions in Africa is only set to grow further on the back of important energy and environmental benefits.

Diesel generating sets (gensets) have long been the workhorse of choice for many critical African projects or installations, but increasingly they are being paired with renewable energy solutions as the focus on sustainability intensifies.

Flagship projects include Resolute Mining's Syama gold underground complex in Mali.

Here, Aggreko has a 16-year contract to build, operate and maintain a hybrid power plant incorporating thermal, solar, and battery solutions.

Delivered in two stages, the first meant installing three 10 MW thermal Wärtsilä Modular Block's and a 10MW battery storage system, that will provide spinning reserve displacement and outbalance sudden jumps in load.

The second stage will consist of the installation of an additional 10 MW Wärtsilä Modular Block in 2022 and the addition of 20MW solar PV power in 2023.

The mine is going strong, ending the year on a high in December, with all operations recording their best production for 2021.

Moreover, the new hybrid plant is delivering dependable power and making an impact on overall emissions — Resolute Mining says it is cost effective, environmentally friendly, capital efficient power with long-term electricity cost savings of up to 40% expected and a reduction of carbon emissions by approximately 20%.

Utility solutions

It is not just mining companies exploiting rises in renewable technology to complement long established diesel based generation.

Utilities in Africa are also showing an interest in bolstering domestic grid systems with a blended approach.

Wärtsilä will supply a 70MW captive power plant in Nigeria.

They include Nigelec in Niger, which is putting together a combined heavy fuel oil (HFO) and solar power plant near Agadez, being built by India's Sterling and Wilson.

This project consists of approximately 18.9MW of solar PV capacity and a 6.5MW diesel generation, as well as a small 11.55MWh/3.0 MVA battery energy storage system, and associated works.

The system will link up with the Sonichar coal-fired power plant and be connected to the local grid, which is operated and maintained by Nigelec.

Again, the addition of solar power and battery storage alongside traditional gensets is expected to yield significant climate benefits.

Hydrogen gensets

However, even the diesel gensets of 2022 are cleaner than those of yesteryear following decades of evolution and innovation.

This is an area that continues to evolve in terms of fuel improvements, energy savings, productivity enhancements and emissions reductions.

Last September, Caterpillar said it would begin selling gensets capable of operating on 100% hydrogen, including fully renewable green hydrogen, on a designed-to-order basis.

More immediately, the company is launching commercially available power generation solutions that can be configured to operate on natural gas blended with up to 25% hydrogen, an option that could potentially figure in settings in Africa soon.

Future proofing

With technology shifting so rapidly, another theme now shaping energy planning is 'future proofing' power plants to incorporate change.

In Nigeria, this is being embedded into BUA's new Sokoto cement production plant, where Wärtsilä will supply a 70MW captive power plant.

> "Wärtsilä's dual-fuel engine technology is particularly valuable where the primary fuel supply cannot be totally trusted."
>
> **MARC THIRIET, ENERGY BUSINESS DIRECTOR, AFRICA WEST, WÄRTSILÄ.**

The new plant is required to supply the energy for the off grid additional cement production line. BUA — one of Nigeria's largest cement producers — hopes to increase its total production capacity across all its locations to 17 million metric tonnes by 2023.

Wärtsilä netted an order for a 50MW power plant from the same customer just two years earlier.

Both will feature Wärtsilä 34DF dual-fuel engines operating primarily with liquefied natural gas (LNG), but with the flexibility to switch to an alternative fuel oil should there be interruptions to gas supply.

The new plant will operate on seven engines scheduled for delivery mid-2022, with facility expected to be fully operational in 2023.

In addition to the environmental sustainability benefit by drawing on abundant local gas, it is estimated that the Wärtsilä solution will result in fuel cost savings of approximately 30% compared to the existing power plants operating on HFO.

Furthermore, the operational flexibility of the engines provides future-proofing advantages enabling the potential use of energy from renewable sources, such as solar and wind, Wärtsilä reported when announcing the contract in November 2021.

"Wärtsilä's dual-fuel engine technology is particularly valuable where the primary fuel supply cannot be totally trusted," commented Marc Thiriet, energy business director, Africa West, Wärtsilä.

"The flexibility and reliability of our solution were major considerations in the award of this contract, added to which the ability to operate on LNG considerably lessens the facility's carbon footprint." ■

Reshaping Zambia's power sector

Recent political and regulatory changes, coupled with increased global demand for copper is setting the scene for an influx of investment into the Zambian Electricity Supply Industry, says Alexandros Germanis, Partner at Greencrowd Partnership LLP.

Image Credit: ZESCO

The Kafue Gorge Lower spillway, the 750MW hydro project which began commissioning in 2021.

Last year's election in Zambia saw a change of government and an uptick in investor sentiment for investing in Zambia. This was reflected in December 2021's auction of government bonds which was heavily oversubscribed.

While it is still early days for the 'new dawn' government led by Hakainde Hichilema, a string of announcements by mining companies such as Rio Tinto are adding further evidence that the Zambian economy is set to turn a corner. Furthermore, the IMF's US$1.4bn agreement under the Extended Credit Facility reached in December 2021 is a crucial three-year lending programme that will help the country to restructure its debts. These positive developments will benefit all sectors of the Zambian economy, not least the power sector, itself an enabler of growth and prosperity.

Mining, and specifically copper, is at centre stage in Zambia's economic recovery. Demand for the metallic mineral is up globally with the long-term global outlook positive, driven by substitution. Electric vehicles contain five times more copper than their combustion vehicle equivalent and the switch to solar and wind, with higher requirements for copper per MW of power compared to gas or nuclear power is also expected to drive copper demand. The Zambian Government is targeting an increase from 800,000 tonnes of copper in 2021 to more than three million tonnes per annum by 2030. This requires existing mines to produce more and new mines to be built. The revision of the mining tax regime forms part of the Government's strategy to facilitate that increased output.

The increased demand for copper is reflected in pricing, with 2020 recording a decade high of US$10,000 per tonne, with analysts at Bank of America Merryll Lynch projecting prices potentially rising to US$20,000 per tonne by 2025. With mining dependent on firm (non-seasonal), reliable (non-intermittent) power supply, even with the improved economics of behind the meter renewable energy and battery storage solutions, grid-connected utility power supply remains vital.

ZESCO's turnaround

As such, for the growth in mining and Zambia's economic recovery to take effect, a financially robust ZESCO Limited (Zambia's state-owned power utility) is needed. In 2021 ZESCO launched a turnaround strategy. Measures include debt management through negotiation of cost reflective tariffs with its mining customers including CEC and settling arrears with Independent Power Producers (IPPs), as well as enhancing revenue collection by developing innovative ways of financing capital investments.

ZESCO's turnaround strategy is complimented by new legislation (Electricity Act No.11 of 2019 and the Energy Regulation Act No. 12 of 2019) which set the tone for a more liberalised and open electricity sector. IPPs are now permitted to supply end users of power- using the country's transmission infrastructure on agreed wheeling tariffs. The regulatory developments are a welcome move as they support the development of a financially sustainable Electricity Supply Industry and a move towards market and tariff transparency.

A unique opportunity

In meeting demand growth for power, new investment opportunities exist across the power sector value chain. Changes to climatic conditions requires diversification of power sources and over a gigawatt of solar PV, wind and geothermal sources have been identified for development across the country. For these projects to be realised investments in transmission and distribution will also be required as will innovative ring-fenced financing solutions.

Additionally, interconnectors in development will further support export opportunities and increased trade. The Zambia-DRC interconnector between Solwezi and Kolwezi will help to address the power deficit in the mineral rich Katanga region and create high value revenue streams for cost-competitive power generators in Zambia. The Zambia-Tanzania interconnector at Nakonda and Tunduma and related transmission assets will link the southern African and East African power pools, diversifying generation sources and helping optimize electricity supply mix and costs.

Well over US$1bn of new funding is required for projects that have progressed from feasibility stage and have the necessary permits in place. Local and international financing institutions have indicated that with the right form of structuring in place to mitigate against obligor, project and political risks, capital will flow. Strategic partnerships and a collaborative approach will serve the needs of offtakers in Zambia and the region.

Project owners, investors and funders have a unique opportunity to be part of a reshaping of the Zambian power sector and to capitalise on momentum built at COP26, accelerating capital to unlock Zambia's rich renewable energy sources. ■

Global coal recovery skips Africa

The International Energy Agency's (IEA) Coal 2021: Analysis and forecast to 2024 report indicates that Africa's coal consumption is set to remain below pre-pandemic levels despite a global economic recovery which is driving coal demand to a potential all-time high as soon as 2022.

According to the IEA report, the amount of electricity generated worldwide from coal is surging towards a new annual record in 2021 which is undermining efforts to reduce greenhouse gas emissions.

After falling in 2019 and 2020, global power generation from coal is expected to jump by 9% in 2021 to an all-time high of 10,350 terawatt-hours. The rebound is being driven by this year's rapid economic recovery, which has pushed up electricity demand much faster than low-carbon supplies can keep up. The steep rise in natural gas prices has also increased demand for coal power by making it more cost-competitive.

Overall coal demand worldwide – including uses beyond power generation, such as cement and steel production – is forecast to grow by 6% in 2021. Depending on weather patterns and economic growth, overall coal demand could reach new all-time highs as soon as 2022 and remain at that level for the following two years.

Total coal consumption (Mt), 2019-2024

Region	2019	2020	2021	2024
Asia Pacific	5,878	5,807	6,110	6,430
North America	577	466	541	462
Central and South America	54	48	55	46
Europe	687	581	632	508
Eurasia	372	343	347	363
Middle East	13	12	12	8
Africa	220	198	209	214
World	7,801	7,456	7,906	8,031

Source: IEA (2021). Coal 2021: Analysis and forecast to 2021. All rights reserved.

Total coal production (Mt), 2019-2024

Region	2019	2020	2021	2024
Asia Pacific	5,760	5,729	5,939	6,182
North America	706	540	584	536
Central and South America	92	56	73	68
Europe	531	446	475	378
Eurasia	578	526	556	580
Middle East	2	2	2	2
Africa	276	262	260	269
World	7,944	7,560	7,889	8,014

Source: IEA (2021). Coal 2021: Analysis and forecast to 2021. All rights reserved.

African rates to remain low

IEA's report indicates that the total coal consumption of Africa decreased to 198 Mt in 2020 and, although consumption is expected to steadily rise, it will only reach 212 Mt by 2024 which remains below pre-pandemic levels.

This is far below the levels of other international communities with Europe expected to hit a total coal consumption of 508 Mt by 2024 and North America reaching 462 Mt in the same period. All three are, however, dwarfed by Asia Pacific which is predicted to reach 6,430 Mt by 2024.

In addition, African countries are being affected by China's pledge to stop funding coal-based power plants abroad. Botswana, Tanzania, Mozambique are among those expected to be most affected by this as they have been counting on Chinese financing to increase their coal-fired generation capacity. However Zimbabwe is probably the most concerned as it has 990MW of coal-fired plants under construction with plans for another 4.5GW of additional capacity – Chinese institutions are the main source of capital for these.

