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African Review

MAY 2023

of BUSINESS and TECHNOLOGY

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Covering every aspect of the energy transition

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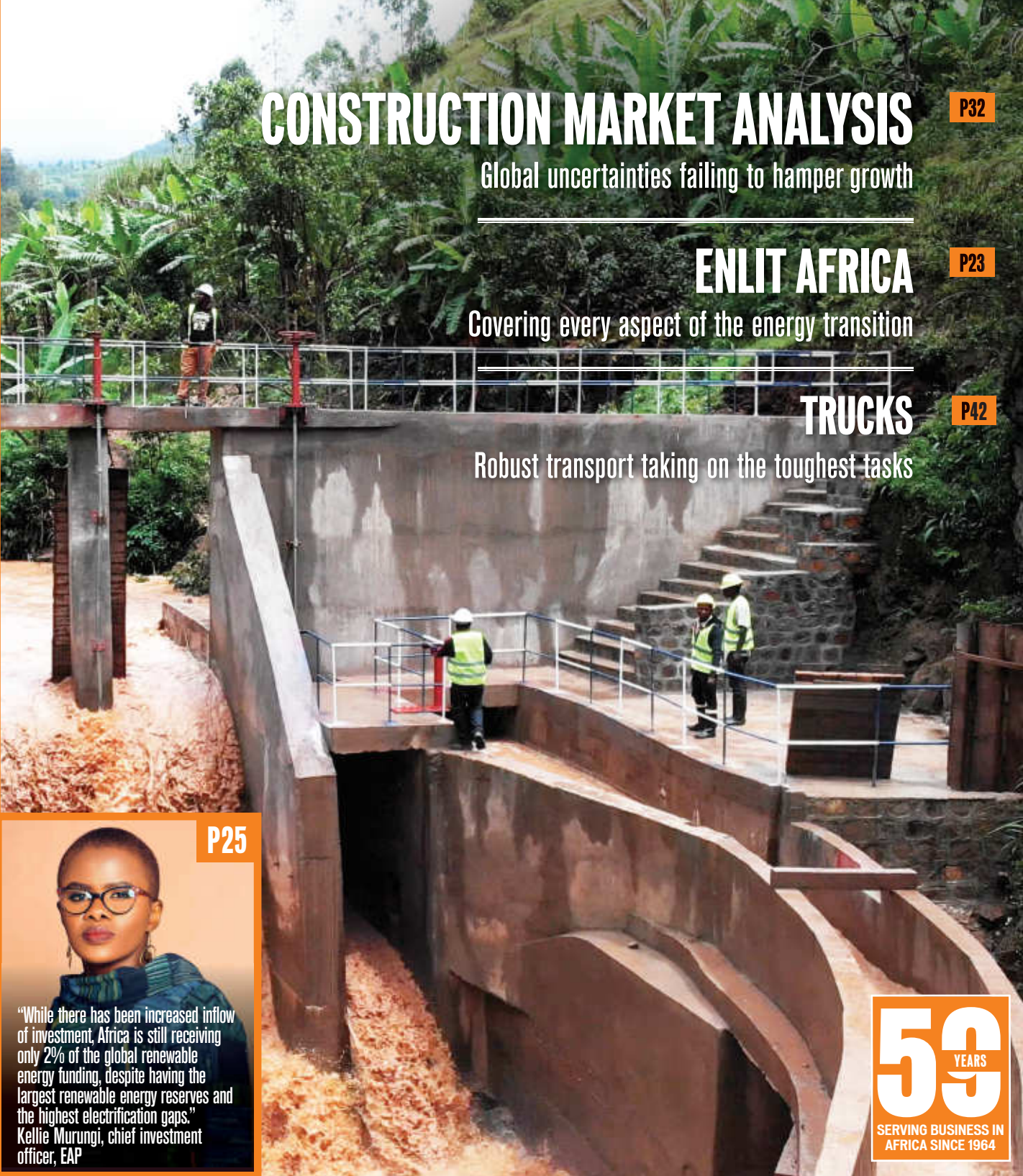
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“While there has been increased inflow of investment, Africa is still receiving only 2% of the global renewable energy funding, despite having the largest renewable energy reserves and the highest electrification gaps.”
Kellie Murungi, chief investment officer, EAP



Expect **more** sustainability



Solving the challenge of scrap tyres in a way that's practical and sustainable could be around the corner for Australia. After successfully opening a thermal conversion OTR tyre recycling facility in Chile that converts scrap tyres into base elements for reuse, Kal Tire is ready to bring this scalable solution to other regions.



Kaltiremining.com





Cover picture: East African Power's (EAP) Rubagabaga Hydropower Plant in Rwanda

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Cover Inset: Kellie Murungi, chief investment officer, EAP
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Printed by: Buxton Press

Printed in: APRIL 2023

ISSN: 0954 6782

SUBSCRIPTIONS:

To subscribe: visit www.africanreview.com/subscribe
For any other enquiry email circulation@alaincharles.com

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Editor's Note

Welcome to the May issue of African Review, covering the top stories and delivering critical insights on the continent's key industries.

This month, Naveed Kashif, Nokia's head of southern Africa cluster and customer business team for MTN Group, guides us through his company's rebrand and strategic transformation being executed to help businesses realise the potential of digital (page 18). Synonymous with this opportunity, however, is the cybersecurity challenge, and proper training is a vital weapon in mitigating this threat (page 19).

With Enlit Africa arriving from 16-18 May, be sure to check out our preview of the event, including a look at some of the conference's key exhibitors (page 23). As part of this coverage, we hear from Kellie Murungi, chief investment officer, EAP, who explains why she is participating this year (page 25).

Turning to the continent's heavier industries, Martin Clark reports on the promising state of the construction market despite global uncertainties (page 32), Haulotte identifies key questions to consider before renting a MEWP (page 37), and we explore the array of trucks and associated solutions helping to resolve the toughest transportation tasks (page 42). You can also find exclusive interviews with representatives from KPMG and The Impact Facility who, respectively, explore why the industry must change its mindset around ESG and how attitudes towards artisanal mining should be reformed to enact meaningful change in the sector (pages 45 and 47).

As ever, don't forget to also visit our website for daily updates to help you remain in harmony with the ebb and flow of African business.

Robert Daniels, Editor

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Charlotte de Koker, associate director for KPMG in South Africa, explores why the mining industry must change its mindset in order to make progress on ESG aspirations, especially in regards to water management.

Gulf of Suez Wind Farm reaches major milestone

Orascom Construction, a leading global engineering and construction contractor, has announced that the Red Sea Wind Energy Consortium has achieved financial close on the new 500MW Gulf of Suez Wind Farm near Ras Ghareb, Egypt.

The wind farm will be built, owned and operated by Red Sea Wind Energy S.A.E., which is owned by a Consortium of ENGIE (35%), Orascom Construction (25%), Toyota Tsusho Corporation (20%) and Eurys Energy Holdings Corporation (20%).

The consortium will operate and maintain the wind farm under a 25-year power purchase agreement (PPA) with the Egyptian Electricity Transmission Company (EETC). It will be connected to the grid over two phases with full commercial operation planned in Q3 2025. Orascom Construction will execute the construction of the civil and electrical works for the wind farm.

Once delivered, the project is expected to deliver clean power to more than 800,000 homes and will help accelerate the country's transition to renewable power generation.

Non-recourse project financing is provided by the Japan Bank for International Corporation (JBIC) in coordination with Sumitomo Mitsui Banking Corporation, the Norinchukin Bank, and Société Générale S.A. under a Nippon Export and Investment Insurance (NEXI) cover, and the European Bank for Reconstruction and Development (EBRD). HSBC Bank Egypt S.A.E. is acting as working capital bank and Onshore Security Agent.

Khaled El Degwy, Orascom Construction executive director – concessions, commented, “We are pleased to extend our collaboration with both our partners and the Ministry of Electricity, EETC and NREA as we achieve this major milestone on our second wind farm in Egypt. This project marks the joint efforts of our consortium, a strong group of international financial institutions, export agencies and commercial banks, and EETC and NREA to deliver an important project that helps accelerate the transformation of the renewable energy sector in Egypt.”



Once delivered, the project is expected to deliver clean power to more than 800,000 homes.

Image Credit: Adobe Stock

WIND OPPORTUNITY FOR EGYPT AND MOROCCO

A new report from the Global Wind Energy Council (GWEC) has showcased the enormous potential of embracing wind energy.

In just five years, the report explained how five developing countries – Egypt, Morocco, Argentina, Colombia and Indonesia – could add 3.5GW of wind capacity which could unlock US\$12.5bn for their economies and create 130,000 FTE work-years.

Produced in collaboration with BVG Associates, the ‘Capturing economic opportunities from wind power in developing economies’ report stated that wind energy could be an enormously powerful tool for these countries which have, as yet, largely untapped their wind potential and would bring climate incentives.

Ben Backwell, GWEC CEO, explained, “The energy transition is an opportunity for countries in every region in the world to rebuild and grow their economies on a foundation of clean energy, green jobs and secure power.” This report sets out how making clear policy commitments, developing infrastructure and streamlining permitting rules will unlock renewable potential and large amounts of investment in these five countries.

“The time for action is now, and countries must set out policies that match their climate and energy ambitions.”

GWEC’s report noted that Egypt’s already ambitious plans could see major upside with an accelerated approach delivering 45% more wind installations. This would represent an extra 1.15GW, an extra 164,000 FTE jobs and potentially more than US\$2bn for the economy.

Morocco’s enormous potential means it could add an extra 638MW of capacity in an accelerated scenario which could translate to another 75,000 jobs and more than US\$1bn gross value added to the economy.

UK CONSIDERS XLINKS PROJECT VIABILITY

The UK Government, as part of its Powering Up Britain – Energy Security Plan, has revealed that it is considering the viability and the merits of the Xlinks-Morocco - UK Power Project.

The Xlinks project is a proposed large-scale onshore wind, solar and battery electricity generation site in Morocco that would exclusively supply power to the UK grid via high-voltage direct current subsea cables.

“The UK’s energy security is a vital national interest. So too, however, is the urgent need to stick to the Government’s 2035 net zero electricity system target and avoid short-term thinking that may derail the transition to clean, abundant sources of energy,” commented Simon Morrish, Xlinks CEO. “Therefore, we welcome the Government’s determination to work with Xlinks to implement our renewable energy venture. This first-of-its-kind Xlinks Morocco - UK Power Project will meet up to 8% of the UK’s electricity demand with renewable energy, reducing consumer bills, and adding to security of supply in the process.”

► BRIEFS

Barrick eyes North African opportunity



Image Credit: Adobe Stock

Barrick aims to be the world’s most valued gold and copper mining company.

According to chairman John Thornton, Barrick Gold Corporation is well positioned to execute its 10-year rolling business plan. “Our focus in 2023 will be on expanding Barrick’s value foundation, already one of the industry’s best, within and beyond our current borders,” Thornton said. “We are also extending our presence in North and South America and we are particularly excited by new opportunities in North Africa and the Middle East.”

Green light for third unit at Egypt nuclear plant



Image Credit: Adobe Stock

This follows the granting of a construction permit for the first unit in June 2022 and the second unit in October 2022.

The Egyptian Nuclear and Radiological Regulatory Authority (ENRRA) has agreed to grant the construction permit for the third unit of the Nuclear Power Plant in El-Dabaa. In a media announcement, ENRRA noted that it had taken all procedures necessary to verify the availability of the maximum levels of safety measures for the nuclear project in El-Dabaa in accordance with the best international standards.

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Support builds for Grindex range alongside African expansion

As demand for Grindex pumps steadily increases, Integrated Pump Technology, the official distributor of the dewatering pump brand, is growing its support capacity to keep its customers well served.

“Our expansion into the SADC region and beyond has been built on the proven quality of rugged Grindex pumps underpinned by the strength of our support service,” said Justin Bawden, key account manager, Integrated Pump Technology.

“We have therefore been continually building our growing network of agents and developing their expertise to support our end-customers.”

The company’s Grindex distributorship in southern Africa has seen high levels of success, leading to the renewal agreement including an additional seven countries: Angola, Gabon, Kenya, Malawi, Rwanda, Tanzania and Uganda.

To ensure there is sufficient stockholding close to customers, the company holds the majority of stock in Johannesburg, while engaging regularly with distribution networks to analyse customer demand and trends in each region. This practice allows for the correct stockholding levels to be planned within easy reach of customers.

“This way, we make sure we keep the right equipment and fast moving consumable parts stocked and available, ensuring a quick turnaround time and less downtime for the customer. Rapid response time is always important, especially in countries like DRC and Zambia which have some of the wettest mines in the world. Any disruption in dewatering activity can lead to mining operations being flooded, equipment damaged and production time lost,” explained Bawden.

Integrated Pump technology also looks for distributors with suitable workshop facilities in order for all service and repair work to be carried out regionally to the OEM specifications. Training and skills transfer are other important aspects of how the company empowers local distributors, with experts conducting skills development at either the head office on in-country by the Johannesburg operation.



Integrated Pump Technology is the official Grindex pump distributor across the SADC region.

PLASTIC NEUTRALITY INITIATIVE LAUNCHED IN ZAMBIA

Nestlé East and Southern Africa Region (ESAR) has announced the launch of its RE sustainability initiative in Zambia. The programme will kick off the partnership with Chilanga Cement in a plastic neutrality project that will seek to reduce pollution in Zambia and the surrounding area.

Plastic waste will be collected by waste reclaimers from Recyclemania, a waste management enterprise in the local community of Lusaka which work with Chilanga Cement’s sustainability division, Eco Unit. Recyclemania currently collects 120 tonnes of plastic monthly which is sorted into recyclable PET plastics which are sold to enterprises that reuse plastic waste.

Approximately 10-14 tonnes of the remaining non-recyclable plastics are collected, weighed and co-processed using innovative technology; a process that takes disposal plastic and transforms it into energy recovery rather than in a landfill site. This disposal is contained incineration within a closed loop system, ensuring a more environmentally conscious process which has a direct impact on the reduction of landfill waste.

Zubayer Davids, country business manager, Nestlé Zambia and Malawi, said, “This is an exciting project for us here in Zambia, and we are pleased to be partnering with a leading local business and community in delivering meaningful change in managing waste.”

Jianping Chai, chief executive officer, Chilanga Cement, commented, “With this partnership, it will help reduce our carbon footprint by diverting domestic waste from landfills and transforming it into energy resources. We are proud to be part of this project, as it is an example of how companies can work together to create positive change for our environment. This is an important milestone in our journey to achieve net zero waste going into landfills.”

ABB URGE WATER RESPONSIBILITY

During South Africa’s National Water Week, technology leader ABB led a national campaign to educate the public about their individual responsibilities in water conservation initiatives and to raise awareness around the need to protect and conserve the country’s water resources.

“The water industry needs to automate their processes to increase plant efficiency, productivity and reduce plant maintenance costs. This will bring a more reliable service and preserve the water we have,” said Joyce Moganedi, local division sales manager (power and water), ABB. “With continuous investment in this area, we can ensure the responsible use of water.”

Using affordable SCADA and PLC solutions may be the answer, and ABB offers automation at all levels of complexity, including DCS, and as an enabler for future developments. ABB’s digital offering also continues to grow, with improved monitoring and reporting of reliable services and solutions.

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Epiroc completes AARD acquisition



AARD Mining Equipment low-profile loader.

Epiroc has completed the acquisition of the South Africa mining equipment manufacturer, AARD Mining Equipment. Based near Johannesburg, AARD designs, manufactures, services and supports a roster of mining equipment, specialising in low-profile underground machines for mines with low mining heights. The host of equipment includes drill rigs, bolters, loaders, scalars and more.

South Africa energy overview released



The report discusses South Africa’s energy potential across various markets.

The African Energy Chamber (AEC) has officially launched its South Africa-focused market report, providing a comprehensive overview of the state of play across the country’s energy sector. Serving to guide investors and project developers interested in South Africa’s vast energy opportunities, the report details the current challenges and upcoming opportunities across the power generation, renewable and hydrocarbon markets.

Wärtsilä signs TMA with Debmarine Namibia

Technology group Wärtsilä has signed a technical management agreement (TMA) with Debmarine Namibia to provide advanced technical support to the company's latest vessel, the 'Benguela Gem', which houses six Wärtsilä 32 engines.

The scope of the three-year TMA includes maintenance support for the engines and digital solutions to optimise the performance and prevent unnecessary downtime. The Dynamic Maintenance Planning solution optimises the time between overhauls and provides flexibility for maintenance scheduling. The Expert Insight, Wärtsilä's unique predictive maintenance solution, secures asset availability by preventing potential problems before they occur, meaning optimal performance can be achieved.

"We have Wärtsilä engines installed on vessels throughout our fleet, and we are familiar with their quality and reliability. With this TMA, we are strengthening the cooperation between our companies through the supply of additional services, such as Expert Insight. We feel that this will support our operations even further," commented David Shivute, Debmarine Namibia production engineer.



Image Credit: Debmarine Namibia

The Wärtsilä 32 engine, six of which are being used in the Benguela Gem vessel.

HITACHI TO BOLSTER NAMIBIAN ELECTRICITY BACKBONE

Hitachi Energy will deliver a comprehensive range of high-voltage equipment to Sinohydro Corporation Ltd., in order to enhance NamPower's Kunene and Omatando substations in northern Namibia.

To meet Namibia's rising demand for electricity, NamPower, the country's bulk electricity supplier, is implementing two substations as part of the utility's Transmission Master Plan, with the support of Sinohydro. The project will strengthen and expand the country's transmission network and ensure a reliable power supply throughout Namibia.

The development will significantly increase electricity supply and reliability to Oshakati, Ongwediva, Ondangwa and surrounding areas, indicating that the construction of the substations will prove critical to strengthening the northern Namibian transmission backbone.