South Africa accounts for around 90% of coal consumption on the continent and Africa's 2020 decline can be largely attributed to a drop in demand there. For 2021, South Africa's coal consumption is expected to increase 4.3% to 183 Mt, only partially recovering from an 8% decline in 2020. However, the country has secured US$8.5bn of international funding over the next five years in order to reduce the country's dependency on the fuel source. Eskom has announced that it will shut down 8-12GW of coal-fired power plants (roughly 30% of its current fleet) by 2030. Because of this and an increased emphasis on renewables South African coal consumption is expected to be 2.7% higher in 2024 than in 2021 but remain below the 2019 level.

In terms of production, South Africa accounted for around 94% of Africa's coal production in 2020, amounting to 247 Mt, down 4.4% from 2019. In 2021, its output is expected to decrease slightly to 244 Mt. Logistical problems reduced coal exports, and domestic demand recovered only partially. South African coal production is expected to remain stable at the 2021 level through to 2024, as a recovery to 2019 output is being prevented by the withdrawal of major mining companies as well as by cuts to domestic coal-fired power capacity.

Mozambique, Africa's second-largest coal producer, had total production of 7 Mt in 2020, down from 11 Mt in 2019, but coal production is expected to remain stable. The IEA expects coal production to increase, as current production capacity is not being fully utilised.

Coal production in other southern African countries has been minimal, but Botswana, Tanzania, Zambia and Zimbabwe are planning to expand their coal operations, especially for domestic power generation. However, it is still uncertain which projects can be implemented now that China is not building new coal-fired power plants abroad.

A blow to the Paris Agreement

Speaking at the press launch for the report, Fatih Birol, executive director of the IEA, commented, "Coal is the most important emitter; about 30% of the entire global CO_2 emissions come from coal electricity generation. By comparison, all the cars in the world are responsible for about 9% of global CO_2 emissions.

"Without strong and immediate actions by governments to tackle coal emissions – in a way that is fair, affordable and secure for those affected – we will have little chance, if any at all, of limiting global warming to 1.5°C." ■

Future power in the waves

Marine renewable energy (MRE) is potentially much more reliable than other renewable energy resources and may just be the answer to sustainably electrifying Africa in the years to come. Tim Guest reports.


Image Credit: Unsplash/Subtle Cinematics

According to IRENA, Africa's vast 30,500 km coastline could play a major role in electrifying Africa in the long-term.

Renewable energy progress in Africa has largely revolved around hydro-electric, wind and solar technologies and systems; solutions that are essential if the UN's Sustainable Development Goals for electrification are to be achieved in the future.

These technologies continue to see the lion's share of investment from typical and usual-suspect stakeholders, such as the World Bank, African Development Bank and International Finance Corporation. However, as climate change takes hold, hydro-electric sources will become increasingly unreliable as water courses are impacted, not to mention issues related to damming, such as the controversial Grand Ethiopian Renaissance Dam on the Blue Nile, (the main Nile tributary), which will affect each nation along the Nile's path, particularly Egypt, all the way to the sea. Egypt relies on the river for some 90% of its water supply, so the potential for conflict is very real and talks to deescalate the situation are currently stalled.

As for wind and solar, even at optimum levels of power generation, these resources are unlikely to account for more than between 15 and 20% of the future energy requirements of the African continent.

Enter hydrokinetic energy or Marine Renewable Energy (MRE). This is a more reliable renewable source with far less intermittency than the other renewable resources. Certainly, much more research needs to be undertaken in this sector, but experts believe MRE can potentially contribute to sustainably electrifying Africa in the long-term.

"MRE is a more reliable renewable source with far less intermittency than the other renewable resources."

Merits over other renewables

MRE's merits are many. It is a renewable solution with different modular configurations that can be adapted to various environments.

Its reliance on predictable tides – much more predictable than sunshine, wind and hydroelectric sources – also means its potential as a stable source of renewable energy is significant.

In the context of climate change, where rivers may run dry and windy and sunshine days may differ to the extreme around the globe even more than they do now, MRE offers a more resilient, constant resource.

Another drawback of other renewables is their reliance on rare earth elements, essential in the construct of solar PV and wind power systems. This makes their supply chain vulnerable to geopolitical instability; economically-viable concentrations of elements like neodymium, dysprosium, indium, selenium, tellurium, terbium and gallium used in these renewables are only found in a small number of countries, with China dominating production. Recent re-opening of mines in the US and Australia has begun to redress this situation.

Yet, very few countries around the globe have adopted MRE to any great degree and while early wave-energy projects are underway in South Africa, the rest of the continent has just a small number of small projects in play.

And yet the International Renewable Energy Association (IRENA) has been vociferous in recent years about the potential Africa's vast 30,500 km coastline could play – though not all of it suitable – in electrifying Africa in the long-term.

New life for Ghana's Ada Foah

One of those projects in play is Ghana's Ada Foah Wave Farm, the first such project commissioned in Africa which began as a 400MW pilot in 2015. Its progress since has been erratic, but fortunes have recently changed.

The project was started with a pilot between Sweden's Seabased and TC's Energy Ghana. In 2018 a further contract was signed between the two to expand Ada Foah to 100MW capacity; this stalled. That said, more than US$10mn in sponsorship had supported the successful pilot project implementation, including land acquisition, and it ended up generating substantial power that was fed into the national grid. Now, further investor interest for the entire project has been generated to the tune of some US$2bn and in the past 18 months, TC's Energy USA along with Power China Huadong Engineering Corporation and Seabased, have signed a new, major agreement to drive the Ada Foah Energy Project onwards.

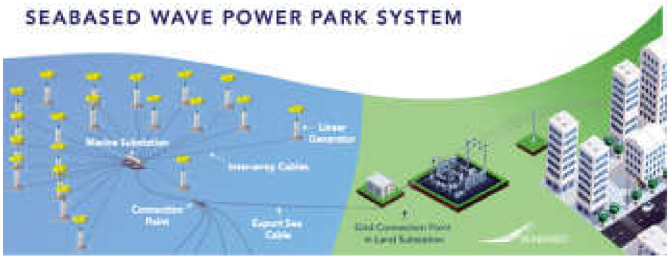


Image Credit: Seabased

Seabased wave power parks produce electricity by absorbing and transforming the kinetic energy of the ocean waves into electrical energy suitable for grid use.

Seabased generator being deployed.

Image Credit: Seabased

TC's Energy Ghana remains the project's local participant. Under the new contract, the intended wave energy park in Ghana's Gulf of Guinea, some 17 km off the coast of Ada, will be established using Seabased Wave Energy Converters (WEC). Power China will provide 85% of the funding, with TC's Energy Ghana covering the rest.

A 24-month target to 100 MW should be reached during 2022/23 and a Power Purchase Agreement (PPA) between TC's Energy and the Electricity Company of Ghana (ECG) will eventually see up to 1,000MW of power delivered to ECG from Ada Foah.

The Seabased WECs and marine substations will be installed offshore, connected by cables to an onshore substation.

Energy from the installation is expected to cost over 50% less than the 10-cent cost from sources such as hydro.

Alex Dodoo, director general of the Ghana Standards Authority (GSA), has been reported as saying that Ada Foah, along with other new technology products, is "precisely what Africa and Ghana needs in a post-Covid world in order to create newer industries employing highly skilled individuals and creating wealth at all levels of Ghanaian society."

His organisation, which has a certification MoU with TC's Energy, is responsible for professional and technical services including inspection, testing, precision measurement and certification on the project, including certification of the Seabased WECs. ■

> "The International Renewable Energy Association has been vociferous in recent years about the potential Africa's vast 30,500 km coastline could play in electrifying Africa in the long-term."

AN EXCITING WEC FOOTNOTE

According to the US National Renewable Energy Laboratory (NREL), WEC designs have generally centred on large, rigid bodies that float in the water and move relative to each other as waves roll past, absorbing ocean wave energy, then focusing that energy into a centralised conversion mechanism, e.g. rotary generator, or hydraulic piston. Now, the NREL is exploring new WEC designs in which many small energy converters can be aggregated to create a single structure. With this new approach, the domain of distributed embedded energy converter technologies (DEEC-Tec) could help the promise of substantial renewable energy generation from ocean waves become a reality.

NEXTRACKER FULLY COMPATIBILE WITH TRINA SOLAR'S VERTEX MODULES

The US tracker maker Nextracker has announced the full compatibility of its products with the entire portfolio of Vertex ultra-high power modules from Chinese photovoltaics company Trina Solar.

Vertex compatibility with the tracker portfolios of Nextracker, Arctech Solar, TrinaTracker, ARRAY and ten other leading global tracker brands featured in the White Paper on Tracker Compatibility for Trina Solar 210 Vertex Modules.

"Module sizes have been undergoing rapid changes, with 210mm-size modules becoming the mainstream," said Eric Kuo, director of technical product management at Nextracker. Power station developers attach great importance to having uniform mounting hole positions and sizes, and Trina Solar's 210mm Vertex modules are a pioneer in module standardisation, he added.

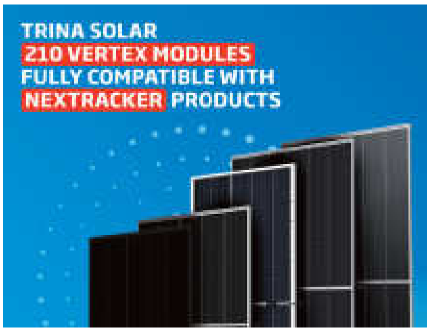


Image Credit: Trina Solar

Nextracker has announced full compatibility with the entire portfolio of Vertex ultra-high power modules.

To ensure full compatibility with high-power modules, tracker makers such as Nextracker and TrinaTracker have completed a series of functional tests that ensure compatibility and reliability even in severe weather such as hurricanes, hailstorms and floods.

In particular, Nextracker has upgraded its trackers to meet the new requirements of frame size, weight and mounting hole positions. With higher driving torque and stronger purlins, the trackers offer higher static and dynamic load, stronger structural support and ultimately perfect compatibility.

TrinaTracker has launched two series of tracker products, namely Vanguard and Agile, which are fully compatible with the complete Vertex module portfolio. "The energy gain from using trackers is key to improving system efficiency, reducing solar power costs and achieving the dual-carbon targets," said Duan Shunwei, general manager of TrinaTracker.

Atos and Siemens to aid Morocco in the smart management of its power grid

Atos, Siemens and Morocco's National Office of Electricity and Drinking Water (Office National de l'Électricité et de l'Eau potable – ONEE) have announced their collaboration on a large project for the smart management of the local power grid.

Atos and Siemens are working on deploying a smart energy metering platform that will allow ONEE to efficiently process the data collected by more than 100,000 smart meters that will be installed across the country, thus optimising energy consumption and management of the national grid while meeting Morocco's growing energy needs.

ONEE, which has been supporting Morocco's energy transition since 2012, needed a scalable grid operating system as the deployment of smart meters is changing the operational and business models of public utilities.