"We are proud to be collaborating with Sinohydro and NamPower in this key infrastructure expansion project that will contribute towards addressing Namibia's electricity supply challenges. As a leader in high-voltage technology, our well-proven solutions enable our customers and partners to achieve uninterrupted power supply while enhancing the safety, reliability and efficiency of power networks," said Malvin Naicker, managing director, Hitachi Energy Southern Africa.

"We are pleased to collaborate with Hitachi Energy on these projects that will help us achieve our goal of a more resilient power network in Namibia," said Kahenge Haulofu, managing director, NamPower.



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SCAN FOR MORE INFORMATION



Ghana set to double oil production by the end of 2023

According to an African Energy Chamber statement, Ghana, one of Africa's fastest-growing hydrocarbon markets, is seeking to double its oil production by the end of 2023.

The statement, citing a keynote speech by Egbert Faibille Jr., CEO of the Petroleum Commission of Ghana at the Chamber's Dubai event, said the country is seeking to double production from around 180,000 barrels per day (bpd) to 420,000 bpd, supported by commercial discoveries in the Tano Cape Three Points block.

"Ghana has positioned itself to attract investments in the energy sector. We present one of the best investment opportunities in the sub-region. Following the Jubilee discovery in 2007, 30 additional discoveries have been made and are pending appraisal and development. Ghana guarantees attractive fiscal terms. These terms have proven over the years to provide a favourable investment framework," stated the CEO.

Speaking during a panel discussion at the same event, he highlighted opportunities for upstream investors to enter Ghana. He added the company has several blocks open for direct negotiation and three available for farm-in opportunities. In addition, it has some fields that are in pre-development meaning, if it is able to get contractors, there should be a surge in production by 2030.

At least 26 drilling campaigns and rigs are expected in Africa in 2023, cementing the continent's upstream revival, according to the African Energy Chamber.

With two thirds of the continent's oil resources exported out of Africa, OA Danquah, CEO of Ghana National Petroleum Corporation, has urged governments to come together and ensure that the resources are being correctly utilised for the continent's development.

He added that their collective strategic advantage is that they have a lot of supply and potential demand so that their resources can never be locked.



Image Credit: Adobe Stock

The country is seeking to double production from around 180,000 barrels per day (bpd) to 420,000 bpd

AFDB TO ENHANCE GHANA'S ELECTRIFICATION GOAL

The board of directors of the African Development Bank (AfDB) has approved a grant of US\$28.49mn for Ghana to construct renewable energy infrastructure that will increase its renewable energy use by 10% through 2030.

The financing, which will come from the Climate Investment Funds' (CIF) Scaling Up Renewable Energy Program in Low Income Countries (SREP), will support construction of mini-grids, stand-alone solar photovoltaic systems and solar-based battery facilities for storing excess power, a practise known as net metering.



Image Credit: Adobe Stock

The grant will help Ghana to construct renewable energy infrastructure.

With the latest board approval of US\$28.49mn, the project's total cost of US\$85.18mn is in the coffers. The African Development Fund, the bank's concessionary window, has provided US\$27.39mn while Switzerland's State Secretariat for Economic Affairs and the Government of Ghana have contributed US\$13.30mn and US\$16mn respectively.

The project consists of the design, engineering, supply, construction, installation, testing and commissioning of renewable energy systems on the island communities in the Volta Lake region.

It is expected to contribute to closing gender gaps at the outcome level by creating 2,865 equitable jobs and livelihood opportunities out of which 30% will be for women and youth.

ISA AND UNDP SCALE SOLAR FOR AGRICULTURE USE IN MEMBER COUNTRIES

The International Solar Alliance (ISA) and the United Nations Development Programme (UNDP) have launched the first pilot programme of the Scaling Solar Applications for Agriculture Use (SSAAU) in 10 African ISA member countries.

The programme will be implemented over the next two years and will support Benin, Democratic Republic of Congo, Mali, Niger, Republic of Sudan, Senegal, South Sudan, Togo, Tuvalu, and Uganda. It will provide agricultural workers with enhanced energy access and sustainable irrigation solutions through innovative solar water pumping system deployment models. The goal is to help member countries implement large-scale projects and schemes to induct solar pumping technology in agricultural practices.

Shoko Noda, resident representative, UNDP India, said, "Agrifood systems account for 31% of the total greenhouse gas emissions globally. Expanding application of solar technologies in agriculture, especially in energy intensive areas like irrigation, will help reduce emissions while also enhancing farmer incomes."

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Bluewater reaches plastic waste milestone



Image Credit: Bluewater

Bluewater helps a plastic waste clean-up in Nigeria.

Bluewater, the global Swedish water purification and beverage solutions provider for homes, HORECA, and public dispensing, has helped clean 85,000 kg of plastic waste in the past three years from coastal areas - the equivalent of approximately 7.1mn PET bottles. Working with Empower, an international blockchain-enabled plastic recycling organisation, the Bluewater initiative saw waste collected, sorted, and recycled in numerous African and Asian coastal areas.

Nigeria begins solar cell production factory



Image Credit: WASEN

The foundation laying ceremony.

The Nigerian Government has taken the first steps to establish the first solar cell production factory in West Africa. When fully built and operational, the factory, pioneered by the National Agency for Science and Engineering Infrastructure (NASENI), is expected to boost solar energy and power supply as well as encourage industrial development in Nigeria. A foundation laying ceremony was held for the future plant in Gora.

MTN and Microsoft to accelerate Africa's digital transformation

Following the signing of a five-year strategic partnership in September 2022, MTN and Microsoft are in the process of delivering a programme of work that will see the latest technologies deployed for the benefit of MTN's customers, starting with South Africa and Nigeria.

The programme will focus on migrating BSS and OSS applications to the Microsoft Azure cloud aiming to realise operational benefits and cost efficiencies. Work has already begun with the establishment of MTN Group Cloud Centre of Excellence and Project Nephos to migrate carefully selected business applications to Azure.

MTN and Microsoft will work closely with Accenture who will be providing technology implementation, integration and support services to successfully enable the migration and operations of the targeted environments. One of the cornerstone elements of the programme is the migration of EVA, MTN's extensive core big data

platform, to Azure. Beyond infrastructure optimisation, MTN will evolve further its common data model to enable use cases that bridge typical divides across network, IT and commercial domains taking advantage of native Azure capabilities, including machine learning and artificial intelligence.



With Project Nephos, MTN have embarked on an extensive skills development programme in cloud technologies, devsecops and data management.

NCDMB BREAKS GROUND FOR PIPE MANUFACTURING PLANT AT POLAKU

The executive secretary of the Nigerian Content Development and Monitoring Board (NCDMB), Simbi Kesiye Wabote, has performed the groundbreaking ceremony of a pipe manufacturing plant at Polaku Bayelsa State, which is being promoted by AS Energies Limited.

The plant will manufacture Glass Reinforced Epoxy (GRE) and Glass Reinforced Plastic (GRP) pipes and has an estimated investment outlay of about US\$8.8mn.

Speaking at the event, the executive secretary commended the management of AS Energies Limited and its subsidiary, African Star Manufacturing Services Ltd, on the successful take-off of the construction work on the pipe manufacturing plant.

He noted that the project is in line with the mission statement of NCDMB "to promote the development and utilisation of in-country capacities for the industrialisation of Nigeria through the effective implementation of the Nigerian Content Act."

He further described the ongoing construction activities as a dream come true for the Polaku community as plans for a pipe manufacturing mill in the area had been on the drawing board for a decade.

The NCDMB has assured that AS Manufacturing Services would integrate the community in its operational plans and activities.

Construction of the plant is expected to be completed within 12 months, giving way to actual production.

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Ethiopia and the Netherlands lead calls for groundwater access facility

The governments of Ethiopia and the Netherlands, supported by technical partners including the World Bank Group, the United Nations Development Programme, the United Nations Children Fund, and the Children Investment Funds Foundation, have called for the creation of a Groundwater Access Facility (GaFa) to sustainably use millions of cubic kilometers of untapped groundwater reservoirs in the Horn of Africa.

Presented at a side event at the United Nations 2023 Water Conference titled 'Climate Resilient Groundwater as Catalyst for Sustainable Development in Africa's Borderlands – A Shared SDG Agenda', the initiative seeks to mobilise governments, UN and partners' efforts to provide water in the region of Africa most affected by chronic drought and severe food insecurity.

The Horn of Africa is currently experiencing the worst drought in 73 years and is about to face its sixth consecutive failed rainy season. Hunger and water shortages are a reality for over 15 million people across Ethiopia, Eritrea, Kenya, Somalia, South Sudan and Sudan. The region, however, is rich in underground water which, with the right development investments, could become a sustainable and climate-resilient source of water for the whole region. The GaFa for the Horn of Africa's borderlands would enable critical investments in pre-feasibility analysis and project pipeline development.

"The discovery of deep groundwater lakes in the Horn of Africa is a game-changing opportunity to provide a sustainable solution to the suffering of millions in the region. We must collaborate across the UN system with the World Bank Group, regional bodies and Member States to create investment facilities for this innovative solution," emphasised Ahunna Eziakonwa, United Nations assistant-secretary general and UNDP regional director for Africa.

"Groundwater provision can play a key role in increasing resilience, bringing development and stability. It is often the only reliable source in times of drought. However, it is still most underexploited and we now need a regional approach and long-term framework for the area," stated Boutheina Guermazi, World Bank Group's director for regional integration in Africa.



Image Credit: Adobe Stock

The initiative aims to provide water in the region of Africa most affected by chronic drought and severe food insecurity.

MAURITIUS-BASED IBL TO ACQUIRE MAJORITY STAKE IN EQUATOR

IBL Energy, Mauritius, has announced that it is the lead investor of a consortium that has signed an agreement to acquire a majority stake in Equator Energy, a commercial and industrial solar operator in East Africa. The consortium's partner is STOA, an impact fund established by Caisse des Dépôts et Consignations (CDC) and Agence Française de Développement (AFD). The completion of the transaction is contingent upon certain conditions precedent, including obtaining relevant regulatory approvals and fulfilling all legal requirements.

Equator Energy operates the most significant commercial and industrial solar power portfolio in East Africa, primarily in Kenya and Uganda, with smaller operations in Zimbabwe, Somalia, Gambia, and South Sudan. They provide fully integrated renewable energy systems.

US COLLABORATES WITH TANZANIA ON SEVERAL FRONTS

As part of her visit to Dar es Salaam, United States Vice President, Kamala Harris, has announced plans to strengthen commercial engagement between the US and Tanzania.

According to a statement released by The White House, the partnership between the US and Tanzania is rooted in more than six decades of economic, development, health, and security cooperation. The US supports Tanzania's democratic reform agenda and shares Tanzania's democratic values.

The Export-Import Bank of the United States (EXIM) and the Government of Tanzania will sign an MoU to expand US-Tanzania commercial engagement by empowering US businesses to export quality, innovative goods and services to Tanzania.

The MoU, which will facilitate up to US\$500mn in US export financing to Tanzania, will support exports in a variety of sectors including infrastructure, transportation, digital technology, climate and energy security, power generation and distribution projects.

The MoU will support jobs in both countries and builds on EXIM's congressional mandate to increase US exporters' relationships in sub-Saharan Africa.

The US has helped facilitate a strategic partnership between Life Zone Metals and TechMet, a leading critical metals company part-owned by the US Government through the US International Development Finance Corporation (DFC).

Other areas of collaboration include fiber backbone and access network expansion in East and Central Africa; a partnership on 5G security and cyber cooperation; a bilateral development partnership; promoting education, youth engagement and women's economic empowerment; and fostering biodiversity and food security.

► BRIEFS

Image Credit: EACOP



Acquiring an investment licence from the agency is mandatory.

UIA grants licence to EACOP

East African Crude Oil pipeline (EACOP) Ltd, the company spearheading the development of Uganda's crude oil export pipeline, has received the investment licence from Uganda Investment Authority (UIA).

The authority issues an investment licence to both domestic and foreign companies. Acquiring an investment licence from the Uganda Investment Agency is a mandatory requirement for foreign investors.

Image Credit: Aero Africa



Salam Air is providing freighter services from Nairobi to Oman.

Salam Air appoints Aero Africa as GSSA

Aero Africa, an air cargo management group, has been appointed Cargo General Sales & Services Agent (GSSA) for Salam Air, an Oman-based low-cost carrier, in Kenya. Salam Air freighter service from Nairobi to Oman is set to start with a once-weekly Airbus A321 passenger to freighter (P2F) conversion aircraft.

The frequency will increase to twice weekly due to increased demand for perishable air freight capacity from Kenya to Oman.



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Upcoming Events Calendar 2023

MAY

9-11

SECUREX WEST AFRICA

Lagos, Nigeria
<https://www.securexwestafrica.com>

16-18

ENLIT AFRICA

Cape Town, South Africa
<https://enlit-africa.com>

23-25

OMC RAVENNA

Ravenna, Italy
<https://www.omic.it/en>

31-03 June

BUILDEXPO AFRICA

Nairobi, Kenya
<https://www.expogr.com/buildexpokenya/>

JUNE

6-8

SECUREX SOUTH AFRICA

Johannesburg, South Africa
<https://securex.co.za/>

6-8

PROPAK GHANA

Accra, Ghana
<https://www.propakwestafrica.com/propak-ghana>

6-8

NIGERIA BUILDEXPO

Lagos, Nigeria
<https://www.nigeriabuildexpo.net/>

14-16

DRC MINING WEEK

Lubumbashi, DRC
<https://wearevuka.com/mining/drc-mining-week/>

20-23

AFRICA ENERGY FORUM

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

27-28

AFRICA RAIL

Johannesburg, South Africa
<https://www.terrapinn.com/exhibition/africairail/index.stm>

27-29

THE BIG 5 CONSTRUCT SOUTHERN AFRICA

Johannesburg, South Africa
<https://www.thebig5constructsouthernafrica.com/>

JULY

11-13

WATER EXPO NIGERIA

Lagos, Nigeria
<https://elanexpo.net/waweexpo/>

Africa Energy Forum to celebrate 25th anniversary in Kenya

In celebration of its 25th anniversary, Africa Energy Forum (aef) 2023 will be hosted on mainland Africa for the first time when it opens in Nairobi, Kenya, from 20-23 June.

The conference is running this year under the theme ‘Africa for Africa’ and will once again unite governments, utilities and regulators with development finance institutions, commercial banks, power developers, technology providers, EPCs and professional services.

This year, Sun Africa, a leading utility-scale renewable energy project developer and off-grid solution provider, is on board as the new forum sponsor and joins the returning exhibition sponsor, AKSA, global partners IFC and MIGA and IPP partner Globeleq, as top-line sponsors.

This year’s agenda will focus on several strategic areas scaling-up renewables, energy for mining, Africa as a global hydrogen powerhouse, the role of gas and capital flows and risk mitigation – all from the perspective of advancing projects, partnerships and business development.

Attendees will have the opportunity to meet stakeholders and decision-makers and engage with high-level panel discussions, interactive workshops, boardrooms and networking functions. This year, EnergyNet is also hosting YES! (The Youth Energy Summit), a large-scale youth and early career-focused initiative to build human capital in Africa’s



Image Credit: aef

At aef 2023, networking functions will facilitate meaningful connections and partnerships between attendees.

energy sector, aiming to make energy projects more likely to fully succeed.

More than 2,000 attendees across Africa’s energy sector are expected to participate this year, ready to engage with the 90+ sessions that will feature more than 300 speakers. The 2023

conference will boast the largest exhibition hall to date and more than 100 solution providers and professional services will be on display.

Find out more at: <https://www.africa-energy-forum.com/>

Going global to fulfill Africa's potential

Elise Donovan, CEO of BVI Finance, explores why global integration is essential to Africa achieving its economic growth potential.

Boosted by a young, growing population as well as vast natural resources, Africa's economic growth trajectory is, to say the least, promising. On the continent, there is an increasing focus on technology and innovation and it is home to some of the fastest-growing economies in the world. Industries such as agriculture, renewables, telecommunications and the Fintech sector are blossoming, presenting an unprecedented opportunity for governments, businesses and citizens alike.

This outlook, propounded by Donovan, is irresistibly exciting and represents an intriguing prospect for the global community. In the view of Donovan, it is only by building on these relationships and ensuring the continent is integrated into the global sphere, that the economic potential of Africa can be truly realised.

"When you look at global integration and the potential, Africa is undoubtedly the next frontier," Donovan surmised. "Being integrated globally is essential to the progress of the continent as it attracts capital, enables technology advancement, promotes collaboration and knowledge sharing, and will boost markets to create jobs and alleviate poverty.

"That is not to say there are not challenges within the global community and Africa at the moment. There are crises centred around war, banking and crypto for example, but these are not unique to the continent – although they may be more acute in some areas. Ultimately, the African opportunity outweighs the risks. The vast human resource capital of the continent will enable it to accelerate on its goals in terms of infrastructure, technology, education and all that is required to create jobs and prosperity."

“Being integrated globally is essential to the progress of the continent.”

ELISE DONOVAN, CEO OF BVI FINANCE

Providing a platform

To realise this vast opportunity, said Donovan, fostering the relationship between the continent and the global community is paramount and this is where international finance centres such as the British Virgin Islands (BVI) are essential.

"The BVI is an established intermediary with a proven track record of facilitating global trade, investment, finance and mobility to markets across the world. Our objective is to help strengthen the connection between Africa, African businesses and international finance markets by facilitating partnerships and networks and encouraging investment, trade and finance," Donovan commented.

With a pan-African outreach, the BVI boasts a number of advantages to help African businesses get access to international capital markets – for the prosperity of both.

Donovan continued, "We have one of the best corporate vehicles – the BVI business companies and company legislation, which is based on English common law and designed for maximum agility. It is modern, flexible and has been used by millions of companies across the world since its establishment. We are also very efficient as a jurisdiction in helping to provide that access.