The project is part of the country's Energy Efficiency programme and encompasses the implementation of Siemens' EnergyIP meter data management platform, which enables the automated use of the collected data, raises awareness about energy consumption among end-users and generates a more secure revenue stream. Atos experts will be responsible for IT infrastructure and security tasks and will ensure the consistency of all technical solutions. They will also oversee the contract management and local services and will support the change management process.

According to Atos, this sophisticated new energy management system has the necessary functionality to meet the needs of an ever-changing grid and supports the national digital transformation agenda.

Image Credit: Adobe Stock

For Atos and Siemens, this is the biggest joint smart grid project in Africa.

BOROUGE PARTNERS WITH EGYPT GAS TO DELIVER ENERGY NEEDS TO THOUSANDS

Borouge, one of the leading petrochemical companies that provide innovative, value-creating polyolefin solutions, has collaborated with the gas distribution company, Egypt Gas, to provide energy and infrastructure solutions to power thousands of households as part of the 'Hayah Karima' initiative (meaning Decent Life).

The US$38.2bn project aims to improve the quality of life and standard of living of over half of Egypt's population.

The Egyptian Ministry of petroleum is planning to provide natural gas to nearly 1,332 villages under Hayah Karima. Borouge said it is working closely with Egypt Gas to accelerate the expansion of the local natural gas network.

According to Borouge, the company's distribution pipes made from BorSafe ME3441, a medium-density polyethylene (MDPE) material, have been delivering energy to Egypt for over two decades. BorSafe ME3441 MDPE is currently being used in the Hayah Karima project and enables the manufacturing of highly flexible pipes which are essential in piping systems found in sub-mains and housing connections.

Egypt Gas will also be using Borouge's BorSafe HE3492-LS-H application, known for its superior properties which allow it to be extruded with significantly less plate-out, and with good low sag performance. BorSafe HE3492-LS-H PE100RC orange pipe resins are also capable of withstanding higher pressures, high-stress situations and higher UV incidence allowing them to be stored outdoors for extended periods.

DP World marks start of construction at Port of Ndayane


Image Credit: DP World

Phase 1 of the port's development will include a container terminal with 840 m of quay and a new 5 km marine channel designed to handle two 336 m vessels simultaneously.

DP World, one of the world's leading providers of smart logistics, and the Government of Senegal have laid the first stone to mark the start of the construction of the new Port of Ndayane.

The stone laying ceremony follows the concession agreement signed in December 2020 between DP World and the Government of Senegal to build and operate a new port at Ndayane, about 50 km from the existing Port of Dakar.

The ceremony was attended by HE Macky Sall, President of the Republic of Senegal, and Sultan Ahmed bin Sulayem, group chairman and CEO of DP World, as well as a number of presidents of institutions, members of the Government of Senegal, and local communities.

The investment of more than US$1bn in two phases to develop Port Ndayane, is DP World's largest port investment in Africa to date, and the largest single private investment in the history of Senegal.

HE Macky Sall, President of the Republic of Senegal, said, "The development of modern, quality port infrastructure is vital for economic development. With the Port of Ndayane, Senegal will have state-of-the-art port infrastructure that will reinforce our country's position as a major trade hub and gateway in West Africa.

"It will unlock significant economic opportunities for local businesses, create jobs, and increase Senegal's attractiveness to foreign investors. We are pleased to extend our collaboration with DP World to this project, which has already delivered great results with the operation of the container terminal at the Port of Dakar."

Sultan Ahmed bin Sulayem, group chairman and CEO of DP World, said, "Today's laying of the first stone not only marks the start of construction, but also turning the vision of President Sall, into reality. As the leading enabler of global trade, we will bring all our expertise, technology and capability to this port project, the completion of which will support Senegal's development over the next century. We thank President Sall, his government, and the Port Authority for the trust and confidence placed in us."

MONTENAPOLEONE PROJECT CONSTRUCTION TO BEGIN BY APRIL

Reportage Properties, a UAE-headquartered real estate developer will start construction of its Montenapoleone project, located in Mostakbal City, East Cairo, by April 2022, the company's marketing manager told Zawya Projects.

Ahmed Nasser reported that they are targeting US$191mn in sales revenues in 2022 with the Montenapoleone project worth an approximate US$700mn.

The project will be the company's first residential project outside of the UAE and is being delivered in partnership with Al Ahly Sabbour.

It will span an area of approximately 465,000 sq. m and will incorporate a wide range of high-end residential and commercial areas, within 62% open spaces.

Nasser also noted that the four-phase project would be completed in the fourth quarter of 2025 before adding that the company is negotiating to buy a plot in the North Coast for their next project.

AFRICA'S CONSTRUCTION INDUSTRY SEES ROBUST GROWTH

The African construction market was valued at around US$5.4bn in 2020 and is expected to register a CAGR of 7.4% during the forecast period (2021 – 2026), according to Mordor Intelligence.

The market was negatively impacted by Covid-19 in 2020. Over the next two years, growth is expected to remain impacted due to the economic downturn caused by the Covid-19 pandemic, across the residential, commercial, industrial, and institutional sectors in Africa. Despite near term challenges, the medium to long term outlook remains positive. Over the short term, investment in the construction industry will be driven by government spending in the infrastructure sector.

The African construction industry is the target destination for most large economies. This is because of accruing benefits and/or advantages such as availability of huge natural resources, huge investment opportunities in energy and infrastructure, cheap labor, and a fast-growing consumer market. Also, there is a beneficial business environment that includes favorable economic development policies and rising commodity prices in addition to continued progress in the fight against corruption and the adoption of democratic governments.

As a region, East Africa has the largest number of recorded projects with 139 projects. North Africa accounts for the largest share of projects in terms of value at 31.5% (or US$148.3bn). The projects included are spread over 43 of Africa's 54 countries. Egypt is the single country having the most projects with 46 projects (9.5% of projects on the continent) as well as the most projects by value at US$79.2bn (17% of the continent's value), edging out South Africa and Nigeria respectively.

BRIEFS

SKA Construction win more than two dozen contracts


Image Credit: SKA Observatory Council

The contracts are worth approximately US$102mn in total.

SKA Observatory Council has won two more contracts, bringing the total number of contracts signed so far to 27.

Worth approximately US$102mn in total, the contracts have been awarded to all seven current SKAO members, namely Australia, China, Italy, the Netherlands, Portugal, South Africa and the UK.

The majority of awards have been for software development with additional early contract awards for professional services contracts.

AVI Cranes adds Haulotte lifting equipment


Image Credit: Haulotte

The Haulotte Africa subsidiary provided a customised training to AVI Cranes technicians.

In mid-December, Haulotte Africa's service team visited AVI Cranes to provide in-depth training to the technical teams.

The Haulotte Africa subsidiary provided a customised training to AVI Cranes technicians to reinforce their knowledge on vertical masts and scissor lifts. During the three-day training, the participants familiarised themselves with the group's models by alternating theoretical and practical sequences.

Topcon improves efficiency by 25% at Cotonou Cadjehoun Airport in Benin

Topcon technology is helping Benin's Cotonou Cadjehoun Airport, located in the neighbourhood of Cotonou, Benin, to improve efficiency by 25%.

The project has seen almost a decade of continuing improvements, with the objective of increasing its annual capacity from 500,000 to 1.5 million passengers.

The airport is the country's largest and serves as the primary entry point into Benin by air, with flights operating between Africa and Europe.

Recognising the magnitude of the works, in 2020, the government of Benin invested in a scheme that aimed to bring the airport up to standard, improve its safety and rehabilitate the runway – a challenge perfectly suited to Topcon Positioning's scanning and milling technology.

Launched by Joseph Ahissou, chief of staff to the minister of infrastructure and transport, the project for the Benin Airports Company (SAB) – in partnership with Anac and Asecna – started in March 2020. Led by contractor Colas Afrique, the entire resurfacing and partial structural recovery of the runway covered more than 2,500 m. With a job like this, efficiency was key and Colas appointed Topcon to support through the provision of its cutting-edge surveying and 3D guidance system.

Before the work on the existing runway could begin, Topcon's RD-M1 road scanner was used to conduct an initial scan.

Speaking of the complexity of the undertaking, Gilles Richard, director of operations at Colas Afrique, explained, "We needed an efficient solution at the milling stage that could be applied accurately and efficiently, from a provider with a strong track record of delivering smooth, safe runways for some of the world's busiest airports. Topcon has a global reputation in this field and we trusted the technology to help us to meet our goals."

Before the work on the existing runway could begin, Topcon's RD-M1 road scanner was used to conduct an initial scan. With the ability to scan a vast distance in a short time, collecting detailed surface data without the need for prolonged runway closures, this tool played a vital role in ensuring the project got off to a smooth start.

Gael Basseville, director of business development at Topcon Positioning, commented, "When working on airport runways, safety is the ultimate priority. Precise planning is vital to achieving compliance and our RD-M1 is the ideal tool to deliver a highly scrutinised design from the offset.

"Together with our reliable partner Smartfleet, we worked closely with Colas at this stage, offering full technical support and guidance to ensure a high-quality end result. The project teams knew they were entering the scheme with complete confidence that the SmoothRide system had the capability to enable a successful delivery."

Basseville continued, "Equipped with our 3D guidance system, milling machines can calculate their exact position on the road at all times, creating the smoothest surface possible for a paver to follow."

Use of both RD-M1 and RD-MC technologies was instrumental in facilitating efficient work at Cotonou Cadjehoun Airport and the easy-to-use nature of the technologies meant that local teams were able to carry out the work.

KENYA TO START CONSTRUCTION OF MWACHE DAM PROJECT

The project will have a direct economic impact on the target population as well as the wider population of the coastal region.

The construction of US$176mn Mwache dam project in Kenya is expected to start in February 2022.

According to Kenyan Ministry of Water, Sanitation and Irrigation, the project is in line with the government's Vision 2030 plan.

The project is being co-funded by the World Bank and the Government of Kenya. The dam, once constructed, aims to provide a viable and long-term option for water supply to Mombasa and Kwale counties.

The project will have a direct economic impact on the target population as well as the wider population of the coastal region. The dam will help to catalyse economic activities in the region. Construction of the 84 m high dam and its related facilities will enhance water supply in the entire coastal region by allowing the reallocation of existing water supplies and the creation of additional water supplies.

Nigerian equipment dealers ready for recovery

The Nigerian construction market continues to recover as the impact of the pandemic recedes, offering a promising opportunity for the equipment dealers operating across the country.

Nigeria, like most countries across the globe, was hit hard by the pandemic with GDP contracting by an estimated 1.7% in 2020. However, the rebound was swift and the country consistently sustained positive growth across 2021 with the latest figures released by the Nigerian National Bureau of Statistics indicating that GDP grew by 4.03% year-on-year in Q3 2021.

Mirroring this rebound, the Nigerian construction market is expected to grow by 3.2% annually between 2021 and 2025 – a strong rebound from the 7.7% decline it experienced in 2020.

There are indications that this growth will be spurred on even further by efforts to tackle some issues in the country which are bubbling to the surface. For instance, as indicated by the International Trade Administration, Nigeria has a huge infrastructural deficit which is likely to be overwhelmed in the near future due to the increasing population.