"When you are doing cross-border business, you want to have access to a neutral jurisdiction that is creditor-friendly and has legal and commercial certainty. It is also essential to have access to facilities in case any dispute arises and, for that, we have an established commercial court and an international arbitration centre."

Donovan was also keen to point out that, in addition to these advantages, the BVI is also a tax-neutral jurisdiction in the sense that businesses transacted through the jurisdiction do not receive an extra layer of tax added on.

"This does not negate the responsibility to pay taxes in the jurisdiction where they are required to do so," Donovan remarked. "We are very transparent in this and adhere to an array of international global tax and anti-money laundering initiatives and standards. We are not here to avoid tax but to help facilitate cross-



Image Credit: BVI Finance

Elise Donovan is the CEO of BVI Finance, the voice of the BVI's financial services industry.

border business and mitigate some of the risks inherent in doing global business."

To highlight the BVI's contribution to global prosperity, BVI Finance has recently commissioned a report from Pragmatix Advisory which found that the international finance centre, through its ability to enable global trade and investment, "is a substantial net benefit to business and governments across the globe". Supporting around 2.3 million jobs worldwide, it mediates around US\$1.4 trillion in assets and likely contributes more than US\$13.8bn annually to government coffers worldwide.

With these impressive credentials, the BVI is reiterating its commitment to the African continent to support its relationship with the international community and realise the prosperous future that is there for the taking.

"Africa, as we have said before, boasts so much potential and there is so much happening, but it needs to build on global integration. We have a proven track record of facilitating that and providing a neutral platform for African businesses to get access to international markets, investment and expertise. We want to continue to be a partner so we can be at the forefront of the continent's growth and continue to be part of the African story," Donovan concluded. ■

The report, 'Beyond Globalisation: The British Virgin Islands' contribution to global prosperity in an uncertain world', can be downloaded here: <https://bvifinance.vg/The-BVI-Advantage/Beyond-Globalisation>

Investing in a sustainable future

Lisa Pinsley, partner, head of Middle East & Africa energy infrastructure, Actis, explores how the continent can attract more investment to help develop critical infrastructure.

African Review (AR): How do organisations such as Actis play an important role in the continent’s development?

Lisa Pinsley (LP): Actis has been present in Africa and the Middle East since 1948 and has completed more than 70 transactions in the region. Actis has invested nearly US\$2bn into the energy sector on the continent in particular.

Notably this quarter, Actis completed the sale of its stake in Lekela Power. Established in 2015, Actis and Mainstream Renewable Power Africa Holdings built Lekela into Africa’s largest pure-play renewable energy Independent Power Producer (IPP) with over 1GW of fully operational wind assets.

Actis also owns and controls BTE Renewables, a leading pan-African renewable energy platform, composed of close to 500MW of power capacity across six energy assets in South Africa and Kenya and a 6GW proprietary pipeline. Rounding out the Actis portfolio in Africa is Azura Power, the best-in-class thermal generation platform with an operational portfolio of nearly 1GW across Nigeria, Senegal, and Mozambique.

Lekela, BTE, and Azura have all implemented the highest international standards in health, safety and environmental protection and have advanced a deep commitment to local development and operate community investment programmes that finance entrepreneurship, educational and environmental protection initiatives. As one of the largest private capital allocators to Africa globally, Actis is focused on identifying and creating investment opportunities that will generate the returns our investors require but also will contribute substantially to progressing the economic, social, and environmental conditions of the areas where we operate.

AR: Which African sectors typically attract the most investment and how will this change in the coming years?

LP: Actis continues to believe in the opportunity to supply critical infrastructure in Africa. Historically, we have focused primarily on utility scale energy generation and distribution. This sector will continue to grow considering strong energy demand growth and the urgent global

energy transition. We expect much of that growth to come from renewables.

We are also excited about the growth opportunities in Commercial & Industrial (C&I) power generation. The C&I solar PV sector in the Middle East and Africa is expected to reach 12GW+ by 2030, driven by supporting regulation and increasing customer demand for green energy. Reflecting our belief in the sector, Actis recently acquired a controlling stake in Yellow Door Energy, the leading distributed C&I solar platform in the Middle East and Africa.

Actis further sees an opportunity in clean hydrogen production in the Middle East and Africa, with countries such as Egypt, South Africa, and others leading the pack with concrete action and announcements.

“ We see a huge investment opportunity in addressing global sustainability goals.”

LISA PINSLEY, PARTNER, HEAD OF MIDDLE EAST & AFRICA ENERGY INFRASTRUCTURE, ACTIS

AR: Why has Africa traditionally attracted so little investment compared to other regions?

LP: Understanding how to increase foreign investment requires a nuanced look at the national and subnational level, as countries in this region (and often different cities within a country) have experienced significantly different drivers. Overall, we find that the key inhibitors (which of course vary by country) have included macropolitical challenges, policy and regulatory challenges, and unfavourable market design.

We expect and hope that governments continue to work to enhance the bankability of the projects they are pursuing, in part by taking specific feedback from investors like Actis and supported by partners including DFIs, MDBs, partner countries.



Image Credit: Actis

Lisa Pinsley partner, head of Middle East & Africa energy infrastructure, Actis.

AR: What do you typically look for when assessing whether to invest?

LP: The vast majority of infrastructure projects Actis invests in are financed by lenders on a non- or limited-recourse basis. Accordingly, we look for large bankable project opportunities in countries that offer the ability to invest at scale. For each opportunity, it is critical that risks are allocated to the party best suited to bear that risk, and that the country has the track record and trust to enable international lenders to participate.

AR: Why is sustainability so important to Actis?

LP: Investing sustainably is central to our investment strategy, culture and ethos. Our approach to investing sustainability enables us to deliver positive impact on a global scale.

As investors in sustainable infrastructure, we see a huge investment opportunity in addressing global sustainability goals and our investment process ensures we consider the risk and opportunities arising out of the global energy transition. We are focused on building resilient, future-proofed companies that deliver a transition which is equitable, inclusive and leaves no one behind. In addition to this, as an investor, our overriding goal is to deliver superior returns and this is best achieved through environmental and societal stability, which are vital to economic growth. ■

IVECO expands presence in Libya

IVECO, a manufacturer of commercial vehicles and off-road trucks, has appointed Al Imtiyazgroup for importing transport goods and spare parts as its authorised dealer in Libya.

This appointment by IVECO was after a thorough assessment of Al Imtiyazgroup's reputation and recognition in the market while taking into consideration factors such as its strong and nationwide aftersales support network, long-serving staff strength and its customer care excellence.

Ibrahim Musbah Whiba, CEO of Al Imtiyazgroup, commented, "We are delighted to become a partner of IVECO in Libya. This is a proud moment for us as we are expanding our products portfolio and services to our customers beyond the construction equipment range. IVECO has a



The appointment by IVECO was after a thorough assessment of Al Imtiyazgroup reputation and recognition in the market.

Image Credit: IVECO

“Customers now have the chance to drive the IVECO range and to be supported by the best transport solution across the whole country.”

SHAHRAM FALATI, IVECO AFRICA & MIDDLE EAST BUSINESS DIRECTOR

strong presence in Libya and we strongly believe our new partnership will fuel the growth of IVECO brand to greater levels moving forward.

"The new range of heavy, medium and light vehicles of IVECO will be available for delivery to customers by early 2023. We are committed to deliver the best aftersales support for all IVECO customers in Libya through our existing nationwide branch network."

Shahram Falati, IVECO Africa & Middle East business director, added, "We are glad to improve our

presence in Libya thanks to the appointment of an additional partner. Starting from January, Al Imtiyazgroup for importing transport goods and spare parts joined IVECO Official Network.

"The customers now have the chance to drive the IVECO range and to be supported by the best transport solution across the whole country. Our focus will be as usual on quality and excellent service provided by a strong network." ■

For further information about IVECO: www.iveco.com

Image Credit: IVECO



The new range of heavy, medium and light vehicles of IVECO will be available for delivery to customers by early 2023.

The call for cleaner transport

Reservations around the viability of electric vehicles (EVs) in Africa are being challenged by new, more sustainable solutions arriving on the market.



Volvo's new electric rigid trucks can handle a wide range of transport assignments with zero tailpipe emissions and less noise.

Image Credit: Volvo Trucks

While somewhat of a taboo given the focus on sustainability, there is an underlying suspicion that the integration of EVs into sub-Saharan Africa's (SSA) transportation network – especially in regards to commercial usage – is somewhat of a pipe dream.

Reliant on unique charging stations and stable power-grids, the lack of supportive infrastructure in the region is often used by critics as a key inhibitor which will continue to restrict widespread EV use for years to come. Others have pointed at affordability as, often, these machines make use of new, costly technology that is built from critical minerals. Finally, as propounded most clearly by a 2022 McKinsey

report on the electric transport transition in SSA, the dominance of used vehicles (40% of globally exported used vehicles reportedly end up in the continent) will mean that new EVs are forced to compete with old, low-cost internal combustion engines.

To compound this, sub-Saharan governments have generally been slower in implementing policies to reduce vehicle emissions and encourage EV usage than other regions such as Europe, meaning a lack of incentive for consumers and businesses.

Change on the horizon

Despite the array of issues lined up against EVs in SSA, other factors point at a more optimistic future.

As the technology around EVs advances, the cost of these machines will continue to decrease and their accessibility will enhance. In addition, the African appetite to look after the environment is becoming more voracious (a testament to the inhabitants of the continent given its comparatively little climate impact compared to other regions) which is driving interest in less carbon-intensive transportation.

There are also calls for Africa to play a bigger role in the EV value chain. The market – which is becoming increasingly more lucrative – could harbour real economic opportunities and help to drive wider development, especially in countries rich in resources key to

electric batteries such as cobalt. If SSA countries could establish themselves more firmly within the manufacturing process, it could see them take a central role in this market and would, in turn, help to accelerate the transition to EVs in the region.

Ahead of the pack

One of the companies that is championing this African EV future is Volvo which has, in recent months, showcased its intentions in the African market through a number of exciting announcements.

At the end of 2022, Volvo Trucks strengthened its position as a leader in electric truck transport by launching several new extra-heavy electric trucks. The new extra-heavy

rigid trucks, available in South Africa from May 2023, can be designed to carry electric superstructures for a wide range of specialised transport assignments, including goods distribution, refuse collection and construction work.

Waldemar Christensen, MD of Volvo Trucks South Africa, explained that the company is expanding its offering with the introduction of rigid versions of its extra-heavy electric trucks: the Volvo FH, Volvo FM and Volvo FMX

“Although we are in the early stages of our electric truck journey here in South Africa, our staff and dealers are fully trained and prepared for this new technology, to enable us to fully support our customers as more and more fleets move to sustainable transport solutions. There are, of course, some infrastructural and legislative obstacles to overcome, but together with our customers and other stakeholders, we are working hard to ensure the success and longevity of heavy electric trucks in South Africa,” commented Christensen.

In March, Volvo Trucks delivered its first heavy electric truck to Morocco, the first heavy battery-electric truck from a global manufacturer to be in commercial operation in Africa. The customer, a refuse collection company Arma, will use the Volvo FE electric for collecting waste in Rabat where it will replace the existing Volvo FE diesel truck.

Martin Nilsson, MD of Volvo



A series-produced, zero-exhaust emission truck will be used for collecting waste by the company Arma in Rabat.

Trucks Morocco, said, “This clearly shows that zero-emissions trucks have a role to play in many parts of the world. Volvo is the first global brand with heavy electric trucks in commercial operation in Africa.”

Indeed, it was not long before the company made a similar stride forward in South Africa where, at the start of April, it announced that it was preparing to present the first extra-heavy electric truck to KDG Logistics.

Eric Parry, Volvo Trucks SA’s sustainable solutions manager, demonstrated the capability of the Volvo FM 4x2 truck-tractor by taking it on a 600 km journey from the company’s dealer in Durban to its facilities in Johannesburg. Only one charging stop was required on route.

“We aimed to prove that an extra-heavy electric truck like this, can drive long distances. Even though we didn’t carry any payload, it still gave us a good indication of just

“ There are of course some infrastructural and legislative obstacles to overcome, but we are working hard to ensure the success and longevity of heavy electric trucks in South Africa.”

WALDEMAR CHRISTENSEN, MD OF VOLVO TRUCKS SOUTH AFRICA



Volvo’s electric trucks can handle all kinds of transport, from lighter to heavy loads.

what this truck is capable of,” said Parry. “Generally, battery electric trucks are used in regional distribution, operating in and around cities, running from distribution centres to stores, etc. But with proper planning, customers will be able to do so much more.”

African Review caught up with Parry to hear more about Volvo Trucks’ intentions in South Africa and the viability of EVs in the region in the future.

AR: How does this compare to the wider SSA region?

EP: The demand is there in the region, but isolated to certain pockets. It will mature as time goes on and we will expand out into the region when it is reasonable to do so.

AR: How important are electric vehicles to the business right now and how do you expect this to change?

EP: Right now, they are a small part of our local business, but as demand grows and there is a bigger push towards cleaner transport it will become much more significant. This is a vital and important step towards a future we want.

AR: Has the infrastructure barrier been a concern for your South African clients and how can this be overcome?

EP: The primary application is regional distribution, and in most of those applications local operators already tightly control where their diesel vehicles refuel. The mindset is the same with electric, so we see most customers wanting their own charging stations.

A charger is very unlike a diesel station, in that it does not need special accreditation or approvals. They just need an electrical CoC. But most importantly, they don’t care where the power comes from, if you have the right voltage and current, it will charge the vehicle. So, you can start with grid power and graduate to a more renewable source as you go, without having to change the charger. ■

African Review (AR): What has been the demand for electric trucks in South Africa?

Eric Parry (EP): The interest and demand have been somewhat higher than most people would think. There is a significant number of companies locally that have high ambitions to significantly reduce their environmental impact. They are driving the demand for cleaner transport. This has been a pull factor for us, but also a shift towards more environmentally sustainable solutions is part of Volvo Groups global plan, of which we also play a part.



The new logo reflects the modern Nokia of today.

Image Credit: Nokia

Unleashing the power of digitalisation

Naveed Kashif, Nokia's head of southern Africa cluster and customer business team for MTN Group, explores the direction of the company following its recently announced rebrand.

Earlier this year, at MWC Barcelona 2023, Nokia unveiled a refreshed brand as part of its long-term strategic transformation to deliver sustainable, profitable growth.

The company has revamped its look to more clearly signal who it is today: a B2B technology innovation leader dedicated to realising the potential of digital in every industry.

African Review spoke to Kashif to find out more about Nokia's journey:

African Review (AR): What prompted the updated strategy and rebrand?

Naveed Kashif (NK): The brand refresh directly supports Nokia's company and technology strategy to deliver sustained long-term growth as we capture the opportunity of digital transformation in every industry.

The new logo reflects the energised, dynamic and modern Nokia of today: a B2B technology innovation leader playing a pivotal role in an increasingly digital world, driving productivity, sustainable growth, and inclusive access. It underpins our strategy to be solely focused on being a B2B technology innovation leader and scale the B2B business as we capture the opportunity of digital transformation.

The refreshed brand is a visual representation of Nokia's purpose: 'to create technology that helps the world act together'. Created from five abstracted letterforms, each works together to read as 'Nokia'. This is symbolic of our belief in collaboration. We are bringing together customer and partner ecosystems to create tomorrow's digital services and applications – delivering collaborative advantage, together.

AR: Why have you identified the need to develop ESG into a competitive advantage?

NK: Sustainability is a core component of Nokia business and technology strategies. The way we see it, there is no green without digital. Last year, we announced our enhanced ESG strategy, designed to maximise Nokia's impact. Combining its technology, solutions and capabilities to address some of the biggest global challenges, the strategy also aims to create increased value. We have been chosen as one of the most ethical companies for several years in a row. We pride ourselves on our ethics and compliance practices.

AR: How important do you consider the African and Middle East regions to the company?

NK: The Middle East and Africa have quickly expanded, adapted and evolved to meet the challenges of the 21st century. The region has a rich history and a diverse ecosystem of critical industries that keep the world's societies and economies moving forward.

While known best for its rich oil and gas resources, the Middle East and Africa also leads the world in low-carbon footprint desalination technology. It boasts a strong mining market with over 400 mines supplying the world with copper, iron, gold and titanium – essential elements to the construction industry, consumer electronics, communication networks, and more.

With so many key global industries the region is a key market for digitalisation. This allows enterprises to build greater resilience for their business and their operations. Helping to address supply chain challenges, but also providing the tools needed to diversify business models for the future. Whether it's connected sensors and infrastructure for monitoring environmental conditions or optimising operations to create less waste, digitalisation holds the key.

Nokia's products and services are at the very heart of digital age development. We are dedicated to bringing technologies like 5G, private campus networks and modernised mission-critical IP/MPLS networks to enterprises, delivering solutions that go far beyond "good coverage". Our solutions for enterprises provide the elements needed to support productivity-enhancing operational tools like digital twins and AR-guided work instruction. They are essential for increased automation for port operations and mining, and remote communications coverage for renewable energy operations. Our society-critical network technologies allow for improved situational awareness for public safety and accessibility to smarter citizen services.

AR: Which industries in Africa and the Middle East do you envision has the most to gain from digitalisation?

NK: Digitalisation allows enterprises across different industries to build greater resilience for their business and their operations. It also helps



Image Credit: Nokia

Naveed Kashif, Nokia's head of southern Africa cluster and customer business team for MTN Group.

to address supply chain challenges and provides the tools needed to diversify business models for the future.

Historically, the region has lagged North America in digital transformation, but it's seeing a wave of technological evolution. Industries and enterprises aren't just planning to evolve, they're actually implementing cutting-edge technologies.

Heavy industries such as oil and gas, mining and maritime ports are among the fastest when it comes to adopting these technologies. The mining industry has been under tremendous pressure to boost productivity while keeping workers safe. Thanks to 5G, I have seen mining operation availability increase by an average of two hours per day, which has a huge impact on productivity and revenues. Plus, miners can use autonomous fleets to reduce accidents, lower emissions and improve asset lifetime.

In oil and gas, the industry is actively pursuing the "killer use case" of remote well head connectivity. 5G is making that a reality by bringing pervasive, reliable coverage to remote and offshore rigs, enabling new levels of automation that can improve productivity by 10%, reduce emissions by 20% and, according to PwC, boost global GDP by US\$1.3 trillion by 2030. And for port operators, 5G is bringing an average improvement of 25,000 more terminal berth moves per year, with a boost in TEU throughput by 10%.

And it's not just 5G. Technologies like digital twins are proving to be equally revolutionary. ■

Maintaining a human firewall

Proper training will ensure that personnel follow best practices and reduce the possibility of a cyber-breach.

The perils of cybercrime are only becoming more prominent as Africa continues to find its feet in the digital age, posing a real threat to businesses looking to establish themselves in this new environment.

According to global cybersecurity and digital privacy company, Kaspersky, 40% of industrial control systems (ICS) computers were attacked with malware throughout 2022. In Africa specifically, this figure sits at 47% with Ethiopia (62%), Algeria (59%) and Burundi (57%) experiencing the most attacks on ICS infrastructure.

Other stand-outs included Rwanda (46%), Kenya (41%), Nigeria (40%), Zimbabwe (40%), Ghana (39%), Zambia (38%) South Africa (36%), and Uganda (36%). This represents a high growth threat landscape, says Kaspersky, that no public or private sector entity – especially in critical areas such as energy and mining – can ignore.

“One infected USB drive or a single spear-phishing email is all it takes for cybercriminals to bridge the air gap and penetrate an isolated ICS network. Traditional security is not adequate to protect industrial environments from rapidly evolving cyber threats. As attacks against critical infrastructure increase, choosing the right approach to secure systems has never been more important,” remarks Brandon Muller, Kaspersky tech expert and consultant in the Middle East and African region.

“Despite all the innovations in modern cybersecurity solutions, human error still plays a significant role in compromising ICS systems. As such, it needs to be managed much more proactively than what is currently happening. This requires utility companies, mines, and others operating in the industrial environment to look at building a



Training the workforce is critical in creating a strong cybersecurity culture.

Image Credit: Adobe Stock

Human Firewall.”

According to Kaspersky, building this requires the right security awareness and training solutions that go beyond basic training. These should deliver training that is easily digestible, practical and memorable. Beyond that, sector-specific interventions should be considered.

“It is a holistic approach towards ICS cybersecurity that incorporates hardware, software, and user awareness training components that will result in a hardened defensive posture around all aspects of OT security processes,” says Muller.

A cyber-conscious culture

The importance of proper training is reiterated by Michael Heering, marketing director, global field marketing at the SANS Institute, a company which specialises in information security, cybersecurity training and certificates.

He comments, “Training the workforce is critical in creating a strong cybersecurity culture and effectively mitigating cyber threats. All employees, both technical and non-technical, should receive regular training to understand the risks and identify threats. Continuous learning is vital, as even experienced security

professionals can fall victim to the latest phishing scams. To stay ahead of cybercriminals, organisations must invest in ongoing education, training, and certification programmes for their personnel.

Heering continues, “Adopting new technologies and initiatives is crucial for organisations to tackle cyber threats effectively. This includes implementing advanced security solutions like artificial intelligence (AI) and machine learning (ML) to detect and respond to threats in real-time. Furthermore, embracing a zero-trust security model can help minimise the attack surface by limiting access to sensitive data and systems.

“Collaboration between industry partners, governments, and law enforcement is essential in sharing threat intelligence and developing effective countermeasures. Initiatives like information sharing and analysis centres can facilitate this collaboration, helping organisations respond to threats more efficiently,” Heering concludes. ■

“Despite all the innovations in modern cybersecurity solutions, human error still plays a significant role in compromising ICS systems.”

BRANDON MULLER, KASPERSKY TECH EXPERT AND CONSULTANT IN THE MIDDLE EAST AND AFRICAN REGION

Setting sail to save the ocean

Following the departure of the Plastic Odyssey vessel from Senegal, Alexandre Dechelotte, CCO & cofounder of Plastic Odyssey, provides more detail on the unique project which is dedicated to reducing ocean plastic pollution.

Plastic Odyssey is an international project which is serving to fight ocean plastic pollution with the help of a worldwide network. Across a remarkable three-year expedition, the mobile laboratory vessel will circumnavigate the globe, stopping at various countries and communities most impacted by pollution, to encourage and develop concrete solutions to recycle plastic waste and raise awareness of alternatives to plastic.

Since beginning its journey in October 2022 in Marseille, the Plastic Odyssey vessel has traversed the Mediterranean by visiting ports in Lebanon, Egypt, Tunisia and Morocco before heading down the African coast to Senegal and Guinea.

In the West African region, the team helped launch Guinea's first micro-plastic waste recycling plant with BGS Recyplast and, in Dakar, constructed two new recycling machines for the vessel from relatively few technological and budgetary resources. Following these success stories, the vessel has now set sail across the Atlantic to continue its world voyage.

Following its departure, and ahead of a return to Africa when it arrives in Madagascar in 2025, *African Review* spoke to Dechelotte to find out more about the project.

African Review (AR): What was the inspiration behind the Plastic Odyssey initiative?

Alexandre Dechelotte (AD): The inspiration behind the Plastic Odyssey initiative came from [cofounder] Simon Bernard's experience during a stopover in Dakar. He witnessed first-hand the impact of plastic pollution and wanted to organise an expedition similar to the one he had



The Plastic Odyssey vessel.

Image Credit: Plastic Odyssey

participated in with Nomade des Mers, led by Corentin de Chatelperron.

Nomade des Mers developed low-tech solutions and documented their implementation all over the world. Our project has been powered by French and international organisations such as L'Occitane en Provence, Credit Agricole, Matmut, Clarins and Endeavour Foundation. These companies support financially the project and help us in a practical way to give more impact to our stopovers by sharing contacts and tools locally and by spreading the messages that the expedition carries.

AR: Why is the social aspect, in regards to including local recyclers, so important in the fight against plastic waste?

AD: To reduce plastic pollution, the first action we need to take is to reduce the production and use of raw materials. This will require changing our behaviours in most cases, and while it will take a long time, it will only reduce the amount of new plastic entering our

environment. Plastic has been polluting the environment for decades and we need to address it now.

Recycling plastic can be profitable as it transforms this valuable material into a new product that can be sold in local markets and create real local value. This value needs to benefit local citizens. The idea of Plastic Odyssey is to create a worldwide network of local initiatives to share knowledge and technologies to create local recycling businesses. These businesses generate jobs by transforming this pollution into a resource and can be a life changer for local communities who suffer from plastic pollution.

AR: Why is it so important to help bring the voices of entrepreneurs from marginalised areas into the discussion around plastic waste?

AD: Entrepreneurs in marginalised regions may face challenges such as a lack of infrastructure and financing to implement plastic recycling projects. By supporting these entrepreneurs with resources, funding, and technical knowledge, we can help promote sustainable

development and combat plastic pollution.

For example, in 2021, we met Mariam Mohamed Keita, an inspiring entrepreneur who decided to tackle plastic pollution in her neighbourhood located in the suburbs of Conakry, Guinea. Mariam started her plastic recycling business in a very basic way, using a barrel and a wood fire to recycle plastic waste into road paving blocks made of plastic and sand.

Although her business bases were working, the process of making the blocks was hazardous to her health and that of her team. We collaborated with her to develop more industrial machines that could meet the needs and scale of her business, while also addressing the health and safety issues. Today, BGS Recyplast has the first factory for making up to 300 paving blocks per day from recycled plastic integrated into a container. This innovative container-factory model will be replicated in other regions of the world, and we have already started doing so in Togo and Djibouti, among others. ■

ZETDC and HDF partner to develop hydrogen power plant

Hydrogène de France (HDF Energy) has reached a further step in the development of Zimbabwe's first high-powered green hydrogen power plant, the Middle Sabi Renewstable, by formalising the shared goal to supply the Zimbabwe Electricity Transmission and Distribution Company (ZETDC) in an MoU.

The signing ceremony of the MoU for the new green hydrogen cooperation was presided over by His Excellency E. D. Mnangagwa, President of the Republic of Zimbabwe, during the International Renewable Energy Conference in Victoria Falls.

This MoU was signed by Engineer John Diya, representing the acting managing director of ZETDC, and Nicolas Lecomte, director of HDF Energy for southern and East Africa.

It creates a framework for the joint technical and administrative work to complete the development of this first green hydrogen power plant investment in Zimbabwe, as well as the commercialisation of its electricity and grid services, through a dedicated Power Purchase Agreement.



The signing ceremony which took place in Victoria Falls.

ZIMBABWE LOOKS EAST FOR POWER CRISIS SOLUTION

Zimbabwe has turned to China for help with its looming power crisis, according to a report by Oxford Economics. Chinese state-owned entities such as Sinohydro and China Energy Engineering Group are involved in various energy infrastructure projects in the country.

The country is expanding its 920MW Hwange Thermal Power Plant by adding two 300MW units at a cost of US\$1.4bn - Reuters reported that 85% of the funding comes from China. According to the Zimbabwe Power Company (ZPC), the first of two 300MW units built by Sinohydro, a Chinese state-owned hydropower engineering and construction firm, was successfully synchronised into the national grid recently. The ZPC noted that the second thermal unit is anticipated to begin producing electricity in October, bringing the total amount of new generation capacity to 600MW. These upgrades are crucial to stabilising the country's energy grid, as Hwange is the second-biggest electricity source.

In a separate development, China Energy Engineering Group, another Chinese state-owned energy conglomerate, has proposed to build a 1,000MW floating solar farm on Lake Kariba. The purported project would cost around US\$1bn, comprising more than 1.8 million photovoltaic panels installed over 146 modular floating units, according to an official report by Bloomberg. The solar project would contribute valuably to diversifying Zimbabwe's energy supply mix, with the added benefit of potentially reducing evaporation from the reservoir itself.

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AVEVA partners with Azule Energy to enhance operations through digitalisation

AVEVA, a global leader in industrial software, driving innovation and sustainability, has partnered with Azule Energy, Angola's largest independent oil and gas operator, to drive digital excellence throughout the firm's operations.

The partnership agreement will enable Azule Energy – a 50/50 Joint Venture backed by bp and Eni – to reduce costs, improve safety and unlock new production opportunities using AVEVA's cloud, Software-as-a-Service (SaaS) and digital twin technologies.

Moreover, the partnership will help cut the time spent searching for key asset information, improve maintenance planning, reduce offshore trips and visits, enhance team collaboration, and facilitate remote operations.

Azule Energy boasts a strong pipeline of new projects that are scheduled to support the energy needs of Angola's growing economy and strengthen its role as a global liquefied natural gas (LNG) exporter.

AVEVA will deploy its digital twin software to connect data from every layer of the technology stack for one contextualised, multi-visual experience. In the first phase, AVEVA will focus on existing operations, implementing AVEVA Asset Information Management, AVEVA Information Standards Manager, and Assai Cloud for Operations – for two existing floating production storage and offloading units (FPSOs) in Block 18 (Greater Plutonio Development) and Block 31 (PSVM).

AVEVA's digital twin technology is the only solution on the market that spans the entire asset lifecycle. The vendor-agnostic solution is scalable, integrated, and open. It unites engineering and enterprise data to create a true digital backbone that will bring industrial intelligence to Azule's entire team, delivered via the cloud.

Caspar Herzberg, CEO, AVEVA, commented, "The move to AVEVA SaaS will empower Azule Energy to innovate and remotely collaborate across teams regarding their FPSO assets. The vessels are located a long distance offshore, which represents a significant challenge to operations. Using data-led insights, Azule's team will be able to breakdown silos and deepen collaboration between onshore and FPSO teams, using their combined insight to streamline processes and accelerate delivery."



The Azule energy and AVEVA Teams

Image Credit: AVEVA

ENERGY FROM AFRICA, FOR AFRICA

At the Berlin Energy Transition Dialogue, UNIDO director general, Gerd Müller, called for global financial solidarity and for stronger partnerships and cooperation to drive sustainable industrial development in African countries.

Müller emphasised that the world has the necessary solutions and technologies, and that UNIDO is a leading global platform for knowledge and technology transfer.

He reiterated his call for a Marshall Plan with Africa. "Europe's resource needs do not come first. We need energy, electricity, hydrogen from Africa, for Africa. And then Europe and industrialised countries."

The Berlin Energy Transition Dialogue is an important forum on the global energy transition. Key decision-makers engage in meetings and discussions to solve urgent challenges and forge partnerships in pursuit of an environmentally sound, secure and affordable global energy transition.

The UNIDO director general took the opportunity to meet with representatives of member states, including Energy Ministers, Omar Paganini from Uruguay, and Diego Pardow from Chile, to discuss the acceleration of local industrial production and cooperation on renewables and green hydrogen. He also engaged with key partners to foster stronger collaboration, including Akinwumi Adesina, president of the African Development Bank Group, and, ahead of the UNFCCC COP28, Sultan Al Jaber, the UAE's Minister of Industry and Advanced Technology.

With support from the newly opened UNIDO Investment and Technology Promotion Office in Berlin, Müller met with the principals of the two Berlin-based enterprises that won UNIDO Global Call awards for green and innovative technologies and solutions towards net zero in 2021 and 2022 – betteries AMPS GmbH and eaiser GmbH.

SERENGETI ENERGY ACQUIRES MAJORITY STAKE IN RWAZA HYDRO

Serengeti Energy has acquired a majority stake in Rwaza 1, the 2.6MW run-of-river hydro power plant in Musanze, Rwanda, from Frontier Energy. Rwaza 1 was Serengeti Energy's first operational hydro plant commissioned in September 2018. The company partnered with DC Hydropower Limited and Frontier Energy on the project. In October 2022, Serengeti Energy and Frontier Energy signed a share purchase agreement that initiated the acquisition of Frontier Energy's entire stake in the project and on 29 March 2023, the acquisition was completed, supported by Bowmans as legal transaction advisor.

Serengeti Energy has an ambitious goal to have 300MW of small- to medium-sized projects in its portfolio by 2030 in sub-Saharan Africa. Co-CEOs, Wilfred van den Bos and Solomon Njonjo, affirmed that Serengeti Energy is paving the way for a sustainable future in sub-Saharan Africa, by developing and operating small- to medium-sized renewable energy power plants.

► BRIEFS

Wolf Wind Project reaches financial close



Image Credit: Adobe Stock

JUWI now has more than 4GW wind, solar, and hybrid projects in various stages of development.

Juwi Renewable Energies Pty. Ltd. has announced that the 84MW Wolf Wind Project in the Eastern Cape has reached financial close. The Wolf Wind Project was successfully bid by Red Rocket in Round five of the South African Government's Renewable Energy Independent Power Producers Procurement Programme (REIP). Construction has started and the facility is projected to begin generating electricity for the South African grid by Q1 2024.

Wärtsilä engine runs on hydrogen-blended fuel

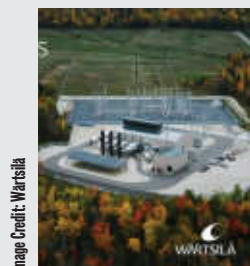


Image Credit: Wärtsilä

Wärtsilä Energy Group and Wec have successfully tested the capabilities of a Wärtsilä engine running on 25 vol% hydrogen-blended fuel. The tests were conducted using an unmodified Wärtsilä 50SG engine. The capability of the engine to co-fire hydrogen blends was successfully demonstrated, showing clear improvements in engine efficiency and reduced greenhouse gas emissions, while staying compliant with NOx emissions.

Making up the energy transition

Enlit Africa is returning to Cape Town from 16-18 May to explore the various elements that make up the energy transition as a whole.

With more than 5,000 visitors expected to attend, Enlit Africa 2023 will open under the overarching theme ‘The multi-dimensional, multi-sectoral energy transition’.

Across the three days, attendees will meet, conduct business, drive energy action and provide insights into the various elements that make up the energy transition as it continues to gain momentum in the year ahead.

Making up the community this year are professionals from the entire energy value chain including representatives from utilities, governments, regulators, consultants, analysts, large energy consumers, IPPs, financial institutions, start-ups, service and solution providers, and more. Together, they will participate and make use of the four pillars that make up the event: the expo, with more than 250 exhibitors on display; the conference, with keynote speeches, interviews and panel discussions; networking, featuring social events to provide unprecedented access to peers; and site visits including tours of cultural and industrial significance.

In 2022, Africa’s just energy transition was the focus of Enlit Africa, with the conference exploring how the Just Energy Transition Partnership intended to contribute to the retirement of coal plant and build cleaner energy sources of the future. This year, the focus will change to just energy transition investment and South Africa’s JET investment plan – exploring this will give context to the multi-sectoral elements that make up the roadmap to a low carbon future.

Understanding this and where the finance will come from will form the crux of discussions for Day 1 of the conference, alongside additional sessions around the practical energy transition, energy access and affordability and implementation of storage. Day 2 will explore the continent’s energy transition ambitions, which are being re-assessed in the face of global economic adversity. Finally, Day 3 will take a deeper look into renewables and the new landscape facing IPPs alongside the democratisation of energy in Africa.

More than 180 expert speakers will be taking to the various stages at the conference to ensure that every aspect of Africa’s energy transition is addressed. Notable participants include: Edson



Image Credit: WMA Group

Uamusse, Fundo de Energia (FUNAE), Mozambique; Geoffrey Muli, managing director of Kenya Power, Kenya; Jennifer Baldwin, transmission & distribution team lead, USAID, Power Africa, SA; Mercy Wairua, legal counsel – energy project finance and infrastructure, Lion’s Head Global Partners, Kenya; Patrick Agese, CEO, PAMAfrica, Nigeria; Sumaya Mahomed, energy consultant, Uganda; William Brent, chief marketing officer: executive to expand rural energy services, Husk Power Systems, Kenya; Ziria Tibalwa Waako, CEO, Electricity Regulatory Authority, Uganda; and many more.