The World Bank has estimated that Nigeria would need to invest US$3 trillion in infrastructure in order to reduce this deficit and the Nigerian government has begun to take steps in this direction with increased spending as part of a 30-year infrastructure plan.

Private investors are also becoming more active in the construction sector, notably through the developments of projects aimed at corporate establishments and meeting the 17 million-strong housing deficit (which the government is looking to address). In addition, large projects such as the Lekki Deep Sea Port will aim to encourage the market further.

These prospects are music to the ears of equipment dealers operating within Nigeria and *African Review* spoke to Mohamed Ibrahim, general manager, Machines at Mantrac Nigeria, to hear about his company's views on the market:

The Nigerian construction market is expected to grow by 3.2% annually between 2021 and 2025.

Image Credit: Mantrac Nigeria

> "We took some strategic innovative steps coupled with the highest level of continuous communication with all our business stakeholders that helped in ensuring continued supply of our product and services."
>
> **MOHAMED IBRAHIM, GENERAL MANAGER, MACHINES AT MANTRAC NIGERIA**

AR: How has your business been faring in Nigeria since the outbreak of Covid-19?

MI: Since the pandemic, the construction industry output has declined due to fund paucity, and delay in execution of some key projects. However, business is now in the early stage of recovery as we begin to see improvement in the importation of machineries in the country resulting from various global Covid-19 control measure in the logistics sector.

We also took some strategic innovative steps coupled with the highest level of continuous communication with all our business stakeholders that helped in ensuring continued supply of our product and services.

AR: What have been the top sellers in the Nigerian market?

MI: A large number of the machines sold went into general construction and infrastructural building projects. We also had a significant number of machines imported majorly from China for executing projects handled by state-owned enterprises in Nigeria. There were more machines sold from mid-tier product ranges compared to premium products.

SEM, a brand of caterpillar which our dealership is selling and supporting retained its leadership in the Nigeria market having succeeded in securing some major deals and supplies in 2021. The CAT brand as well had a record sale year.

Other competitors like SANY, XCMG, Volvo and Doosan all had a good number of machines imported into the country as we saw the industry recover from Covid-19's negative impact which got the industry down in 2019.

AR: What does the future hold for your company?

MI: There will be growth in the industry so as to meet part of the government strategic development plan.

A mega project 32 km (estimated contract value of US$2.2bn) in Lagos State will be taking off. In addition, we have federal government priority projects in transport (railways and roads) connecting the geopolitical zones together. Diverse funding arrangements are in place to finance these projects.

We have strong commitment by various stake holders in delivering on the projects thereby leading to opportunities creation for our company to engage with the handlers of the projects.

As a company we shall continue to drive out strategic objectives that will impact in achieving our growth target as planned. ■

Image Credit: Mantrac Nigeria

A large number of the machines sold by Mantrac Nigeria went into general construction and infrastructural building projects.

> "There were more machines sold from mid-tier product ranges compared to premium products."
>
> **MOHAMED IBRAHIM, GENERAL MANAGER, MACHINES AT MANTRAC NIGERIA**

Image Credit: Liebherr

The L 580 is the largest model in Liebherr's wheel loader series for markets outside of Europe and North America.

Rising to meet the challenge

Liebherr has launched three new wheel loaders tailored to markets outside of Europe and North America.

With the new L 550, L 566 and L 580 models, Liebherr is modernising the three largest vehicles in their series of wheel loaders which are tailored to markets outside of Europe and North America.

Increasing the tip load, bucket sizes and engine power are some of the most important innovations. The wheel loaders also feature a new electrohydraulic pilot control. This technology forms the basis for various intelligent features which increase safety and productivity during daily use.

Enhanced performance

The new wheel loaders feature the proven hydrostatic Liebherr travel drive, which is renowned for its great efficiency. Thanks to increases in engine power – approximately 17% for the L 550 – the travel drive is even more powerful while maintaining the same low fuel consumption. This is advantageous when accelerating or penetrating material and lowers fleet fuel costs. Liebherr has installed the diesel engine in the rear, where it also acts as a counterweight thereby increasing the tip load.

The company has three lift arm versions on offer for the new models. Firstly, the z-bar kinematics, which come to the fore particularly in the lower lifting range and for the break-out force. Secondly, the industrial kinematics, which have been designed for working with heavy working tools such as high dump buckets and log grapplers. Finally there are the High Lift lift arms – an extended version of the z-bar kinematics with the longest lift arms in this wheel loader segment.

The working hydraulics of the wheel loaders will also impress customers with their larger components and new electrohydraulic pilot control. This technology also ensures responsive movements of the lift arms, independent of the size or weight of the working tool. Liebherr also offers a new, optional weighing device on the bases of the electrohydraulic pilot control.

The assistance system works automatically as a check scale and provides real time information about the loading procedure.

Increased safety

The electrohydraulic pilot control enables operators to perform individual adjustments on the new wheel loaders. For example, they can set lift limitations and maximum tilt-out heights to reduce the risk of accidents in areas where space is restricted. The tilt-out speed can also be programmed to protect lift arm components and the installed equipment.

In addition to these optimisations for operating safety, Liebherr has also invested in the operational reliability of the new wheel loaders. Because they are faced with an abundance of challenges, larger axles have been included.

Liebherr has drawn on proven components from its other wheel loaders for the core components and steel construction. When maintenance and servicing are required, Liebherr supports its customers with a global sales and service network.

Comfort and functionality ensured

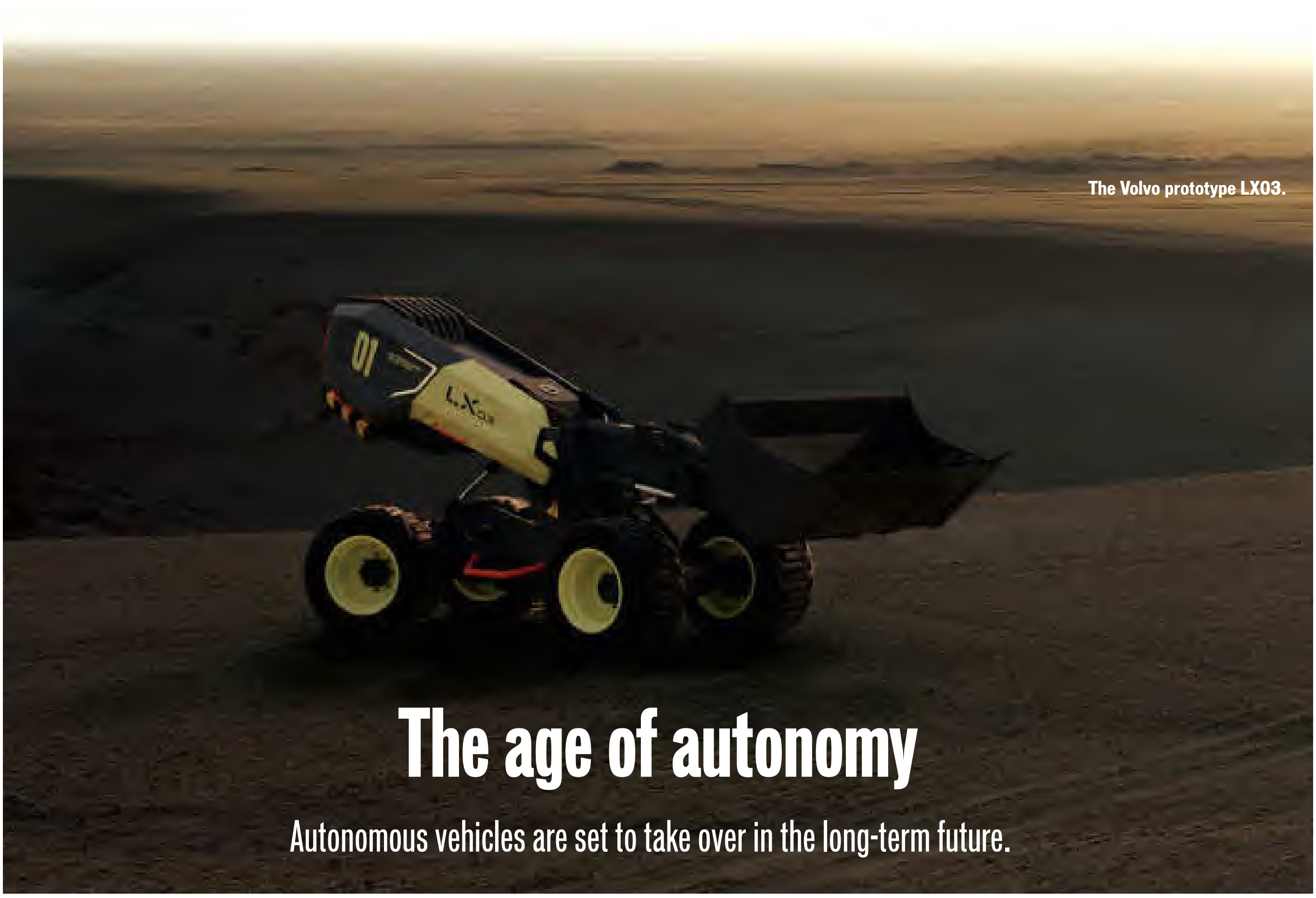
The clean lines on the rear as well as the large glass surfaces in the cab facilitate good all-round visibility. Furthermore, the new reversing camera, which is installed in a protected position in the engine bonnet, assists the machine operator to keep an eye on the area to the rear.

Numerous details that have been seamlessly integrated in the wheel loaders' exterior design make service work easier. For example, on the L 566 and L 580, the engine bonnet opens to the rear, making the diesel engine freely and safely accessible.

A sturdy cab access leads to the redesigned and spacious operator's cab. One of the special features of the cab is the height-adjustable 9-inch touch display with intuitive menu navigation.

The high-resolution display provides a clear overview of all the wheel loader's operating information.

The Liebherr control lever enables the highly-sensitive control of work movements as part of the modern operating concept and hydraulic working tools, such as the log grappler, can also be precisely controlled with the optional mini joystick on the control lever. ■



The Volvo prototype LX03.

Image Credit: Volvo Construction Equipment

The age of autonomy

Autonomous vehicles are set to take over in the long-term future.

It is the beginning of the end for manually operated vehicles... even if this end is still a long way off. Although a relatively new development, pioneering companies such as Tesla and AutoX are beginning to carve out increasingly larger portions of the automotive market for vehicles that utilise cutting-edge sensory and AI technology designed to reduce the amount of human intervention required to operate.

According to a report by Lux Research, as of 2020 autonomous vehicles' (AVs) share of the global vehicle market stood at just 3% but by 2040 every single vehicle sold will include a Level 2 autonomous driving system (the advanced driver assistance system can oversee steering, accelerating and braking in some conditions although a human driver is required to regain control when requested) at least, and there will be a substantial growth in Level 3 (the driving system can perform all parts of driving in some conditions but the driver will need to execute necessary tasks in the remaining conditions) as well.