This year, Enlit Africa is sponsored by leading technology and services providers, including ACTOM, G3-PLC Alliance, Conlog, Elsewedy Electric, Prime Alliance and South Pole.

Take a look at a few of the exhibiting companies that will be on display in Cape Town:

Zest Weg

With a focus on the just energy transition, Zest WEG will be showcasing its renewable energy and energy efficient solutions for Africa.

Visitors at the stand will learn more about WEG’s portfolio of renewable energy and energy efficient solutions in the form of wind and solar products and super premium energy efficiency IE4 motors, according to Zest WEG marketing manager, Sazi Madlala.

“With the move to alternative energy sources, Zest WEG’s portfolio includes wind turbines and solar PV products that will drive the African energy mix towards renewables,” said Madlala. “Our 4.2MW wind turbines are direct-drive, gearless systems that promote energy efficient power generation. In addition, we are able to provide complete electrical balance of plant



Image Credit: Zest Weg

The wind energy business has matured for WEG.

(EBoP) solutions utilising our already well-established product and services portfolio.”

The wind energy business has matured for WEG, with more than 750MW of turbines installed in Brazil and more than 1GW of projects in the pipeline. Furthermore, Africa’s abundance of solar resources presents excellent growth prospects for products in the solar energy market.

Madlala noted that rising energy costs in Africa were leading businesses to seek out energy efficient products like WEG’s IE4 motor. “Electric motors consume 60% of all energy produced by industrial users in the South African market. Our IE4 motors help industrial users reduce their demand – thereby also reducing the load on the national and African energy grids.”

G3-Alliance

The G3-Alliance is a non-profit organisation to standardise and promote G3 technology for use in smart metering, smart grids, smart (street-) lighting, and industrial applications worldwide. The Alliance is supported by a group of nearly 100 utilities and industrial players from over 30 countries.

Using standards-based and certified products is fundamental for DSOs to achieve effective interoperable, multi-vendor implementations. This is key to reducing supply chain risk and avoiding vendor lock-in. Therefore, the Alliance

Image Credit: G3-Alliance



Standards-based solution for multi-vendor implementations.

developed a very thorough, and credible certification programme.

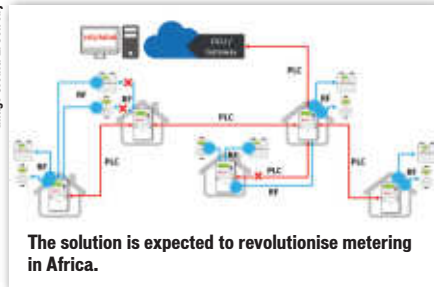
G3-PLC is its proven and robust powerline communication technology, with more than 80 million devices in operation all over the world. It is secure, cost-effective and future-proof and completely free of any telecommunication or license fees.

Visitors at the company’s stand will learn all about G3-PLC and the new G3-Hybrid, which even offers enlarged possibilities when needed with RF and Powerline communication in one single solution.

El Sewedy

El Sewedy Electrometer Group (EMG) is rolling out one of the Middle East and Africa region’s first hybrid communication projects utilising PLC + RF communication in its AMx70 Series Meters. This solution, called PRIME Hybrid, was developed by the PRIME Alliance in a collaborative effort that included some of the world’s leading chip manufacturers, meter vendors and solution providers to develop a solution, which is powered

Image Credit: El Sewedy



The solution is expected to revolutionise metering in Africa.

by open standard protocols. Key advantages of this solution include:

- Active communication using dual networks for PLC & RF
- Routes built hop-to-hop
- Dynamically selecting between the best available channels
- Integration between multiple metering layers and vendors
- Electricity meters as a gateway option for smart water and gas meters
- No bottlenecks
- Reliability increases with increase in number of nodes.

The AMx70 Series is expected to revolutionise metering in Africa as it significantly reduces CAPEX and OPEX for AMI metering projects making the foundation for smart cities a reality.

Zimele Technologies

Zimele Technologies is an industry-leading technology company that specialises in providing effective and secure enterprise software solutions, implementation and support for the public and private sectors, both locally and internationally.

At the company’s stand at Enlit Africa, it will highlight its hosted solution packages ranging from Silver, Silver Plus, Gold and Platinum – all of which boast different solutions. Customers can choose to host the solution on the cloud, on premise or individually depending on need.

Taking a closer look at one of these, the Zimele Hosed Solution Platinum package provides a utility company with a complete, streamlined execution of their day-to-day processes. It offers Advanced Metering Infrastructure (AMI), Meter Data Management System (MDMS), Meter Reading Application and SAP Core IS-U. The Platinum package can be fully integrated in SAP solutions while offering openness to integrate with third party services.

Core features include basic IS-U functions; meter reading with offline capabilities, cross platform and GIS integration; time-of-use billing intervals; automated data management across utility systems; and a cutting-edge user experience.

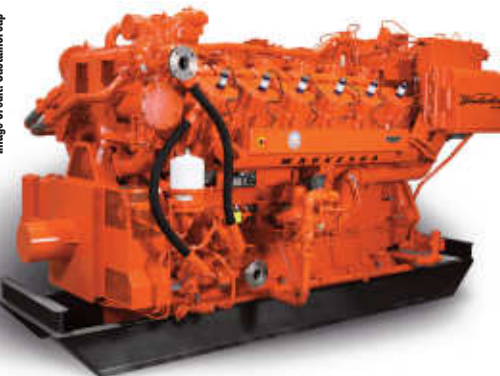
SustainGroup

Founded in 2016, SustainGroup focuses on packaging high-quality energy solutions for the African continent using world-class components. SustainSolar, its mini-grid development arm, has deployed off-grid solutions across Africa, whilst SustainStorage has provided large-scale containerised BESS solutions to industrial clients in South Africa.

Based at its Cape Town workshop, SustainPower containerises special gas engines from Europe and the USA fuelled by natural gas, biogas, or landfill gas.

SustainPower has announced the addition of its newest partner, Innio Waukesha. Waukesha engines trace their origins to the oil fields of East Texas in the early 1920’s and have become the leading special gas engine in the industrial and multinational oil & gas industries.

Image Credit: SustainGroup



Waukesha VHP Series Five Engine.

Renowned for their attractive life cycle costs and load-handling performance, these rich-burn American-made machines are the ideal solution for rugged applications on the African continent and in the South African context of systematic load shedding.

ACTOM

Products and systems which are to be featured on ACTOM’s exhibition stand at Enlit Africa will include ACTOM MV Switchgear’s newly-developed SBV4XE switchgear product introduced into the market last year.

SBV4XE, successor to the division’s widely-used SBV4 and SBV4E switchgear products, incorporates a host of new advanced features including:

- The spring-charging and cam-follower mechanisms are designed to incorporate less costly and more readily available alternative materials;
- The opening and closing releases require less energy to operate than in the earlier SBV models;
- With a lower parts count, the circuit-breaker

operating mechanism requires less maintenance, so reducing the total cost of ownership;

- The vacuum interrupter pole assembly is more cost-competitive than the earlier models;
- Arc cooling pressure relief devices have been introduced into the housing assembly to reduce emissions released during an internal arc fault.



SBV4XE switchgear panels being assembled in ACTOM MV Switchgear's factory.

ACTOM Power Transformers, which last year launched an innovative online condition monitoring system for its transformers in the field, will have a demonstration station on ACTOM's exhibition stand that provides a customer-friendly means of presenting to visitors the features and significant benefits the monitoring system offers to power transformer owners and operators.

Other ACTOM divisions and business units that will be participating in the exhibition are John Thompson, ACTOM High Voltage Equipment, ACTOM Distribution Transformers, ACTOM Protection & Control, ACTOM Electrical Machines and Current Electric. ■

ATTRACTING INVESTMENT TO REALISE RENEWABLE POTENTIAL

Ahead of attending Enlit Africa in Cape Town, Kellie Murungi, chief investment officer, East African Power (EAP), Kenya, provided some thoughts on the future of Africa's energy transition, the importance of encouraging investment for it, and what she is expecting at this year's conference.

African Review (AR): Could you provide more detail around EAP?

Kellie Murungi (KM): EAP is an integrated renewable energy development and engineering company delivering affordable and reliable clean energy solutions.

We have projects in East, central and southern Africa, focusing on grid-tied hydropower and solar, and solar C&I. We are a long-term, social-impact-oriented IPP business developing, designing, building, and operating hydro and solar power plants in Africa. Our goal is to have 1GW in operational projects by the year 2030.

AR: How integral do you consider the energy transition to Africa's future development?

KM: Africa is at an interesting position in the energy transition. First, with extremely low electrification rates, increasing electricity generation and supply is our first priority as a continent. This is key for the level of



Kellie Murungi, chief investment officer, EAP.



EAP strives to deliver affordable and reliable clean energy solutions.

industrialisation that the continent needs to achieve to generate jobs, develop economically and offer its people a dignified life.

Secondly, the continent is also endowed with massive renewable energy resources (hydropower, solar, geothermal, and natural gas). We also do not have legacy carbon-heavy infrastructure especially outside of South Africa. This means that we have the opportunity to electrify on renewables, and to also build green infrastructure right off the bat.

Finally, our carbon storage resources make for a good opportunity to leverage energy conservation for economic gains for the continent. However for all this to be realised, sub-Saharan Africa needs over US\$70bn of annual funding towards generation only.

AR: Is the current level of investment coming into Africa's energy sector enough to keep the continent on the right track for the energy transition?

KM: While there has been increased inflow of investment, Africa is still receiving only 2% of the global renewable energy funding, despite having the largest renewable energy reserves, and the highest electrification gaps. In addition to this, the investment is disproportionately directed towards generation projects.

While this is understandable as the bankability for generation projects is easy to determine, the need for a robust transmission

infrastructure cannot be understated. There's also need for technical assistance and capacity building especially for government and policy makers in developing transition and electrification policies that attract investment.

AR: How could more investment be encouraged and where must change begin?

KM: At a government and regulator level, there is need for laws and policies that bring clarity on projects' procurement and efforts to make renewable energy bankable, either through direct government support (guarantees and support letters), or through bilateral agreements with entities such as MIGA and ATI that make it easier for developers to put in place risk management tools.

Secondly, a well-functioning electricity and distribution structure is critical. I hesitate to be prescriptive on this one as every country is unique, but there has been some success in the separation of generation from transmission, and the privatisation of generation or both.

AR: Why are you participating in Enlit Africa this year?

KM: I am participating to share EAP's experience and to also learn and interact with other players in the sector. In particular, I am keen to hear from financiers on innovative financing solutions that could suit the continent's unique positioning in the transition.

The world's largest untapped source of energy

A new whitepaper published by Danfoss, a family-controlled engineering group, has highlighted the vast untapped potential of excess heat as a source of energy.

As outlined by Danfoss, every time an engine runs, it generates heat. This is true from small-scale appliances such as fridges to large-scale machinery used in supermarkets, data centres, factories, wastewater facilities, metro stations, commercial buildings, etc. While usually wasted, this excess heat can be reused to supply a factory with heat and warm water or reused by neighbouring homes and industries through a district energy system.

The report suggests that in the EU alone, excess heat amounts to 2,860TWh per year, corresponding almost to the EU's total energy demand for heat and hot water in residential and service sector buildings such as schools, hospitals, hotels, restaurants, offices and shopping centres.

Danfoss president & CEO, Kim Fausing, commented that it is remarkable the EU has "close to no initiatives that push for more efficient use of the vast amounts of wasted energy in the form of excess heat."

A full implementation of technologies that tap into synergies between different sectors and enable a utilisation of excess heat has the potential to save EU€67.4bn (approx. US\$72bn) a year once fully implemented in 2050. The new whitepaper from Danfoss details that it would give a productivity boost to the economy, lower energy prices for consumers and businesses and accelerate the green transition.

African potential

This opportunity is not restricted to Europe alone, but Africa as well could enormously benefit from tapping into this energy source.

Emil Berning, Danfoss country manager, sub-Saharan Africa, commented, "Catalysing sustainable growth in sub-Saharan Africa is crucial for the region's economic and social development. The latest Danfoss whitepaper on excess heat



Image Credit: Adobe Stock

So far, the potential of excess heat is nowhere near close to being utilised.

provides a roadmap for Africa to harness untapped potential in energy recovery and pave the way for a cleaner, more efficient future.

"By prioritising the implementation of innovative solutions outlined in this paper, Africa can lead the charge in reducing energy waste, improving industrial competitiveness, and creating new opportunities for economic growth."

Utilising excess heat can replace significant amounts of fossil fuels that are otherwise needed to produce heat. Used this way, excess heat can help stabilise the future electricity grid and thereby ease the transition to a green energy system.

Breaking down the barriers

So far, the potential of excess heat is nowhere near close to being utilised and is politically ignored.

According to Fausing, recycling heat is not only an overlooked measure in the current energy crisis, but also the next frontier of the green transition.

"Excess heat is the world's largest untapped source of energy. Still, very few initiatives have pushed for more efficient use of the vast amounts of wasted energy in the form of excess heat, even though we already have the solutions available today. We urgently need policy measures to accelerate the use of excess heat across sectors, both so that citizens and businesses can benefit from lower energy costs and to ensure we step up progress in the green transition," remarked Fausing.

"The potential in reusing excess heat is staggering. But we need to change our perspective on it and begin to consider excess heat as an energy resource instead of waste to be disposed of. Today there are a number of barriers that prevent us from reusing excess heat, including lack of information and regulation. We have to introduce economic incentives, policy measures and prioritisation of partnerships between local authorities, energy suppliers and energy sources to help maximise the full potential of excess heat." ■

Read Danfoss' full report, 'The world's largest untapped energy source: Excess heat', here: https://www.whynenergyefficiency.com/solutions/all-solutions/the-worlds-largest-untapped-energy-source-excess-heat?utm_source=pressrelease&utm_medium=generic&utm_campaign=cf_whitepapere_xcessheat

“The latest Danfoss whitepaper on excess heat provides a roadmap for Africa to harness untapped potential in energy recovery and pave the way for a cleaner, more efficient future.”

EMIL BERNING, DANFOSS COUNTRY MANAGER, SUB-SAHARAN AFRICA

Energy storage is critical to the integration of green resources.

Image Credit: Adobe Stock

Image Credit: DNV

A vital rung on the renewables ladder

Without serious thought and investment going into energy storage, there is little hope of achieving the renewable future the world is aiming for.

In Togo, AMEA Power, a fast growing renewable energy company, has officially broken ground for Phase 3 of the Sheikh Mohammed Bin Zayed Solar Power Plant.

When the expansion is completed at the end of 2023 – extending the plant from 50MW to 70MW – it will make it the largest solar plant of its kind in West Africa and will help to power more than 222,000 households.

Key to this project, which is part of Togo's National Development Plan to provide universal access to electricity across the country by 2030, is the inclusion of a Battery Energy Storage System (BESS). This addition will ensure that, even at night, the electrical network will still receive clean energy from the plant.

Such an example encapsulates the challenge of the clean energy future which the world is aiming to realise. Renewables such as solar and wind will be vital to this new dawn and, with the abundant natural resources it possesses, they could be integral for Africa's future and its quest for universal access to electricity. However, these renewable resources are inherently restricted by their intermittency and because of this, energy storage is critical to the integration of green resources into grids and are key to increasing the resiliency and stability of energy systems.

Fortunately, while stories focused around solar and wind frequently dominate media headlines, this understanding has not been lost on organisations determined to see the energy transition through.

Perhaps the best example is that of the Energy Sector Management Assistance Program (ESMAP), a partnership between the World Bank and 24 partners to help low and middle-income countries reduce poverty and boost growth through sustainable energy solutions. A key window of this initiative is the Energy Storage Program which has been working to scale up sustainable energy storage investments and generate global knowledge on storage solutions.

As of February 2023, the programme has catalysed public and private financing to the total amount of US\$725mn in Burkina Faso, Ethiopia, Sierra Leone, Tanzania, Maldives, Ukraine and western Africa and has supported 14 lending projects addressing deployment of renewable energy and storage solutions as well as increasing battery storage capacity by 2,527MWh.

Notable achievements on the continent have included the Economic Community of West African States (ECOWAS), the Energy Storage Program funded a BESS allocation study which identified

optimal battery storage capacities of 205MWh of BESS equipment for Côte d'Ivoire, Mali and Niger.

Looking ahead, it will provide operational support to advance the IDA20 Energy Policy Commitment of developing battery storage in at least 15 countries and the Energy Storage Partnership is designing a solar PV plus battery storage hybrid PPA framework to help enable wider private sector participation.

LDES in the mix

Speaking to *African Review* on the role of long duration energy storage (LDES) in the future energy network, Mohammed Atif, area manager Middle East at DNV, explained, "As power systems push to accelerate decarbonisation, integrate more renewables and strive for net zero, LDES is seen as a significant part of the solution to achieving this. For MENA and the rest of the world, anywhere where power systems are looking to achieve increasing contributions from renewable energy surpassing 30% and beyond, long duration energy storage would be a strong facilitator.

"With respect to Africa specifically, we are in some ways at a much earlier stage in development of renewables to integrate. However, in tandem, the continent is well endowed with and experienced with hydropower storage which is a very

important LDES technology."

That being said, Atif noted that pumped hydro is a more difficult technology to utilise due to the eco-disruption and geographical restrictions. Indeed, in its Energy Transition Outlook 2022, while noting storage in today's power system is mostly in the form of pumped hydro, DNV expected that solid state batteries offer the best potential for a next wave in performance.

Ongoing improvements in the cost, energy density weight and volume of electric batteries will enable wider use of battery storage systems with long duration storage solutions set to make their mark on the market in the second half of the 2030's.

Atif concluded, "Later on, in the development process, absolutely energy storage solutions will be fundamental to integrate renewables. However, I would note that, energy storage combined with cross border interconnection plans can already provide good blue prints and opportunities to boost system efficiency and reliability. If Africa's future development is to be far more renewables-based, then energy storage will need further focus. In order to encourage this, it is important to re-catalyse the ESMAP Energy Storage Partnership and also link the potential with EVs and the critical minerals industry in Africa." ■

Africa's energy deficit can be partly attributed to an over-reliance on fossil fuels.

Image Credit: Adobe Stock

The rise of solar farms and offshore innovations

Countries are increasingly turning to renewable energy sources such as solar farms to address the energy crisis. Minhaj Zia reports.

Across Africa, many countries are grappling with an energy crisis that is hindering economic growth and affecting people's daily lives. According to the International Energy Agency (IEA), sub-Saharan Africa has the lowest electricity generation per capita globally, with around 600 million people without access to electricity. This energy deficit is due to various factors, including a lack of investment in energy infrastructure, insufficient grid connectivity, and over-reliance on fossil fuels.

To address this challenge, many African countries are turning to renewable energy, particularly solar power. Solar farms are becoming increasingly popular as a way to generate clean and affordable energy. Countries like Madagascar, Angola, and South Africa have made significant investments in large-scale solar projects, with many others following suit. In addition to reducing reliance on fossil fuels and promoting sustainable development, solar farms can also create jobs and stimulate economic growth.

Sun Africa and its sister company, UGT Renewables, have signed a non-

exclusive memorandum of understanding with Hitachi Energy to work in partnership on large-scale solar photovoltaic power generation projects. The agreement stipulates that the parties will collaborate at an early stage of potential projects and work together with local and international stakeholders to provide optimal solar power solutions that support sustainable electrification in developing countries.

Their joint efforts will enable developing nations to take significant steps toward broad and environmentally sustainable solar power solutions. At present, the two firms are finalising their inaugural project, a solar photovoltaic power plant with a capacity of 370MW spread across seven locations in Angola. Additionally, they are in talks with multiple governments in Africa and Eurasia for a number of utility-scale projects, which, if settled, will have a combined capacity of over 12GW.

Also contributing to make strides in the utilisation of solar power, operators of the largest solar power station in the Indian Ocean region

have announced the launch of a new solar photovoltaic (PV) facility located in the northern region of Madagascar. The Antalaha power plant has been put into operation as a result of the joint venture between Axian Group and GreenYellow, named NEA SAVA. The solar farm, which has a capacity of 1.8Mw, will generate 3GWh of renewable energy annually, which will be fed directly into the local power grid.

GreenYellow has stated that the addition of the solar PV power plant to the trio of power plants located in the SAVA region brings the total installed power to 6Mw. The quartet of power plants, including the New Energy Africa Morondava power plant, offers eco-friendly, cost-effective, and locally sourced energy to nearby communities and businesses.

In mid-January, NEA, a renewable and hybrid energy operator in Africa and a part of Axian Group, along with GreenYellow, GuarantCo, African Guarantee Fund, and Societe Generale, announced that they had provided an approximate US\$11mn credit facility for the NEA Anbatolampy solar farm. The credit

was backed by a credit guarantee with a nine-year tenor to a consortium of local banks. The loan will fund the extension of the solar plant to 20MW and include a 5MWh solar battery storage system. The project will provide improved electricity access to around 285,000 people.

Additionally, Serengeti Energy, an independent power producer (IPP) located in Kenya, recently revealed the launch of the Nkhotakota 1 solar photovoltaic plant in Malawi's Central region. The solar park has an initial capacity of 21MW and is now linked to the Malawian national grid.

Serengeti Energy and Dubai-based solar energy developer and investor, Phanes Group, collaborated on the development of the Nkhotakota solar park. The project's second phase is expected to increase the solar farm's capacity from 21MW to 38MW. The contracting of the Nkhotakota 2 solar plant is scheduled to commence soon, with Serengeti Energy announcing that the second phase has achieved mechanical completion, with testing and commissioning underway as of March this year.

Upon completion of all phases,

the Nkhotakota solar power plant is expected to generate 7GWh of electricity each year. The electricity produced will be supplied to Malawi's power grid under a 20-year power purchase agreement with the state-owned Electricity Supply Commission of Malawi (ESCOM).

New solutions

Expanding the market with the latest innovations in solar farms, Belgian partners Tractebel, DEME and Jan De Nul jointly developed a new offshore floating solar technology capable of operating in harsh marine conditions. SEAVOLT technology features a modular design that can be easily adapted to different sites and demands, while providing large surfaces protected from harsh offshore conditions. This technology offers several benefits, including local renewable energy production, the ability to integrate with offshore windfarms, and the rapid addition of renewable energy capacity.

The partners, along with Ghent University, initiated the VLAIO-funded research project MPVAQUA (Marine PV Aquaculture) four years ago as part of the Blue Cluster. They developed a marine floater concept, conducted research on its effects on the marine ecosystem, integration of

aquaculture, and financial assessment. After laboratory testing, the partners are now working on an offshore test installation to be launched off the Belgian coast in summer 2023. They are also launching parallel tracks with the support of the Energy Transition Fund and the Federal Relaunch Fund to focus on the ecosystem, environment, and cost-effectiveness.

The PV industry's interest in offshore locations arises due to limited land availability, along with the urgency for local energy generation and a swift transition to renewable sources. The advancements in photovoltaic technology have been remarkable, with the installation of 1 terawatt of capacity achieved in 2022, a growing demand for community-based renewable power, and the proven compatibility between wind and solar systems globally. With multi-purpose permits granted by authorities and promising potential for co-utilisation of grid infrastructure, incorporating floating solar arrays to existing and forthcoming offshore wind installations offers a considerable potential to supplement substantial amounts of clean energy.

Philippe Van Troeye, Tractebel CEO, commented, "In the same way

“ In the same way that we have seen wind technology moving from land to the sea, we are seeing the extension of the whole energy system towards offshore locations.”

PHILIPPE VAN TROYEY, DEME CEO

that we have seen wind technology moving from land to the sea, we are seeing the extension of the whole energy system towards offshore locations. Along with offshore green fuel production, offshore energy islands, interconnectors, and potential solutions for energy storage, we believe offshore floating PV has an important role to play in the acceleration of the energy transition. While this technology is still in its infancy, we are convinced that with such strong partners on board we are giving SEAVOLT all possible chances to succeed.”

Adding to this, Luc Vandenbulcke, DEME CEO, said, "With our focus on working towards a sustainable planet, DEME is again showing its pioneering spirit. By working closely with like-minded partners, we have developed SEAVOLT – a new renewable energy solution which

has great potential to accelerate the clean energy transition. DEME has decades of knowledge about what it means to operate in an offshore environment, and we are already the leading contractor in the offshore wind sector. We believe combining solar and wind energy offshore provides fantastic opportunities for the future.”

Philippe Hutse, offshore director at Jan De Nul Group, concluded, "We are thrilled to launch the SEAVOLT technology, which represents the culmination of years of hard work and innovation in offshore PV technology together with our partners. SEAVOLT is a reliable, cost-effective, and environmentally-friendly solution that can be deployed in even the harshest offshore conditions. As the offshore wind industry continues to grow, we believe that it has the potential to play a crucial role in optimising the use of space on the sea by complementing offshore wind farms. We are excited to see how SEAVOLT will shape the future of renewable energy and contribute to a more sustainable future.”

Ultimately, solar farms are becoming increasingly popular as a way to generate clean and affordable energy, reduce reliance on fossil fuels, create jobs, and stimulate economic growth. Several companies are investing in solar projects across Africa, and some are even developing innovative offshore floating solar technologies. With these efforts, African nations are taking significant steps towards broad and environmentally sustainable electrification, with optimal solar power solutions that support sustainable development. ■



The offshore solar farm is capable of operating in harsh marine conditions.

Image Credit: Tractebel

NEULANDT supports construction industry in West Africa

With the opening of the first mobile field factory in March 2023, NEULANDT Côte d'Ivoire is helping to lay the foundation for local ecosystems to achieve industrialisation of construction. The goal is to contribute addressing the tremendous gap in affordable housing and infrastructure demand in West Africa and beyond.

The portable precast plant (N3P) is mobile and can be setup directly at the desired construction site. The factory is designed to have a highly efficient production process and outstanding quality of concrete precast elements. The core is the innovative and patented butterfly technology.

With the hinged steel formwork (in the shape of a butterfly), horizontal preparation and vertical concreting in the battery is possible. The production process in combination with the company's planning services creates an efficiently timed process that allows for consistently high quality and simple plug-and-play construction thanks to the integrated infrastructure.

The cost and time advantages of an N3P construction site can be transparently calculated in comparison to a usual construction site. The time savings are mainly due to the standardised production process with the butterfly technology. The cost advantages result from the pre-planned and timed precast production directly on the construction site in connection with locally semi-skilled labour. The high quality level results from the standardised procurement, production and control processes. Since the N3P is a mobile solution, the plant remains at the construction site only for the duration of construction and can thereafter be easily relocated to the next site.

In order to take the industrialisation of the construction industry in West Africa to the next level, the first portable precast plant was opened in Abidjan. This means that NEULANDT supports the development of the construction industry in Côte d'Ivoire with the economic and efficient production of precast concrete elements on site.

However, from Côte d'Ivoire, the transnational technology concept and the construction expertise will be transported across the entire the continent. This will be achieved with a local team of about 100 experts and through cooperation with local companies, investors and developers. NEULANDT's team therefore specifically addresses the heterogeneity and the needs of the different African markets.

With the new location in Abidjan, not only a production site was established, but also a complete ecosystem on site. The full value chain is offered: support from planning to engineering to on-site installation, including on-site supply of assembly and support to secure financing for the purchase of a N3P. The plant will be able to produce up to 1,000 sq m of walls per day. The goal is to implement large-scale projects such as apartment buildings and infrastructure projects.

"Our mission is to provide all players and stakeholders in the construction sector with initial insights, inspiration and support along the path to industrialisation, while collaborating with large-scale projects, mainly in the social and economic domain," said Richard Lorant, country manager of NEULANDT Côte d'Ivoire.



The N3P by NEULANDT was opened for the first time in Abidjan.

Image Credit: Neulandt

BRUKS SIWERTELL ASSISTS CEMENT HANDLING IN EAST AFRICA

Bruks Siwertell has secured an order for a next-generation Siwertell road-mobile ship unloader, which is destined to deliver extremely efficient, environment-friendly cement handling in East Africa.

"The undisputed high capacity and reliability of the Siwertell 15 000 S, the largest road-mobile unloading system available on the market today, were the main reasons why the operator opted for this particular Siwertell unit," said Jörgen Ojeda, director of Mobile Unloaders, Bruks Siwertell. "Third-party consultant recommendations for our road-mobile solutions were also really important."



The road-mobile ship unloader is destined to deliver efficient cement handling in East Africa.

Image Credit: Bruks Siwertell

The Siwertell 15 000 S trailer-based unloader offers a rated cement handling capacity of 500 t/h, discharging vessels of up to 15,000 dwt. It has a double bellows system for truck loading and is diesel-powered, fitted with a European Union (EU) Stage IIIA/Environmental Protection Agency (EPA) Tier 3 emissions class engine.

Screw-type ship unloaders also protect the environment through dust filters, and by having a completely enclosed conveying line from the ship's hold to the shore. This ensures a spillage-free operation and minimises any dust emissions, particularly beneficial when handling very dry or powdery cargoes.

"Many African ports are undergoing a series of modernisations and our road-mobile systems are ideal for these programmes. In addition to delivering environmental benefits, they offer flexibility, high material handling capacities, accommodate a range of vessel sizes and deliver continuously efficient ship unloading," noted Ojeda. "Siwertell road-mobile unloaders have a reputation for being very reliable and have numerous references worldwide. Customers know that they can rely on this track-record of support and have confidence in the team behind the Siwertell mobile unloader."

The next-generation unloader is planned for delivery in 2024 and will also feature the latest programmable logic controller (PLC), which ensures peak operational performance and delivers advanced troubleshooting as well. This can be an invaluable asset when working in remote locations.

PENETRON SYSTEM CHOSEN FOR CONSTRUCTION PROJECT IN SOUTH AFRICA

The Penetron System has been chosen over a membrane waterproofing system to provide permanent protection for the concrete structures as part of the construction of the Mahomed Hardware Supply building in Durban, South Africa.

The initial plans for the construction specified the installation of a waterproofing membrane system as a waterproofing solution. However, Penetron Africa presented an alternative solution to Cazir Naroth Architects and Young & Satharia, the project engineers, on how to better protect the two-floor concrete building from the local climate and groundwater levels.

After the consultation with Penetron Africa, the project engineers revised the project specifications and replaced the waterproofing membrane system with the Penetron System. Once applied, the active ingredients in the Penetron System products create a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete, becoming an integral part of the concrete. The treated concrete will now self-heal and seal all hairline cracks that form for the service life of the concrete.

Liebherr Group steps out of 2022 with record turnover

Difficult general conditions, rapidly rising food and fuel prices, as well as the ongoing coronavirus pandemic and related regional lockdowns weighed on economic development and slowed economic growth in the past business year. Nevertheless, Liebherr's turnover increased significantly compared to the previous year. The group achieved increased turnovers in 10 of its 13 product segments, some of them significant. It thus surpassed its previous turnover record from 2021 by US\$1bn.

Turnover increased slightly in the European Union, which is traditionally the group's strongest sales region. Growth rates in the EU markets varied, with business developing positively in the Netherlands and Italy in particular. Liebherr developed extremely positively in North America and in Central and South America, with strong growth impulses coming from the USA and Canada, and again from Brazil. The group also recorded a pleasing increase in Africa as well as in the near and Middle East. Turnover in Asia and Oceania was slightly above the previous year's level.

The Liebherr Group pursues the goal of making a decisive contribution towards technological progress in the sectors relevant for the group. Alternative drive technologies continue to be a focal point of the research projects at Liebherr. As part of its technology neutral approach, which takes into account the most diverse areas of application and product requirements of customers worldwide, the group is working, among other things, on the increased use of hydrogenated vegetable oils (HVO). In the field of electric drives, since the previous business year, Liebherr has added six new models to its Unplugged range. Digitalisation was another focal point of the group's R&D activities.



Image Credit: Liebherr

The Liebherr Group finished the year 2022 with a new record turnover.

FINAL PHASE OF KENYA'S KIJANI RIDGE COMPLETE

Tatu City, the new city on Nairobi's doorstep, has invested more than US\$7.4mn to complete the final phase of infrastructure for Kijani Ridge, Kenya's premier residential neighbourhood, which is 90% sold out. Underground power, 24/7 water and international standard tarmacked roads are now available in the entire development.

The neighbourhood, with a 79-acre park at its centre, is just steps away from top-ranked Crawford International and Nova Pioneer schools and Tatu Central, the business and entertainment district of Tatu City. The 6 km of new roads at Kijani Ridge are part of a wider network of more than 50 km of tarmacked roads throughout Tatu City.

Tatu City is also home to more than 75 companies, including Dormans, Copia, Cooper K-Brands and Grit Real Estate Income Group, among many more. Business benefits at Tatu City SEZ include VAT zero-rating, import and stamp duty exemptions and 10% corporate tax for the first 10 years and 15% for 10 years thereafter.

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Africa's construction market performing well in the face of global uncertainties

Amid global market volatility and an uncertain economic outlook, Africa's construction industry continues to hold up well, with a raft of new projects in the pipeline and ongoing investment into the continent's long-term development. Martin Clark reports.



Smaller projects on the ground are providing a formidable backbone of work for the construction sector.

Image Credit: Adobe Stock

Based on current growth forecasts, Africa's construction industry could well enjoy a positive couple of years, as development efforts continue and the world rebounds from the Covid-19 lockdowns.

The African Development Bank (AfDB) expects the continent, over the next two years, to outperform the rest of the world in terms of economic growth. It sees real gross domestic product averaging 4% during 2023 and 2024, which should bolster confidence in construction generally and, also, among financiers. There are plenty of big projects courting investment that could bring major upside potential for Africa's construction firms. AfDB itself is among the leading investors

into key areas such as roads and highways.

At a recent Dakar financing summit, dozens of infrastructure projects worth US\$160bn were showcased to investors, in sectors ranging from energy to telecoms.

Well-organised public-private partnerships could be a way to unlock some of this potential,

according to Senegal's President Macky Sall, who opened the forum. He confirmed that construction is now starting on the US\$1bn Dakar area deepwater port of Ndayane, a collaboration between the government and DP World, the Emirati logistics giant.

Offshore, Senegal and Mauritania will also benefit from ongoing work

to develop BP's Greater Tortue Ahmeyim gas export project, which has brought with it an influx of construction skills and investment into logistics capabilities.

A strong foundation

But while major infrastructure spending will grab all the headlines, smaller projects on the ground, from roads to residential blocks, are providing the backbone of work for the construction sector. There are encouraging signs here, too, in leading markets such as South Africa.

The Construction Industry Development Board saw its index measuring general building activity rise to its highest level since 2014. Its Q4 2022 survey reported that

“There are likely to be significant upcoming opportunities for other international contractors to participate in transportation, power and industrial projects.”

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sentiment among civil engineering contractors was also up to its best level since 2017. The Western Cape region has emerged as a hotspot for new building activity in South Africa.

There are other bright spots elsewhere. Ethiopia's construction market is set to grow annually at over 8% to 2026, a report by law firm Clyde & Co notes, propelled by the country's 10-year development plan, which includes infrastructure spending and public-private partnerships.

Greater competition may also yield opportunities for new entrants, it believes. "Chinese and Italian contractors have traditionally held dominant positions in the Ethiopian construction market... however there are likely to be significant upcoming opportunities for other international contractors to participate in transportation, power and industrial projects," the report states.