Autonomous construction vehicles

It is full steam ahead for AVs in everyday transportation however, it is a much more complicated world in construction. Generally, for passenger vehicles the machine is a single unit on a road however construction vehicles often operate off-road and come with a multitude of different attachments. To be autonomous the vehicles must be able to tell exactly where they are and where their attachments are located.

Yet the benefits of construction AVs means that it is worth taking on this challenge. AVs would help ease operator shortages (a potent issue in the current pandemic); could reduce operator costs by achieving longer production hours (as well as improving production efficiency); reduce load and unit costs; smooth vehicle performance to improve equipment life (such as tires); and improve safety on site (significant given the construction industry is consistently ranked as one of the most dangerous sectors).

Due to these tantalising advantages, the autonomous construction market appears to have a strong future ahead. Although AVs are accepted as holding a market share of less than 1% in construction equipment sales worldwide, some estimates suggest that it is a market on the rise, with a projected CAGR of 14.9% so that, by 2030, it could hit around US$26bn.

It also appears that companies associated with the construction industry are not ignorant to this trend. Last year Caterpillar announced that it had surpassed the three billion tonne milestone for material hauled by autonomous trucks using the Cat MineStar Command. Although these were predominantly deployed in mining applications, it is an indication that AVs are already being heavily implemented on industrial sites at a global scale.

Volvo Construction Equipment (Volvo CE) has also provided a flash into the future by showcasing the Volvo LX03 protype (not yet commercially available). The 5-ton wheel loader is fully autonomous and is designed with the brains to make decisions, perform tasks and interact with humans. It can be programmed to complete heavy, repetitive or dangerous tasks, reducing the need for a human on site. While it may be some time before such vehicles are deployed in bulk globally, the prototype will help engineers gain valuable information from the machine which will be implemented in its successors and it provides a unique insight into what a future construction site could look like.

While the AV wave will likely strike more developed continents first (owing largely to associated initial costs) it has already crashed upon African shores. South Africa, for example, has emerged as an early pioneer after the Department of Transport unveiled its plans to introduce new regulations around self-driving vehicles after indicating a belief that they become a reality around the country in the not-too-distant future.

No doubt it will be a long time before autonomous construction vehicles are considered the norm in Africa due to challenges such as finance and quality of infrastructure but all signs so far indicate that this will become a reality in which the global construction market must prepare for and one which will, eventually, permeate the continent as well. ■

Excavators on the continent

The excavators reliably supporting Africa's construction market.

CASE CONSTRUCTION EQUIPMENT LAUNCHES CX 220C LC IN SOUTH AFRICA.

CASE Construction Equipment has launched the CX 220C LC Heavy Duty excavator in South Africa. This 22-ton excavator is powered by a fuel efficient FPT engine, designed to boost machine performance and optimise fuel economy by up to 10%.

The 6-cylinder FPT engine delivers enhanced power and torque, which reduces the transient time and the operator can monitor the machine's fuel consumption with the new ECO gauge function. In addition, CASE advanced energy management consists of five energy saving controls to optimise fuel efficiency and productivity.

The excavator has a higher breakout force due to a 1.9 dipper arm which enables continuous operations and an up to 10% higher digging capability. Three work modes and auto power boost ensure faster work cycles and more efficiency on site and comfort is ensured by the newly designed spacious cabin featuring an adjustable ergonomic seat.

The CX 220C LC excavator.

The excavator offers a robust design with increased plate thickness on HD structures which improves durability and the long undercarriage offers increased stability on the toughest terrain.

LIEBHERR'S R 960 SME EXCAVATOR ARRIVES ON WORLD MARKET

The R 960 SME crawler excavator has proven itself around the world.

The R 960 SME 60-tonne crawler excavator, with its 70 tonne excavator undercarriage was recently launched in Africa, Asia and South America.

With its stability and high breakout forces, the R 960 SME excels with particularly high productivity compared to its predecessor version. With its large bucket volume of 3.7 cu. m, it is easily suitable for loading dumper trucks in the 30 to 45 tonne weight range.

Thanks to its special kinematics of the working equipment and specifics cylinders, the machine offers exceptional digging and breakout forces. As with all Liebherr crawler excavators from 14 to 100 tonnes operating weight, machine operators can choose between four different working modest to achieve maximum performance and productivity.

The R 960 SME boasts a spacious driver's cab equipped with a host of features to guarantee operator comfort and safety. These include continuous automatic air conditioning and heating, a large 9" display as standard, and bullet-proof windscreens are available.

CAT EXCAVATORS DELIVER LOW MAINTENANCE COSTS AND RELIABLE PERFORMANCE

Reliable performance at a lower cost are the hallmarks of the new Cat 320 GX and 323 GX Hydraulic Excavators.

Designed to meet a range of customer needs from maximum productivity to low cost-per-ton operation, the new GX models offer lower fuel consumption, reduced maintenance costs, and a low initial purchase price compared to Cat GC models for a fast payback. The 320 GX and 323 GX are up to 15% more fuel efficient than the 320D2 GC and 320D2 L in similar applications. An electronically controlled valve precisely directs hydraulic power where and when it is needed, boosting productivity.

The choice of Power and Smart modes allows operators to manage fuel consumption. Power mode provides full-time maximum output and productivity, while Smart mode automatically matches engine and hydraulic power to digging conditions to conserve fuel without impacting production. Automatic Engine Control (AEC) reduces engine speed when the machine is stationary to minimise fuel consumption.


Image Credit: Caterpillar

The Cat 323 GX Hydraulic Excavator.

The new excavator models benefit from the latest technical enhancements to reduce maintenance costs by up to 20% compared to the 320D2 GC and 320D2 L. Design improvements significantly extend maintenance intervals and provide easy access to consolidated filters.

The new 320 GX and 323 GX excavators feature grease sealed between track pins and bushings to deliver reliable undercarriage operation. Multiple bucket designs and capacities are available to meet contractors' specific application need.

The new high-resolution, 203 mm touchscreen monitor allows operators to quickly navigate most machine settings, including joystick pattern and response. Operator ID allows operators to select power mode, joystick pattern and joystick response and restores them at login for a quick return to work.

The GX cab design reduces operator effort with a seat that adjusts to accommodate operators of all sizes. Standard automatic climate control improves operator comfort, while cab sealing, pressurisation, and a fresh air filter work to reduce noise and improve overall air quality. Large glass and narrow cab pillars enhance visibility into the trench, and an optional rearview camera further improves visibility.

Standard Product Link telematics improves overall excavator efficiency by automatically and accurately collecting machine information.

BKT TIRES DESIGNED FOR MOBILE CRANES

Mobile crane tires must be suitable for applications on both roads and highways and on uneven terrain of worksites and resistance and durability is also essential. A mobile crane tire must ensure excellent performance in terms of speed and comfort on the road. They must have perfect traction and maneuverability, even in the most extreme conditions.

BKT tires for mobile cranes are designed and built specifically to face the challenges of the most demanding jobs, when heavy loads are being transported on a range of surfaces.

All the tires in the specific BKT ranges for mobile cranes are equipped with a robust structure in steel and particularly cut-resistant compounds to guarantee long duration. The structure is, of course, suitable for high speed during movements on roads and motorways.

Image Credit: BKT

BKT tires for mobile cranes are designed specifically to face the challenges of the most demanding jobs.

Currently BKT offers two different product lines dedicated to mobile cranes, even if the portfolio is particularly wide and aimed also at other types of cranes and industrial or construction machinery.

AIROMAX AM 27 is particularly suitable for movements on roads and highways which require high resistance to wear and tear, although maintaining excellent traction and resistance on the more aggressive and uneven terrain of worksites. It has been made with a casing and belts in steel layers to guarantee robustness and resistance. The side and tread compounds are highly resistant to cuts and tears and it can also resist very high temperatures.

AIROMAX AM 543 is particularly suitable for cranes used in the construction sector, thanks to its excellent traction and great stability. The deep and knobby tread guarantees excellent performance on rough terrain, ensuring excellent protection to the tire structure. This tire has been designed to resist severe stress.

YANMAR UNVEILS VIO17 MINI-EXCAVATOR

Yanmar Compact Equipment EMEA has launched the latest edition of its ViO17 zero tail swing mini-excavator.

Powered by a Stage V-compliant 3-cylinder direct injection engine from Yanmar's TNV series, the ViO17 delivers power and control. Designed for grading, landscaping or urban renewals, the ViO17 now comes with the option of a long digging arm to improve working range. To further increase flexibility, operators can also specify an additional 83 kg counterweight which, coupled with the excavator's compact variable undercarriage (955 mm-1,280 mm) achieves class-leading stability - even when faced with the toughest terrains.

Achieving a digging force of 9.6/16.1 kN (short arm/bucket), traction force of 16.9kN (first speed) and two travel speeds (2.1 or 4.3 km/h), the ViO17 sets the standards in compact performance. Thanks to a three-pump ViPPS hydraulic system, the ViO17 delivers a maximum hydraulic flow of 48.4 l/min and 210 bars pressure. In addition, both the third and fourth hydraulic lines are equipped with proportional controls and can be enhanced with potentiometers

With an ergonomic layout, the cab is perfectly arranged to maximise productivity. The easy-access ROPS, TOPS and FOPS-certified canopy features a fully-adjustable suspension seat and 360° worksite visibility.

The ViO17 is available with a wide range of optional extras and factory-fitted attachments - from mechanical and hydraulic quick couplers, to digging buckets, ditch cleaning buckets, rippers and breakers.

Bobcat T7X releases world's first all-electric compact track loader

Doosan Bobcat has unveiled its new, all-electric Bobcat T7X compact track loader at CES 2022, the first machine of its kind to be fully electric, offering the full benefits of eliminating hydraulic systems, components, emissions and vibrations – all while providing a cleaner, quieter machine.

The Bobcat T7X was honoured with two 2022 CES Innovation Awards in the categories of Vehicle Intelligence & Transportation and Smart Cities.

In the T7X, the traditional hydraulic work group has been completely replaced with an electrical drive system consisting of electric cylinders and electric drive motors, which means virtually no fluids. The new, all-electric Bobcat T7X uses just under one litre of eco-friendly coolant compared to around 216 litres of fluid in its diesel/hydraulic equivalent model.

The T7X operates with zero emissions and reduced noise and vibration generated by the machine. It works quietly and efficiently in noise sensitive areas and indoors, which significantly lowers sound levels and improves the working environment.

At the heart of the T7X is a powerful 62 kW lithium-ion battery from technology partner, Green Machine Equipment, Inc. While applications vary, each charge can support common daily work operations and the use of intelligent work modes for up to four hours of continuous operation time and a full day of operation during intermittent use. The intelligence of the power management system is programmed to sense when loads are increasing, automatically backing off power when not needed to preserve the total energy use and extend the machine's runtime.

The all-electric Bobcat T7X compact track loader is the first machine of its kind to fully eliminate all hydraulics and components.

Image Credit: Doosan Bobcat

KLEEMANN RELEASES MOBILE SCREEN FOR COARSE ELEMENTS

The MOBISCREEN MSS 802(i) EVO has been released by Kleemann to meet changing challenges in different application areas. It is a new generation of screening plants and successor of the MS 15 Z. The new plant boasts technological highlights in the process sequence, an ergonomic design, optimised operation and a user-friendly maintenance concept.