Such opportunities in the country include the Ethiopian Road Authority (ERA) planning to construct around 225,000 km of roads by 2030, not to mention several mega projects either planned or under development.

Notable examples include the Grand Ethiopian Renaissance Dam, which will be the largest hydroelectric power plan in Africa when complete; Mesob Tower, a 70-storey mixed-used development; and a new, US\$5bn airport which could become the largest on the continent.

There are already signs of disruptive competition across the border in Uganda, where Kampala has begun negotiations with Turkey's Yapi Merkezi to build a US\$2.2bn railway line.

It follows the termination of a 2015 deal with Chinese firm China Harbour and Engineering Company



Novacim's first plant in Oulad Ghanem, Morocco.

Image Credit: Novacim

Ltd (CHEC) after it failed to come up with a suitable financing package.

China has reportedly become more cautious in financing big-ticket infrastructure projects in Africa in the wake of the Covid-19 crisis.

Kampala has asked the Turkish contractor – which is currently engaged in building Tanzania's new railway line – to assist in putting together a financing solution for the 273 km project that will link Uganda to the Kenyan port of Mombasa.

Another good indicator of the health of Africa's construction market is the thriving hotels and hospitality sector. Radisson is among those that plan to significantly bolster their African presence in 2023, as part of an aggressive expansion.

It currently has close to 100 hotels and 16,000 rooms in operation or under development, but hopes to reach 150 properties within the next five years across the continent. Key growth territories this year include Morocco, Nigeria, South Africa, and Egypt, while new markets of interest include Gambia, Cameroon, Ghana, Tanzania and the Seychelles. The group has also

reduced the period between hotel signings and openings from between five and seven years down to two to three years, reflecting overall construction efficiencies and processes.

Cement and materials production is another good barometer of activity. Dangote Cement is Africa's largest producer with nearly 51.6 Mta capacity, much of it located in Nigeria.

In Morocco, Novacim is about to launch commercial production from its new plant in 2023.

But it's not business as usual, as the sector faces up to a wave of changes and challenges, from smart building materials and digital transformation, through to environmental pressures. Sococim Industries, Senegal's largest integrated cement manufacturer, recently landed an EU€242mn (approx. US\$265mn) financing package to help decarbonise production. While cement is a critical building material, the industry is carbon-intensive, especially during the production of clinker, a key component of cement. Sococim – a subsidiary of French cement maker Vicat SA – plans to replace part of its current clinker lines with a more fuel-efficient one that will enable it to produce cement with one of the world's lowest emission rates.

Renewed belief

It underscores a general rise in confidence across Africa's

construction sector, with areas and expertise that, in some cases, can now match anywhere else in the world.

Senegal's Ndayane deepwater port is a good example, perhaps, of how Africa is coming of age. Located 50 km from the existing Port of Dakar, and built in two phases, it marks DP World's largest port investment in Africa to date.

Although delayed by a year, by 2026 it is expected to transform logistics in the country, boosting container handling by 1.2mn TEUs (tonne equivalent units) per year with up to 10,000 feet of quayside.

At the same time, this huge investment drive in infrastructure is stirring interest among high-profile, quality industry suppliers, with heightened competition likely to raise overall standards and even bring down costs.

One of the more recent well-known entrants is John Deere, which is now supplying its construction machinery, from dozers to dump trucks, across multiple southern and western African markets.

Building on its agricultural name, it first declared that it would be targeting opportunities in the burgeoning construction industry back in 2021 and has been steadily rolling out its brand ever since to great effect.

While other global markets might be bigger, more familiar or more established to companies like this, few can rival the growth potential that Africa offers over the long-term. ■

“ While other global markets might be bigger, more familiar or more established... few can rival the growth potential that Africa offers over the long-term.”

Mauritius megaproject moves ahead

The massive A1-M1 bridge is currently under construction in Mauritius.



The Government of Mauritius and the Road Development Authority launched the construction of the A1-M1 link road as part of the Road Decongestion Programme in 2018.

The project is being delivered to improve the distribution of traffic around the capital of Port Louis by linking the Port Louis-St Jean Road (A1) to Motorway M1 and the existing Ring Road Phase 1 at Sorèze. The delivery of this will see the construction of an approximately 1 km-long dual carriageway through an

approximately 330 m-long bridge spanning over the Grand River North West Valley and will provide an alternative access to the city of Port Louis for traffic.

When envisioned in 2018, it was expected that the bridge would be ranked as the most aesthetic structure of Mauritius after completion and would play an important role as a national landmark for the country. Indeed, several years on and closing on construction completion this year, the project has made incredible

progress and is already cutting out an imposing figure against the local countryside.

Doka delivers

Indeed, the progress made thus far owes a great deal to the innovative solutions provided by Doka, which was awarded the full scope of work to support the delivery of the highly complex piece of engineering. The company worked with TGBV JV Transinvest-GCC-Bouygues TP-VLSi to deliver a solution for the Road Development Authority.

The bridge is designed around a two-pier structure with the highway suspended from pylons at a height of 90 m. The engineers from Doka, when planning for the project, were sure to factor in seasonal weather conditions which proved vital as winds in excess of 190 km/h have been experienced.

The piers were built with a step height of 4.50 m and were poured in weekly cycles during typical lifts, with the centre wall thickness of each pier increasing with height. A formwork system was implemented

to avoid changing out panels during transitions while considering changes to platform design, soffit formwork and safe direct climbing platform access from stair towers and access hoists. When it came to delivering the pier table, upper pylon and abutment segment, Doka's versatile solution meant it could be efficiently reconfigured to cast different structures, again, helping to save a considerable amount of time on site.

To meet this challenge, Doka deployed large area formwork Top50, Climbing Formwork System MF240, DokaScaff UNI scaffolding and access stair towers, single side supporting universal frames, WS10 suspension head platforms for safe access to the massive crane braces, shoring system d3 and plywood DokaPly Birch along with all the required system anchor and connecting parts, tools, and accessories.

This meant the project boasted five working platform levels for the exterior system, three work access platforms for formwork and two work levels for rebar installation along the inside.



Meeting the deadline

To ensure that the project was carried out in a timely manner, Doka utilised formwork which had multiple uses and ensured that as much prep work was conducted on the ground to minimise work at height. Once the groundwork was complete, the crane was able to lift the entire inside system, which included four sides of formwork, three levels of formwork operations and support platforms, and two levels of rebar installation platforms at the top. The exterior sides also were lifted by a single crane, with unit lengths reaching up to six metres, covering Top50 formwork elements and five levels of platforms including all safety measures.

The design for the access stair tower, as well as the bracing connector, enabled the safe anchoring of the stair towers against the pier structure by utilising the existing anchor cone system from the climbing platforms in a vertical spacing of 4.50 metres.

According to Doka, the contractor has been very satisfied with the overall progress made by the company and completion of the project remains on track for 2023. ■

Image Credit: Doka



Image Credit: Doka

Renting the right MEWP

Haulotte identifies six questions to consider before looking to rent a mobile elevating work platform (MEWP).



Image Credit: Haulotte

It is important to think about the total weight to be carried and lifted.

According to Haulotte, there are many topics to consider before starting the job. The more complex it is and the more unknown parameters, the greater the need to evaluate the equipment needs. Asking the right questions will ensure safety on site; identify the most appropriate and efficient machine; and send a clear and precise request to the rental company in order to obtain the best price offer.

In its guide, Haulotte suggests a few questions to consider before preparing a request and help the rental company select the right equipment for the job.

1) How high do you want to go?

The question of height and the type of material to be carried both influence the model needed. Is an offset required to access the work area? Articulating booms are well suited to complex environments and working around

“The total weight of the load should be known with a reasonable level of accuracy.”

obstructions, they should be used if a high offset is needed. In the case of a small obstacle, requiring a small offset, a scissor lift with a platform extension would be adequate.

The height and the type of worksite will help identify the correct model of boom lift. If the work is very high (more than 18 m) above the ground, the choice will be between telescopic and articulated boom lifts. Determine in advance the necessary working height and ask the rental company to have the most suitable machine for your jobsite.

The boom lift is chosen according to the working height which corresponds to the platform floor height to which is added the average height of an operator (with arms outstretched in working position), about 2 metres.

2) What do you want to lift?

It is important to think about the total weight to be carried and lifted using the machine.

An electric rough terrain scissor lift like the HS15 E PRO can accommodate four people in the platform while respecting the maximum load capacity of 750 kg. For Haulotte products, maximum load capacity is always found in the product datasheet.

The total weight of the load should be known with a reasonable level of accuracy. This information is necessary to anticipate the

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movements of the operators, the weight of the tools and of the materials which will be transported and used by operators. The dimension of the load is also a topic to anticipate.

3) Is the jobsite inside or out?

If the work will be done inside, the aerial work platforms should be electric because they are gas and emissions free, and work in silence. For all indoor work, it is important to check that the weight of the machine will fit within the floor loading limits.

For outdoor work, both electric and diesel models are suitable. For electric machines, the Haulotte

Range Extender allows you to get around the constraints of having access to the electrical grid by charging the batteries directly. To work outdoor, the Pulseo rough terrain scissor lifts and articulating booms are useful because they adapt to all conditions.

4) On what type of ground will the boom be used on?

The risk assessment plan of the jobsite will help check the type of ground that the boom will face. On all manufacturer's product datasheets, the maximum gradeability is indicated. Remember that the MEWP can't be fully extended when driving on



Image Credit: Haulotte

Anticipating the need for indoor work is important.



Image Credit: Haulotte

The risk assessment plan of the jobsite will help check the type of ground that the boom will face.



Personnel should be trained and authorised to drive machines.

Image Credit: Haulotte

“ Anticipating changing conditions such as the weather, or the movement of objects, people or loads is a key to success.”

slopes. Poor weather conditions have an impact on the choice of machine. For muddy conditions, the best platforms are those with four-wheel drive and an oscillating axle.

It is important to ask for a MEWP with the most suitable tires for the job. Foam tires will be a useful ally to provide stability and avoid slow puncture on uneven terrain. For an inside jobsite, non-marking tires are highly recommended if working on sensitive floors.

5) How to access the jobsite?

Does the jobsite have a ceiling height limitation, or are there any obstacles such as electrical wires or pipes? Think about the narrowest models if difficult and tight areas need to be accessed.

Haulotte has developed an electric scissor with a narrow platform and foldable guardrails, lateral and longitudinal forklift pockets: COMPACT 8N, COMPACT 10N.

6) Who will use the MEWP?

To use a cherry picker there are standards to follow. Personal safety must be ensured, and personnel must be trained as well as authorised to drive the machine.

In addition to training operators to drive the aerial platform, it is essential to brief the teams to inform them of all the constraints, difficulties, and particularities of the jobsite. Anticipating changing conditions such as the weather, or the movement of objects, people or loads is a key to success. ■



The LR 1400 SX lifts the concrete tilt-up panels to the right position.

Making light work of heavy lifting

With most of Africa's key industries posing some form of heavy lifting requirement, only the most robust and versatile equipment will thrive.

Image Credit: Liebherr

Terex Materials Processing, a global manufacturer of materials processing and lifting machinery, has turned heads in recent months with the announcement that Terex Cranes will be split into separate entities.

The policy, which has been undertaken in order to provide 'focus and growth', has led to the creation of Terex Tower Cranes and Terex Rough Terrain Cranes – both of which will both sit within the 'Lifting' category of Terex Materials Processing's broadening equipment portfolio.

The announcement involves investment with independent leaders and brand identities. It will also see the expansion of manufacturing capacity, including a new facility to manufacture self-erecting cranes.

Terex Tower Cranes will include Flat Top, Luffing Jib, Hammerhead and Self-Erecting tower cranes and will be led by Marco Gentilini, vice president & general manager. "We have appointed Nicola Castenetto to lead the product development, strategic planning, sales, and post-sales activities of Self-Erecting cranes," commented Gentilini. "Commercial expansion, in terms of new markets, channel development and expanding our distribution network is a key focus. Along with Nicola's appointment we also have dedicated engineering team to lead product development, and a brand-new facility that will concentrate on the manufacture of self-erecting cranes."

Meanwhile, Giancarlo Montanari, general manager, is heading up the Terex Rough Terrain Cranes which will include its RT range and TRT range. Montanari remarked, "During

my time so far with Terex, I have been able to meet distributors and customers; and the key thing they look for is performance.


"The crane must be easy to use and maintain, to maximise their productivity. And certainly, our TRT range with the new TEOS operating system and T-Link telematics ticks all those boxes. We know we have an excellent product, so our priority is on expanding our market presence into countries where rough terrain cranes are not so popular yet."

Certainly the solutions may well find more of a home on the African continent, an opinion clearly held by Goscor Access Solutions, a South African-based equipment supplier which has taken pride in introducing Terex Rough Terrain Cranes to the southern African market.

In an announcement, Goscor explained how the equipment is designed to offer excellent ground clearance and traction control so that they can perform their lifting, picking and carrying duties in any kind of rugged terrain. On construction and mining sites – where the ground is frequently rough and unbalanced – the equipment is particularly valuable, although they can also function in other capacities such as oil & gas, shipping and logistics.

Reiterating its pleasure at being a distributor for the company, Goscor pointed out the main points that make Terex's equipment stand out. These include:


- Better steering capabilities: particularly in the next Terex range of rough terrain cranes such as the TRT and RT ranges thanks to their compact size;




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- A lower centre of gravity: designed with this characteristic means Terex's cranes are more versatile, compact and easier to transport and manoeuvre;
- All-wheel drive and steering: Terex cranes use TEOS Operating System technology which offers a full-colour touch screen display with intuitive navigation and diagnostics. They also offer four different steering modes to choose from depending on the terrain and the application requirements;
- Better cost efficiency: low energy consumption means Terex's range of rough terrain cranes offer more cost-effective performance.

As the Terex Rough Terrain African Partner, Goscor offers the powerful range of equipment to customers in South Africa, Lesotho, Swaziland, Zambia, Zimbabwe, Namibia, Mozambique, Botswana, and Ghana.

New on the market

Terex and Goscor are not the only ones attracting interest within the heavy lifting segment as new solutions arriving on scene are also making a splash.

Hiab, part of Cargotec, has done just that with the launch of EFFER iQ.1400 HP, a super-heavy loader crane equipped with the advanced control system SPACEvo for improved productivity and safer operations.

Particularly well suited for operations in metropolitan areas, the EFFER iQ.1400 HP is a 135 tonne metre (tm) crane with a maximum vertical reach of 39.5 metres with a JIB of 26 tm. The V10-Force boom provides increased strength for vertical performance and improved overall precision, further enhanced by the advanced control system.

The possible 83° working angle allows the crane to work closer to the buildings, makes it less obtrusive to the surroundings, while the boom profile reduces the side oscillations for high-precision load delivery. The low weight and compact frame size make it possible to install it on smaller trucks than is usual for this lifting category.

“Customers will be able to experience a whole new level of heavy load lifting, with a crane that excels in vertical reach of over 39 metres. The engineering, combined with a CombiDrive4 remote control from Olsbergs gives operators unprecedented precision even at high heights. The 135 tm range delivers performances similar to bigger segment cranes. The smaller frame makes it suitable for installations on smaller trucks and provides plenty of payload, not normally seen in this segment,” says Marcel Boxem, vice president, sales & product management, Loader Cranes heavy & super heavy, Hiab.

Liebherr has also been showing off the capabilities of one of its latest offerings to the market, the LR 1400 SX. After hearing calls from the market for a bigger crane, Liebherr-Werk Nenzing GmbH extended its range of crawler cranes to include lifting capacities of up to 441 USt with the LR 1400 SX. The crane was on display CONEXPO-CON/AGG 2023 and has now found its first assignment in Atlanta, USA, on a construction site. The machine has been performing admirably and is lifting concrete tilt-up panels – the largest of which has a height of approximately 34 m. Full Tilt Crane Services, which recently added the LR 1400 SX to its fleet, noted that despite its size, transportation was easy allowing for quick self-assembly in under 12 hours.

Across industries

Outside of the construction areas, there has also emerged several notable stories of heavy equipment set to make its mark in a variety of different applications.

Condra Cranes has announced that it is to manufacture a 15 ton suspension crane of unusual configuration as one of two overhead cranes for a Botswana diamond mine.

The two are for underground use and while the second machine is of conventional overhead design, the arrangement of the first is rare. For this, two I-beams defining its area of movement will be bolted to rock-

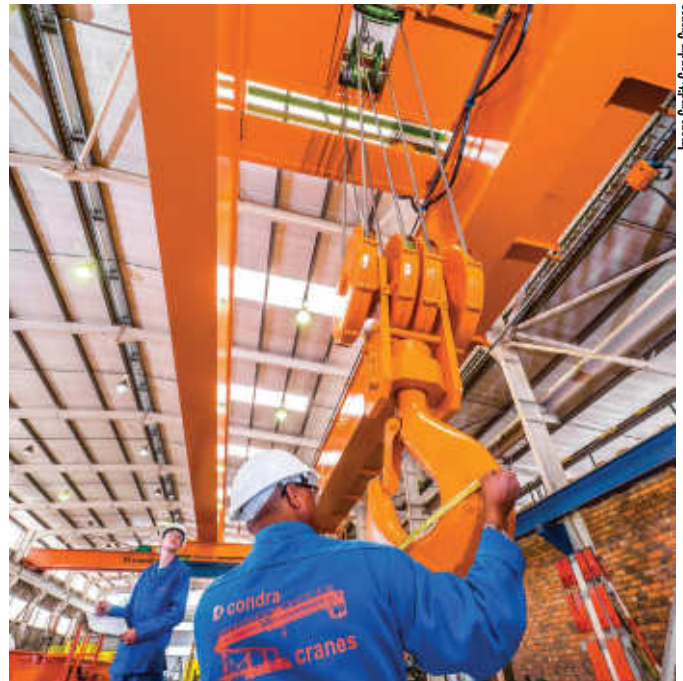


Image Credit: Condra Cranes

A typical overhead crane under test in Condra's factory.

bolt flanges anchored in the roof of a mine chamber after blasting, excavation and preparation as a service workshop. The I beams will hang from the chamber's ceiling, whereas they are more usually the topmost side components of a fixed gantry constructed from the ground up.