With its proportionally controlled running gear, the plant can be quickly relocated either by a low-loader to the job site or within the building site. Apart from other improvements of the new MSS 802(i) EVO, folding of the side discharge conveyors without the need for disassembly reduces set-up times. Increased application variability is provided by a hopper rear wall that can be folded to three heights, which permits feeding of crushing plants with a lower discharge height. The large offer of screen surfaces and simple adjustment of the screen parameters, which make rapid adaptation of the MSS 802(i) EVO to a very wide range of feed materials possible, reduce set-up times and thus personnel requirements and costs.

Image Credit: Kleemann

MSS 802(i) EVO has a feed capacity of up to 500 t/h in natural stone and recycling.

The plant can also achieve simple and fast conversion from 3- to 2-way grit and can therefore be used to produce and discharge two or three final grain sizes. An optimised material flow is a central aspect of all screening plants. With its new mobile screen for coarse elements, Kleemann demonstrates what screening plants of the latest generation can achieve. This includes a wide crusher discharge conveyor on which, like all of the other conveyors, the speed can be steplessly adjusted, as well as a large material transfer system to the screen deck for optimum utilisation of the screening surfaces.

High discharge heights and thus higher stockpiles, thanks to the optionally available extended crusher discharge conveyor and telescopic side discharge conveyors, guarantee ideal processes on the building site.

UKI BRINGS COMPANIES DIRECT TO THE DOORSTEPS OF SPARE PARTS FACTORIES

United Kingdom Industries Ltd (UKI), a UK based company, with vast experience in supply of quality and trusted spare parts for earthmoving, construction and mining equipment, and gensets has been successfully bringing large fleet owners direct to factories and manufacturers of spare parts for Caterpillar, Komatsu, Hitachi, John Deere, Volvo, Scania, MAN, Mercedes, Terex and Cummins.

Their direct interaction and cordial relations have been benefitting mines and fleet owners to purchase their requirement of spare parts straight from these factories thereby eliminating the dealers and spare parts suppliers.

This enables owners to purchase spares at factory prices and save huge amount on their operation and maintenance cost. The quality of parts is same as original as most of the factories are the same supplying to these big brands or are equally certified to be quality suppliers.

UKI ensures that the owner's demands are met with MOQ requirement of these factories and UKI help negotiate very attractive prices for the owners through their expertise in spare parts industry.

UKI works on a simple module where each owner covers them with a monthly retainership and gives then a small percentage on the purchase price. The buyers still save considerably.

The company's current contracts with large equipment owners in SE Asia coal and mineral field have saved them millions of dollars through such purchase. UKI works in confidence with equipment owners and through their expertise segregate demand with variety of qualified factories. For example, the different categories of parts ranging from engine, transmission, final drive, brakes, differential, undercarriage, ground engaging tools to accessories and sub-assemblies etc., are identified and purchased from respective manufacturers. All parts cover manufacturer's warranty.

The supply is direct by the factory to the end user, invoicing is direct by the factory to the owner and payment is directly made by the owner to the factory. UKI does assist in negotiation and logistics.

With UKI's successful module working handsomely to the large benefit of SE Asian miners and owners now it is time for African equipment owners to take advantage of this arrangement by saving huge amount in purchase of quality and approved spare parts.

UKI supplies certified reliable parts and the manufacturer's names are for reference purpose only. UKI is not an authorised dealer of these makes and only helps buyers to purchase directly from factories producing parts for these makes.

For more information, write to info@unitedkingdomindustry.com or sales@uk-parts.com.

UKI helps negotiate attractive prices for owners through their expertise in the spare parts industry.

Image Credit: UKI

The way forward

IVECO launched the T-Way and S-Way trucks in the Middle East and Africa market. The new range provides increased productivity, safety and comfort.

IVECO now offers a complete, renewed line-up with the new T-WAY off-road and S-WAY long-haul trucks.

The launch event for the new IVECO WAY range held at the Dubai Autodrome included a product presentation and dedicated test drive on an on-road and off-road track.

African Review was present to gain deeper insights from the IVECO team, on the additional features and innovations of the vehicles.

AR: IVECO has a long track record in the Middle East and Africa region. What has been the brand's response to the evolving needs of the region?

IVECO team: IVECO has always been synonymous with reliability as well as quality and we enjoy the trust of several customers in the region.

Our top markets here include the UAE, Saudi Arabia and Egypt. We have a strong network of 11 dealers and 40 authorised service locations in the Middle East and continue to work towards sustained growth and improved service standards.

The full range of IVECO trucks is available in the region, covering a wide range of industries.

AR: How has IVECO used connectivity and digitalisation in the new range to provide a better driving experience? How has it addressed the aspect of sustainability?

IVECO team: The new trucks developed through continous product innovations and research are highly focused on connectivity and regulations relating to emissions.

Both IVECO T-WAY and S-WAY are designed with advanced solutions for efficiency and productivity, to meet the complete set of market demands. IVECO T-WAY is equipped with new telematics features and digital services.

IVECO S-WAY further increases its fuel efficiency, which was already among the best, with a new engine line-up in alignment with Euro III/V emission standards.

Further, all elements of the new design work together to achieve a superior aerodynamic performance and deliver fuel savings up to 4% in long haulage. Features that contribute to the IVECO S-WAY's fuel economy include the new Ecoroll function which automatically disengages driveline in a smooth slope to exploit vehicle inertia, Ecoswitch which optimises engine power/torque output according to vehicle load and mission, and Tyre Pressure Monitoring system to keep under control the pressure of each tyre for increased safety and fuel efficiency.

> "Customers appreciate the improvements in performance and Total Cost of Ownership (TCO) that come with high reliability of the new truck range."

AR: What features in the new range add to the safety and comfort of the driver?

IVECO team: The new functionalities of the range have provided particular attention to productivity, safety and a completely renewed and redesigned cabin, to improve the on-board comfort and vehicle performance.

The additional features of the IVECO T-WAY are all designed to provide maximum protection to the driver. For instance, the new braking system features EBS (Electronic Braking System) as standard, full disc brakes available on PWD models, and new ADAS (Advanced Driving Assistance Systems) available across the range.

The new IVECO S-WAY similarly, provides a complete package of features with a focus on driver centricity.

Customers appreciate the improvements in performance and Total Cost of Ownership (TCO) that come with high reliability of the new truck range, providing the complete solutions they need. ■

Akobo Minerals acquires three drill rigs from Protek Norr AB

Akobo Minerals has acquired three drill rigs from Protek Norr AB, a tender which includes items such as three diamec 262 core drill rigs – two which are operational and one to be upgraded; three electrically powered hydraulic units; several spare rotation units; spare core winches; one pallet of spare parts, including hydraulic valve blocks, pipe clamps, hydraulic motors etc.

The drill rigs are of the same model that is already owned and operated by the Akobo Minerals drill crew, and has been so for the last 1.5 years with an outstanding performance.

Image Credit: Akobo Minerals

Three drill rigs are in operation already in Akobo; one is owned and operated by Akobo Minerals and two are sourced from and operated by Midroc.

The acquisition of the drill rigs will enable Akobo Minerals to continue its low cost operations, and also have the flexibility to expand the exploration programme at a much higher pace.

Three drill rigs are in operation already in Akobo; one is owned and operated by Akobo Minerals and two are sourced from and operated by Midroc. The drill rig owned and operated by Akobo Minerals has a much lower operating cost.

Cost efficient and fast core drilling is critical to success in mineral exploration and Akobo Minerals' ability to operate high production low cost drilling has been important in the success at Segele. This acquisition enhances the company's resilience in exploration drilling in addition to expanding overall capacity. It is anticipated that this development will be of considerable value in discovering the exciting potential of the licences at the Akobo Project.

The new drill rigs can also be used in underground mining operations, and have a capacity to drill down to 300 metres depth.

The company expects the drill rigs to be phased into our operations around the middle of 2022, alongside expansion of the company's competent drill crew.

MAGNIS SIGNS BINDING OFFTAKE AGREEMENT WITH TRAXYS

Magnis Energy Technologies Limited has signed a legally binding offtake agreement with Traxys Europe SA. The Offtake Agreement provides for the future delivery and sale of high-quality, high purity natural flake graphite from Magnis' wholly owned Nachu Graphite Project located in South-East Tanzania.

Traxys managing director, Kevin Smith, commented, "There is a huge demand from lithium-ion battery producers for all battery materials including graphite and being able to produce a battery grade anode product via mechanical processes only is a very unique feature of Nachu Graphite. We are excited to be partnering with Magnis on this important project."

Magnis chairman, Frank Poullas, said, "We are really excited to have signed the binding offtake with a group of the calibre of Traxys which is a supplier of materials to many industries including lithium-ion battery manufacturers. Today's announcement follows months of providing flake graphite samples from Nachu and is a major step in securing funding for Magnis' Nachu Graphite Project."

WEST AFRICAN ACHIEVES RECORD GOLD PRODUCTION

West African Resources (West African) have, in a production update, announced that the underground production from M1 South increased significantly, up 29% in the December 2021 quarter with 119kt mined at 9.5g/t for 36,256 ounces of gold.

Open-pit production decreased 15% with 979kt mined at 1.9g/t for 58,404 ounces of gold driven by slightly less ore mined during the quarter due to underground ore displacing open pit feed.

Gold production increased 7% in the December quarter with a record 87,320 ounces of gold produced from 796kt of ore milled at a head grade of 3.6 g/t and recovery of 95%, bringing full year gold production to a record 288,720 ounces.

Gold sold during the quarter was 86,520 ounces, bringing 2021 gold sales to a record of 295,220 ounces. Gold production and cost guidance for 2022, and updated resources and reserves for Sanbrado and Toega will be reported later in Q1 2022.

West African executive chairman and CEO, Richard Hyde, commented, "2021 was a record year of production for West African with 289,000oz produced exceeding the upper end guidance. The company also achieved record of gold sales of over 295,000oz for the year.

"To have exceeded 2021 production guidance in what was a very challenging year is a credit to our dedicated team of staff and contractors. I extend my thanks to team members that have spent extended periods away from their families either on site or in quarantine while working for our company during 2021."

"We look forward to releasing production and cost guidance for 2022, and updated resources and reserves for Sanbrado and Toega later in Q1 2022. Work on the Kiaka feasibility study is underway and is on track for completion by the end of Q2 2022."

BRIEFS

Mining commences at Morila super pit

Image Credit: Firefinch Limited

New Komatsu 785 haul truck being assembled onsite at Morila.

Firefinch Limited has announced that mining activities have commenced as scheduled at the Morila Super Pit.

Initial activities comprise pre-stripping of waste from the first stage of the Morila Super Pit, which will continue during Q1 2022. Ore mining is currently forecast to commence during Q2 2022, with the Morila Super Pit becoming a consistent source of ore in the second half of 2022.

Mine processing plant and equipment en route by sea

Image Credit: Walkabout Resources

Raw Water Pond located within the prepared processing plant area.

Walkabout Resources Ltd has advised that the first consignment of equipment for the Lindi Jumbo project has departed the Shanghai port, China and is en route to Dar es Salaam. Andrew Cunningham, Walkabout Resources' CEO, commented, "Lindi Jumbo continues to deliver milestones with its first consignment of plant and equipment en route by sea." Equipment received in Tanzania will be securely warehoused and transported to site as required during the construction schedule. A second shipment of approximately seven containers is expected to depart within days.

Mineral potential being missed

Gold from the Mwanza Precious Metals Refinery.

Image Credit: Mwanza Precious Metals Refinery Co. Ltd.

African countries need to invest fully in the value addition of their extractive industries to boost income from their minerals. Mwangi Mumero reports.

Investing in value addition and employing newer technologies in the mining industries will reduce the exports of raw mineral ores to richer industrialised nations for further processing.

Take Tanzania – the fourth largest gold producer in Africa – for example. The country's gold production currently stands at roughly 40 tonnes a year and, more generally, it earned around US$2.3bn in minerals exports in 2019, a significant increase over the 2018 level of US$1.6bn. Gold is Tanzania's biggest foreign exchange earner, overtaking tourism in 2020 and new, larger, deposits are still being discovered in the Geita region.

By 2020, two model gold smelters have been built to boost mineral processing and in June 2021 the Mwanza Precious Metals Refinery was inaugurated. The construction of a 24.5 km wall around the Mirerani tanzanite mine is expected to help curb smuggling – an activity that results in a sizeable amount of minerals lost each year. "Smuggling networks involve influential persons working with foreigners to sneak gold and other minerals through Kenya, Tanzania and India," observed Luckystar Miyandazi, a Tanzanian tax specialist and mining sector researcher.

Yet, despite these recent developments and the importance of minerals to the country, the area remains under-developed with little investments in value-addition infrastructure as well as other social-economic indicators.

In seeking out foreign investors in value added activities in the country, the Government of Tanzania notes that opportunities exist in smelting and processing of minerals. Imported machinery and supplies can be brought into the country duty free and the Government is also calling for investments in technology, machinery and services in mineral value addition.

The Mwanza Precious Metals Refinery in Tanzania was inaugurated on 13 June 2021.

Image Credit: Mwanza Precious Metals Refinery Co. Ltd.

Substantial mineral potential

Africa has about 42% of the world's gold reserves and 80-90% of chromium and platinum group metals. In 2019, minerals and fossil fuels accounted for more than a third of exports from at least 60% of African countries.

However, multinational firms mainly from Europe, North American and China still dominate the extraction and refining of most minerals in the continent – with minor roles given to local firms.

Two nations in Africa – Botswana and South Africa – have invested heavily in value addition in their extraction industries, establishing highly developed industries from natural resources rather than exporting the raw mineral ore. South African and Botswanan diamond polishing industries, for example, are well developed.

Experts suggest that African nations need to integrate into regional and global value chains and promote horizontal and vertical diversification anchored in value addition, innovative approaches and local content development.

In his book, Looting Africa, Tom Burgis, a former journalist, argues that African nations can also keep resources in the country and implement high tariffs to protect domestic industries – a move he notes African leaders are reluctant to implement.

According to Landry Signe, senior fellow – Global Economy and Development, Africa Growth Initiative, mining companies and African governments should also embrace Fourth Industrial (4IR) technologies. Artificial intelligence (AI), automation and big data can help mining firms boost productivity, reduce operating costs, improve working conditions and reduce the damage to the environment.

A recent report by the Japan International Cooperation Agency (JICA) indicates that while African countries receive taxes and royalties from foreign firms extracting their minerals, many lack the broad governance mechanisms to invest in value addition and ensure broad-based growth in the mining sectors as well as regions where the extraction takes place. If, however, this challenge is overcome it would allow African economies to enjoy the full value offered by their natural mineral resources and unlock significant value for countries across the continent. ■

CONDRA TO SUPPLY SIX CRANES TO SOUTH AFRICAN MINING HOUSE

Condra has announced to supply six cranes, one portal and five double-girder overhead machines to a South African mine belonging to an unnamed mining house.

Of the six cranes ordered, four are identical 10-ton overhead machines with spans of 6.5 metres, and two have already been delivered. The first was installed underground and commissioned for maintenance duty on pumps, motors and other equipment. The remaining two 10-ton cranes will be completed to join the third on site early in 2022.

A fifth crane, a 15-ton portal machine, is earmarked for receiving and dispatch duties, while the biggest of the six cranes will be a 25-ton electric overhead travelling workshop unit.

Condra's tenders for the three orders proved successful against multi-company competition.

Image Credit: Condra

The company aims to manufacture cranes and hoists for African conditions.

Their prices were not the lowest, supporting growing evidence of a trend toward buyers valuing lower overall lifetime costs over price, these lower costs being achieved through supplier commitment and an ability to deliver ongoing, reasonably priced after-sales service and maintenance.

A similar trend can also be seen in the market for second-hand cranes, where almost-new machines manufactured by companies unable to deliver effective maintenance lose value faster than much older cranes from more reputable firms.

The six cranes for the mining house are machines of standard design, fitted out to customer specification. Remotely controlled, there are pendants for alternative manual control. The cranes also feature floodlights to aid operation, and bulkhead lights for safety on all walkways. Other safety fittings include the flame-proofing of brakes and electric panels to IP65 standard, and weather canopies over all motors. Flashing lights and sirens warn when the cranes are in motion.

Dellner Bubenzer unveils SB 28.5 disc brake series

Dellner Bubenzer has launched SB 28.5 disc brake that is set to upgrade the SB Series equipment with optimised technology and maintenance service.

This product launch marks the first since the global Dellner Bubenzer merger in June 2021.

Jan-Willem Schoneveld, CCO of Dellner Bubenzer, said, "Dellner Bubenzer's goal to become the world's leading supplier of brakes and related power transmission products requires us to constantly evolve our company and our offerings. By constantly monitoring our products, recognising optimal performance potential, and responding to market needs, this is another opportunity to expand and enhance our product portfolio with worldwide competence and expertise."

Image Credit: Dellner Bubenzer

The company aims to become the world's leading supplier of brakes and related power transmission products.

Further, Schoneveld elaborated on the enhancements of the new generation of the SB disc brake.

"This an important development for braking systems that consumes less energy with a fast-closing time. Beyond sustainability and energy saving, the SB 28.5 brake presents the significant advantage of less maintenance. This is a result of the improved self-centering system by roller and cam. In addition, we have advanced the automatic wear compensation and the parallel alignment of brake shoes, so maintenance work is simplified. The compact design allows our customers for 1:1 replacement of previous products, ensuring precise interchangeability if new brakes are needed," said Schoneveld.

BARMINCO, NEWTRAX AND SANDVIK TO STRENGTHEN PEDESTRIANS SAFETY

Perenti's Barminco, Newtrax and Sandvik have partnered to develop a solution that aims to improve the safety of pedestrians working near heavy vehicles (HVs) underground.

Under the terms of the partnership, Newtrax will deploy its Level 9 Collision Avoidance System across Barminco's Sandvik fleet, including the supply of intelligent cap lamps with advanced electronic safety features to Barminco's underground mines.

The technology is due to undergo initial testing at one of Barminco's underground sites in January 2022.

Paul Muller, CEO of Perenti, said that the project focuses on ensuring people safety and sustainable adoption of the technology throughout the industry.

Muller commented, "The combination of Newtrax's technology, our underground operating experience and Sandvik's role in supplying heavy mining vehicles can put us in a position to offer the entire industry a smart solution to a complex problem."

Simon Waghorn, Newtrax regional vice-president - APAC, said that the collaboration with Barminco would provide the partners with real-world experience that would help optimise the system as it develops.

"Although the Newtrax Collision Avoidance System is the best available system on the market, many more enhancements are required to accelerate adoption," Waghorn said. "This partnership with Barminco will enable collaborative product development which will result in an even better product for the industry."

Water solutions bringing positive change

Water management and recycling is crucial to combating water scarcity issues affecting people across the African continent.

Image Credit: DuPont Water Solutions

Semano Sekatle, DuPont Water Solutions regional commercial manager.

One in every three people in the African region are affected by water scarcity issues according to the World Health Organisation and this is getting worse due to rapid population growth, increasing urbanisation and growing household and industrial water usage.

The UN Sustainable Development Goal (SDG) six aims to ensure the availability and sustainable management of water sanitation for all which is not only a humanitarian pursuit but a profitable one as well – WHO has demonstrated that for every US$1 invested in water and sanitation, there is an economic return of between US$3 and US$34. African Review spoke to some of the technology developers and providers who have accepted this challenge and are working to provide industries and communities with the solutions to eradicate their issues around water scarcity.

Semano Sekatle, DuPont Water Solutions regional commercial manager, said, "With Covid-19 the issues around clean water were laid bare and now we are starting to see momentum regarding addressing water challenges. However, it is important to note that while the challenges are global, the solutions have to be local – you have to work with local communities and remember that water issues are very different depending on what region of the world you are operating in.

"Partners are also key. We are committed to bringing our global expertise to projects that help reach the Sustainable Development Goals. Everything we do should touch these goals where they are relevant to us. But getting there isn't a journey we alone control, we need other people, and that's where we look at SDG number 17, which concerns the value of establishing and forging new partnerships.

"This fresh perspective has enabled us to go and talk to different people. For example, we partnered with Water.org to increase global access to safe water; we worked with the Economist Intelligence Unit to produce the City Water Optimisation Index that looks at how cities are using their water and how they can optimise their usage; and we also work with government organisations such as US Aid and non-profit organisations such as W12 and Kusini Water NGO amongst others."

Sekatle explained that while Covid-19 had increased the focus on global water challenges, there was still an urgent need to minimise water impact and recycle more. To help meet these challenges, DuPont offers a wide range of solutions on both the industrial and municipal side which can take water and remove biological impurities for re-use.

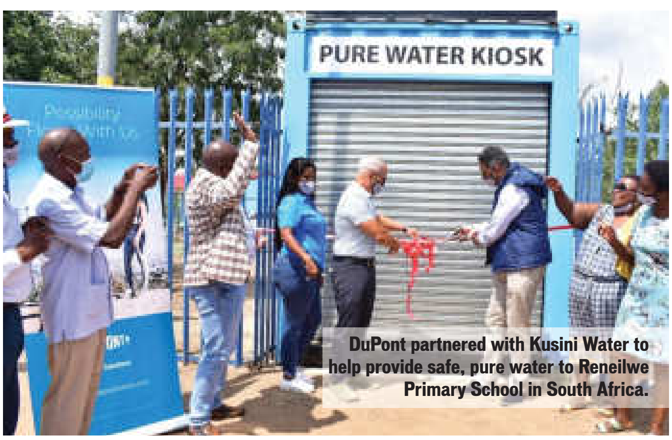


Image Credit: DuPont Water Solutions

DuPont partnered with Kusini Water to help provide safe, pure water to Reneilwe Primary School in South Africa.

Image Credit: DuPont Water Solutions

The DesaliTec Closed Circuit Reverse Osmosis System.

The MEMCOR product line has been leading the low-pressure membrane industry for more than 30 years and its MBR technology advancements has substantially improved the reliability and economics of MBR systems.

"Of course, we have always had membrane technology to remove dissolved salts or what we call inorganic salts in water by osmosis, but now we have the ability to remove a whole scope of impurities from water and make sure it can be reused for drinking or irrigation," Sekatle surmised.

"On the industrial side we have acquired a company called DesaliTec. In reverse osmosis (RO) systems, a certain percentage of water is rejected and is unusable but with Closed Circuit Reverse Osmosis (CCRO) we can reduce the amount of water rejected even in the harshest conditions."

DuPont has provided its solutions to countries across Africa with notable projects in Ethiopia and Kenya where they deployed membrane technology to remove native fluoride content which can be very harmful to teeth. In South Africa, the company has recently conducted two projects for primary schools where water scarcity issues revolved around underground water contaminated by biological waste or passive mine drainage. DuPont's technology allowed the communities to be self-reliant and self-sufficient and locals were trained in the process.

"Local presence always helps. We want to work with local companies and communities and have found ways to work with local manufacturers with which we partner to provide solutions. We provide training, resources and generally try to uplift local companies and economies."

Turning to the future, Sekatle noted that DuPont has a keen focus on East Africa as it is home to some of the fastest growing economies. The company is also planning another social impact project in

Namibia where it intends to help people get access to clean water in this very dry region through the deployment of seawater desalination membrane technology.

"We are also always looking for new technology. There is a new innovation that we are looking at called B-Free which minimises chemical usage in membrane systems."

The B-Free pre-treatment technology is designed to pre-treat seawater or brackish water influx to eliminate the detrimental effects of biofouling in RO systems. Keeping membranes free of biofouling ensures reliable RO systems with an optimised cost of water and sustainability footprint.

As Sekatle explained sustainability is at the heart of everything the company does and, outside of water, the company is also contributing to the SDGs by aiming to minimise their green house gas emissions significantly by 2030 and be carbon neutral 2050."

Propelair combines just 1.5 litres of water with a high-speed jet of air to leave the pan clean in one flush.

Propelair

Through the deployment of its innovative toilet-flush technology, a new company has burst onto the African market in recent years – Propelair.

Propelair combines just 1.5 litres of water with a high-speed jet of air to leave the pan super-clean in one flush. The closed lid improves hygiene by reducing airborne germs such as Covid-19 by up to 95%.

The system has become commercially available in the UK in the last decade, during which time the original founder and inventor left the company. Since then a new management team has made the technology available internationally and has the potential to make a real impact in water-stricken regions due to its water-saving attributes.

CEO of Propelair, David Hollander, explained, "Our toilet can reduce water usage by 84% on average. The typical toilet uses 9 litres of water when flushed, but ours only uses 1.5 litres – which is great for the environment and for financial savings."

In Johannesburg, Propelair installed its toilets in the Clearwater Mall and, since then, the centre has reduced its annual water consumption by almost 12 million litres, which has helped reduce its carbon footprint by almost 13,000 kg of CO2. Because of the cost saved on water usage, the toilets have paid for themselves in just 1.3 years.

The solution has also caught the eye of Siemens, which has made Propelair an integral part of its major water saving initiative launched in 2019. Siemens has a strong focus on sustainable development and net zero in South Africa and, with the help of Propelair, it is now saving just under 5.5 million litres of water a year.

The large South African bank Nedbank is saving 45 million litres of water a year thanks to Propelair. To help achieve its ambitious sustainability goals, the bank commissioned the roll-out of 32 units at its Clocktower Building in Cape Town in 2019, and 269 units for its headquarters. Since installing the units, the bank has reduced its water use by 75% .

Hollander explained that aside from water saving, the Propelair system also holds tremendous benefits in regards to hygiene – a pertinent issue since the outbreak of Covid-19. "Frankly, until they learned these germs could include the Covid virus, people have ignored the fact that germs in the air are created when a toilet is flushed with the lid up."

David Hollander, CEO of Propelair.

So far, Propelair has released its product in South Africa and although there are plans to reach other water-stricken countries in Africa, Hollander explained that this would take time as they continue to prove the benefits of the technology for the continent. In addition, for the moment, the toilet is aimed towards commercial use as it needs to be flushed several times a day in order to be financially viable.

"However, by the end of 2022, we will have developed some exciting new products to build on what we are doing – the best example of that is IoT connectivity to provide managers with information on the use of the toilet and the water/money savings they are achieving in real-time. We also have some big ideas on how, in time, we could develop toilets for the domestic market, having utilised a grant from the prestigious Horizon 2020 fund." ■

Advertiser's Index

The next retail hub?

Africa is poised to become the fastest-growing and most sophisticated retail market in the wake of Covid-19, according to the 2021 Global Retail Development Index published by Kearney.

Thanks to the explosive growth of young, urban, and digitally savvy consumers; increasing mobile phone penetration; the creation of digital payment and shopping networks; favourable governmental regulations and spending initiatives; and significant investment by both foreign and domestic companies, the face of African retailing is set to be transformed the report stated.

As growth in Asia begins to slow down, Africa is emerging as the next big retail hotspot. By 2050 the global population is expected to increase by two billion, and Africa will be home to the majority of these new lives. The population of sub-Saharan Africa (SSA) alone is expected to double by 2050, with Nigeria expected to be the third-largest country in the world.

Based on an average annual growth rate from 2020–2025, United Nations Urban Agglomerations data projects that, with growth rates ranging from 5.14% to 6.46%, Africa will be home to 17 of the world's 20 fastest-growing cities, four of them in Nigeria. It is also predicted that SSA will enjoy the highest rate of disposable income growth on Earth, about 9% CAGR.

Lucrative markets attract investment from inside and outside their borders. There are four classes of SSA retail – informal, traditional, modern, and illicit. Modern retailing – now dominated by regional players, primarily South African operators such as Shoprite, Mr Price, and Pick n Pay, and a few international players – is the least developed, providing rich investment opportunities.

In the face of increasing competition and margin pressures, Africa's retailers are focusing on ROI; adopting franchising and other new business models; and rationalising store footprints.

Grocery retailing on the continent is witnessing rapid, scaled digitalisation driven by a vibrant technology and a start-up industry including third-party logistics firms and new payment options.

Today, e-commerce currently accounts for only about 1% of the total African retail market but it is expected to accelerate bolstered by rising smartphone/Internet penetration coupled with the world's youngest population and an emerging urban middle class. South Africa, Nigeria, and Kenya currently dominate the e-commerce landscape although the digital marketplaces in Ghana and Morocco are rapidly expanding.

Africa is also a hub of mobile money transactions accounting for about 50% of all global transactions. Retailers and central banks in various countries are working toward developing and facilitating digital ecosystems by reducing transaction costs on electronic payments, but gaps in e-payment infrastructure supply, logistical inefficiencies, and trust issues are slowing down both existing and future growth opportunities.

Figure 1
2021 Global Retail Development Index

2021 rank	Country	Population (million)	GDP PPP per capita (US$)	National retail sales (US$ billion)	Market attractiveness	Country risk	Market saturation	Time pressure	Final 2021 score	Rank vs. 2019
1	China	1,402	17,192	4,072	100.0	88.4	13.1	100.0	72.8	0
2	India	1,400	6,461	1,163	59.1	50.7	83.7	82.7	64.4	0
3	Malaysia	33	27,402	112	74.5	74.0	27.2	43.9	54.1	0
4	Indonesia	272	12,222	407	51.3	30.7	57.6	60.7	53.0	+1
5	Bangladesh	170	5,307	171	15.7	2.4	96.0	88.4	53.0	New
6	Morocco	36	7,620	46	31.5	92.6	66.5	51.8	52.2	+6
7	Egypt	101	12,790	200	34.3	20.5	71.5	73.8	52.0	+10
8	Ghana	31	5,693	24	13.5	70.2	96.5	32.7	51.9	-4
9	Vietnam	96	10,869	125	27.8	42.2	56.0	98.4	51.8	+2
10	Dominican Republic	11	18,608	25	44.5	70.2	62.2	38.7	51.4	+4
11	Serbia	7	19,146	21	61.0	55.2	27.7	63.8	50.8	+16
12	Saudi Arabia	35	46,811	119	75.8	98.6	16.9	35.8	50.6	-5
13	Kazakhstan	19	26,565	26	32.8	54.0	68.0	56.6	50.2	+2
14	United Arab Emirates	10	58,753	71	78.4	100.0	0.2	42.9	50.0	-5
15	Russia	147	27,903	429	75.0	32.8	0.0	70.0	49.3	+8
16	Cote d'Ivoire	26	5,365	19	10.6	24.0	94.9	69.6	49.0	New
17	Jordan	11	10,306	16	37.3	69.2	67.1	35.3	49.0	-9
18	Senegal	17	3,478	11	10.9	37.6	93.3	61.0	48.3	-12
19	Bulgaria	7	23,817	23	69.4	52.0	21.3	44.7	48.3	-2
20	Azerbaijan	10	14,431	15	32.7	37.7	84.5	28.8	47.5	-1
21	Turkey	84	30,253	191	52.3	40.4	30.7	63.0	46.8	+1
22	Romania	19	30,526	72	61.2	78.1	4.9	53.3	45.4	New
23	Bolivia	12	8,344	17	24.5	20.9	88.0	34.4	45.2	New
24	Kenya	54	4,926	39	9.1	53.1	79.0	62.2	45.1	New
25	Guatemala	18	8,293	40	29.8	41.5	64.9	42.9	44.1	+4
26	Sri Lanka	22	13,215	32	20.6	33.2	38.7	44.5	44.1	-8
27	Peru	33	11,871	58	37.2	76.3	49.3	32.4	43.8	-14
28	Colombia	49	14,324	70	36.8	80.2	43.7	39.3	43.7	-18
29	Tunisia	12	10,120	16	28.0	35.8	76.1	26.0	42.8	-4
30	Paraguay	7	12,881	11	23.3	71.0	82.9	4.7	42.3	-9
31	Nepal	30	4,061	16	0.0	20.3	100.0	51.0	42.2	New
32	Cameroon	27	3,648	20	9.0	1.5	99.0	41.1	41.7	New
33	Ukraine	42	13,110	65	33.3	22.8	47.5	51.0	40.0	New
34	Nigeria	206	5,187	108	14.8	14.4	91.9	22.2	39.4	-4
35	Philippines	110	8,452	170	32.8	40.5	35.3	32.2	38.2	-15

Source: Kearney analysis

Image Credit: Kearney

Surmountable barriers

The challenges – corruption, widespread poverty, security concerns, supply chain issues, lack of infrastructure, active conflicts, archaic governmental retail policies and practices, and isolation – are as real as the potential. At 18%, for example, SSA has the lowest rate of intra-regional trade on the planet.

Nevertheless, according to Kearney's report, Africa's aggregate potential as an emerging retail market far outweighs problems associated with investing. ■