The wheeled 11 m span crane girders will then run suspended from the lower flanges of these two long-travel I-beams, with the crane's crab mounted atop the girders to provide the cross-travel. The whole structure of the crane becomes suspended, running along and across the roof of the chamber.

By suspending the crane, Condra noted, it will deliver the greatest possible lifting height, reducing the volume of rock needing to be blasted and excavated to form the chamber.

After installation, the 11 metre span, 15 ton crane will have a lifting height of 9 m. The second crane, of conventional overhead design, will have a 35 ton capacity and 9.2 m span. It will work in a larger existing chamber. Both are scheduled for delivery in 2024.

In Guinea, Konecranes is celebrating the securement of an order for two Konecranes Gottwald

Cranes on Barge from Winning Logistics. After on-site commissioning in Q3 2024, Winning will operate a total of 10 Konecranes Gottwald Cranes on Barge, loading ships with bauxite off the West African coast.

The order is for two Konecranes Gottwald Model 8 G HPK 8200 B Cranes on Barge, with a working radius of 43 m, a 63 t grab curve and lifting speeds of up to 140 m per min. Based on these parameters, the cranes will reach handling rates of 30,000 t per day.

The new cranes will be fitted with additional features to assist their performance and contribute to enhanced safety, including a fire suppression system. TRUCONNECT remote monitoring and a spare parts package will help to optimise maintenance for minimal downtime.

Holger Wagner, regional sales manager, port solutions at Konecranes, commented, “Our barge cranes are thoroughly modern cargo handling machines that can operate midstream and on the open sea. Winning’s continuing trust in our expertise in this area, which reaches back over 20 years, confirms our leadership in this market.” ■

BELL EQUIPMENT'S NEW GRADERS RANGE SET TO DELIVER TOP PERFORMANCE

Designed to meet the emerging needs of the grader industry, Bell Equipment has expanded its mining and construction OEM product range to include motor graders. With several units running in diversified applications, production has been set to begin as early as Q3 2024.

According to Bell Equipment product manager, Warren Swart, Bell will initially offer three base machines. The G140 is well suited to all maintenance and light to medium construction tasks while the G160, with its increased power and performance, is designed to handle heavy construction applications. Completing the range is the G200, which is designed for bulk earthworks and the mining industry.

The Bell Grader has been designed as a truly international product with the capability to meet varying emission regulations in international markets as well as different types of operator controls. The South African launch of this product is only the start of the journey. Bell will be launching graders into its various



Image Credit: Bell Equipment

The Bell Motor Grader has been designed to operate in the most harsh environmental conditions.

international markets in a staged approach.

When it comes to design, the Bell Motor Grader is engineered to operate in the most challenging and harsh environmental conditions. Recognising the diverse range of applications and often remote uses of motor graders, Bell has standardised on high-quality, low-maintenance components, such as a fully sealed circle bearing. This provides extended service intervals and consistent grading

performance without the need to make regular adjustments. To simplify operations further, advanced diagnostics are incorporated into the machine to reduce the complexity of daily checks and servicing efforts.

The Bell Graders are fitted with Cummins engines and ZF transmissions. The G140 uses the Ergopower transmission while the larger G160 and G200 use the cPower transmission. In addition to this, the Bell design team is also focused on providing long-term durability across all structures.

Bell Equipment's test and prototype graders have already been operating with great success in a wide variety of applications from landscaping through heavy ripping and final levels to overall road construction.

Bell has always sought to lead equipment development in the construction and material handling industries.

The Bell Grader continues this pursuit with advancements seen in key performance requirements of the industry.

Cat's VisionLink offers full-fleet management

The new VisionLink from Cat provides an integrated full-fleet management solution for asset tracking to maximise machine uptime and optimise utilisation. The platform's refreshed intuitive interface helps customers efficiently manage their entire fleet, regardless of manufacturer. Improved asset insights retrieve a broader range of data from owned, leased, or rented equipment and attachments, allowing companies to make better informed asset management decisions.

Cloud-based and accessed through desktops, tablets, and mobile



Image Credit: Cat

Allowing users to access their data on the go and in the field, the new VisionLink mobile app replaces the Cat app.

devices, new VisionLink consolidates My.Cat.Com, the Cat App, and the previous version of VisionLink applications into one centralised solution for fleet management. Simplifying the process for customers, all user accounts, personal settings, account configurations, and equipment subscriptions seamlessly transition from these previous platforms to the new VisionLink. Allowing users to access their data on the go and in the field, the new VisionLink mobile app replaces the Cat app.

Moreover, several updated features such as the new 'Needs Review' feature helps serve customers in a variety of everyday situations. New VisionLink is thus a powerful platform that monitors machine health, fault codes, S O S fluid analysis, and inspections to plan maintenance. Key personnel can be assigned to receive alerts when an asset requires immediate service to prevent downtime. Customers can also request service and order parts from Cat dealers directly using the new VisionLink mobile app.

With fleet management unique to every operation, customers can assign machines the in-app name of their choosing. In addition to this, new VisionLink has also announced a further evolution to include the rebranding of Cat Productivity to VisionLink Productivity, thereby making it easier for customers to manage their assets and increase their productivity.

VisionLink Productivity is a cloud-based application that can help customers analyse jobsite performance and improve productivity based on actionable information, making their businesses more efficient and ultimately more profitable.

Today's VisionLink also offers customers streamlined subscription levels designed to reduce complexity and provide the right combination of features for customers of any size.

The new VisionLink continues to offer core telematics data standard with every machine to answer important questions about assets, including daily machine location, utilisation, fuel usage, maintenance reminders, and integration with Caterpillar's extensive digital ecosystem.

Tackling the toughest transport tasks

Africa's mining and construction industries are being well served by an array of trucks and associated solutions.

The revamp of Hyundai Doosan Infracore's construction equipment brand name to DEVELON has been marked with a remarkable milestone with the production of the 10,000th Articulated Dump Truck (ADT) at the Elnesvågen plant in Norway.

The machine is the first to officially carry the colours of the company's new brand and was also distinguished by a special design which harks back to the origins of the ADT range and the Viking model – 12 of which were produced by the company before Moxy took over production.

Nowadays, the range comprises of two 6x6 models – the DA30-7 with a payload of 28 tonnes and the DA45-7 with 41 tonnes. These have now been joined by the 4x4 version of the DA45-7 ADT which was launched at Bauma 2022.

"With superior operation on poorer roads, smoother surfaces and steeper terrain, the aim of our new 4x4 machine is to challenge RDTs in the 40-tonne class, by providing a dumper product that delivers much more than RDTs," commented Beka Nemstsveridze, ADT product manager at DEVELON.

The 4x4 DA45-7 ADT has a width of less than 4 m which offers an enhanced turning radius. Alongside the design of the rear dumper unit – more suited to carrying flat and heavy rocks – the machine is particularly well suited in the mining and tunnelling industries.

These sectors have been identified by DEVELON as growing markets for ADTs and include pioneering, short-term mining projects, quarrying and contract mining industries, especially those in southern Africa, the UK and Australia. As a result of this growth in demand, the company is expecting a 40% growth in production from the Elnesvågen



The special DEVELON DA45-7 harks back to the origins of the ADT range.

Image Credit: DEVELON

plant and, in order to meet this, is looking to expand its workforce.

Magna marks milestone

DEVELON is not the only one involved in these sectors that is celebrating, as Magna Tyres is commemorating its 17th year since establishment. In this time, the company has achieved notable feats including opening 16 sales offices worldwide, establishing partnerships in more than 130 countries, engineering a tyre range of 91 tyre patterns, collaborating with more than 40 long-term OEM partners and adding five additional entities to the Magna Tyres Group. In recent months, Magna has expanded its global footprint with the acquisition of Tirepoint, a large tyre dealer in South Africa. According to Michael de Ruijter, president & CEO of Magna Tyres Group, the acquisition, "accelerates our growth on the African continent tremendously."

As one of the world's largest second tier supplier of OTR tyres, the

company provides solutions for the full range of applications from mining and earthmoving all the way to agriculture. As such, it was sure to make its presence known at CONEXPO-CON/AGG 2023 where it showcased its newest products in construction and mining, designed for outstanding performance on various surfaces.

Rokbak boosts fleet visibility

Attendees of the conference in North America were treated to a host of equipment and machinery from leading global suppliers alongside Magna Tyres.

Not least of which was Rokbak which has gone from strength to strength since its rebrand from Terex Trucks back in 2021.

At CONEXPO-CON/AGG, under the shadow of the impressive pair of RA30 and RA40 haulers, Rokbak experts presented its improved Haul Track telematics system developed in response to market demand for higher levels of connectivity and

automated functionality.

"Haul Track puts machine owners back in the operator's seat, figuratively speaking, reassuring them that their valuable investment is in safe hands," explained Charlie Urquhart, Rokbak product manager. "Accompanied by a new website that provides an easily customisable dashboard to simplify and speed up how they view and retrieve operating information from afar, it offers a much more accurate and cost-effective insight into a whole host of factors that have the capacity to make or break their bottom line."

"When you've spent hundreds of thousands of pounds on your machines, you need to protect that investment from misuse, whether deliberate or unintentional. Rokbak's Haul Track telematics system is designed to take a load off our customers' minds so they can keep their haulers secure, monitor their health, manage machine performance and productivity, and improve site safety." ■



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Barrick to adopt Sandvik's RMS for entire fleet

Following a successful implementation at its Loulo-Goukoto underground complex in Mali, West Africa, mining giant Barrick Gold Corporation is adopting Sandvik's Remote Monitoring Service (RMS) for its entire global underground fleet of more than 200 connected Sandvik trucks, loaders and drills.

RMS rollout has started at Barrick sites in Canada, central Africa, West Africa and the US, and will continue during 2023. Sandvik will constantly monitor the equipment and analyse telemetry data to improve its performance.

"We picked up faults very quickly via RMS during our trial at Loulo, whereas in the past catastrophic failure would have been the first we knew about such faults," said Glenn Heard, mining executive at Barrick. "We largely avoided engine and transmission failures during the trial. As we expand RMS we will embed the use of this system and trust the data."

RMS is an assisted service in which Sandvik remotely monitors and analyses telemetry data acquired from an equipment fleet. It uses predictive maintenance solutions to identify abnormalities, determine root causes and provide actionable information to eliminate defects. This process increases equipment uptime and utilisation. Combined with a global pool of reference data and Sandvik's in-depth analytic skills, RMS can help miners achieve larger tonnage output with lower emissions, while extending equipment and component life.

"Barrick's commitment to using RMS is a landmark in the widespread use of telemetry data to improve performance in the mining industry," said Esa Mattila, productivity and reliability centre manager at Sandvik Mining and Rock Solutions.

"The ability to prevent failure and downtime, give real time recommendations during shifts to help operators improve performance and make maintenance practices more streamlined and effective will deliver unrealised value to our mining customers."



Image Credit: Sandvik

RMS is an assisted service in which Sandvik remotely monitors and analyses telemetry data.

ANGLO AMERICAN AND H2 GREEN STEEL TO DRIVE LOW-CARBON STEELMAKING

Anglo American has signed a memorandum of understanding (MoU) with H2 Green Steel, a Swedish hydrogen and steel producer, to work together on the advancement of low carbon steelmaking processes.

The agreement includes studying and trialling the use of premium quality iron ore products from Anglo American's Kumba mines in South Africa and the Minas-Rio mine in Brazil as feedstock for H2 Green Steel's direct reduced iron (DRI) production process at its Boden plant in Sweden.

Peter Whitcutt, CEO of Anglo American's marketing business, commented, "Collaboration with industry leaders who share a vision for decarbonised steelmaking is central to our commitment to reduce emissions in our value chains.

"Our work with H2 Green Steel will focus on exploring ways for premium, responsibly produced iron ore from our operations to be used as feedstock in the Boden plant's low carbon production process, paving the way to a cleaner, greener way to produce steel."

Luisa Orre, chief procurement officer, H2 Green Steel, remarked, "Our purpose is to decarbonise hard to abate sectors, and this is only possible with strong partnerships along the value chain with a true commitment to reducing scope 1, 2 and 3 emissions. We are impressed by Anglo American's efforts to bring high-quality iron ore products to customers which focus on low carbon iron and steelmaking, and we look forward to continue working with them, not only for our first green hydrogen integrated steel plant in Sweden but for other future locations globally."

H2 Green Steel is developing a fully integrated, digitalised, and circular DRI plant in Boden which will produce green steel, reducing CO₂ emissions by up to 95% compared to traditional steelmaking.

TIRUPATI ACQUIRES SUNI RESOURCES

Tirupati Graphite plc, a specialist graphite and graphene company developing sustainable new age materials, has successfully completed the acquisition of Suni Resources SA, a Mozambique incorporated subsidiary of ASX listed Battery Minerals Limited.

The acquisition includes all assets, infrastructure, permits, licenses, and intellectual property associated with the construction-initiated Montepuez Project and the fully-permitted Definitive Feasibility Study ready Balama Central Project in Mozambique held by Suni.

Shishir Poddar, executive chairman of Tirupati Graphite, commented, "We are delighted to announce the completion of the acquisition of Suni Resources. This strategic acquisition will see us materially strengthen our existing portfolio through the addition of two world-class graphite assets located within one of the largest commercially operating global flake graphite projects."

BRIEFS

WEC Projects wins orders from Lucara Diamond

Image Credit: WEC Projects



Artificial Wetlands can be created as a final polishing step in wastewater treatment.

Following its successful expansion of the sewage treatment plant at the Lucara Diamond's Karowe Mine in Botswana, WEC Projects has secured further orders from the client. This is for the design and construction of a sedimentation trap, tanker filling station and associated infrastructure including storm water drains and fencing. Karowe Mine in the arid eastern Kalahari Basin where temperatures average 35°C, making water scarce.

ERG commissions water reticulation system in the DRC

Image Credit: Afriche Stock



The reticulation system is designed to provide the Sakania Municipality with a reliable and sustainable source of clean water.

Eurasian Resources Group (ERG) has highlighted the commissioning of its Amenshi E Bumi (meaning 'water is life' in Bemba) water reticulation system in Sakania, DRC. ERG's Frontier mine initiated the project in 2020 to address the water supply issue that had arisen due to the population of Sakania surpassing the original town water supply capacity. The system provides a total flow of 411 cu/m of water per hour transported through a network of pipes.

Thinking differently to advance ESG

Charlotte de Koker, associate director for KPMG in South Africa, explains why the mining industry must divert from the traditional mindset in order to make progress on ESG aspirations.



As made clear by KPMG across its platforms, the mining industry is grappling with a host of challenges many of which are being spurred by regulatory changes and geopolitical risks.

Now, for many organisations within the sector, environmental and social concerns have become the pre-eminent priorities in response to stakeholder demands, and this is calling for increasing agility and flexibility from mining organisations operating on the continent.

KPMG, a company which specialises in audit, tax and advisory services, is on a mission to support the industry in their ESG challenges with specialists to help reduce costs, integrate digital tools and technologies, manage asset portfolios and assess risks.

“Sustainability – or ESG as we now call it – looked very different back when I started in 2012 and I have been privileged to see the growth of it in this time. The African appetite in regards to environment is there and they are very much looking for green financing although, it must be said, the knowledge is more advanced in southern Africa despite some great developments in other areas – the ESG principles adopted

by Nigerian Stock Exchange for example,” de Koker commented.

Indeed, it is not just regional variation as de Koker also expressed that different commodities are often at different levels in their relationship with ESG. Coal, for example, tends to be more advanced due to the earlier stakeholder pressure to adapt.

“There is a lot of pressure to work on ESG, and peers becoming more

advanced is spurring this as well – everyone will now say it is very important to them. However, organisations need to consider how it can fully integrate into their business models and strategy and how they are going to implement it – and this understanding is still at very varying levels of maturity and you can clearly see this if you read their ESG reports.”

This means, de Koker continued, that no ESG journey will be the same and there is, therefore, no cookie-cutter service. “Although the overarching theme of climate is the same, how you transition, what works for you, and the opportunities you see for your company will look different from your peer. So it is very important you don’t take a checklist, go through and then declare you are sustainable. It is really

“The African appetite in regards to environment is there and they are very much looking for green financing.”

CHARLOTTE DE KOKER, ASSOCIATE DIRECTOR FOR KPMG IN SOUTH AFRICA

understanding your business and understanding the opportunities this can bring – because it is often seen as a negative or a risk but that is not the case.”

This is where companies such as KPMG come in, as a voice to guide and advise organisations, providing practical resources to support their decision-making wherever they are on the ESG spectrum.

The forgotten factor?

One aspect of the ESG puzzle which de Koker believed is not currently receiving the attention it deserves is water, an issue she helped explore by moderating a panel session on reducing water waste in mining operations at this year’s Investing in African Mining Indaba.

“In the session I noted that, at Mining Indaba, everyone seemed bogged down with energy and a just transition low-carbon economy – very much buzzwords at this year’s conference. While these do link to some extent to social aspects, we can really forget about water which has a big societal impact. Ten years ago this was a huge issue globally for the mining industry and now, while it hasn’t disappeared, we appear to have moved on slightly,” de Koker remarked.

The reason for this, de Koker mused, is that the focus tends to be on the issues hitting pockets the most. In Africa at the moment, that is energy, but in other areas such as Saudi Arabia, water is more expensive than energy, and so the focus is different.

But de Koker is determined to show that it is not a ‘one or the other’ scenario and that all should be incorporated into ESG plans – not



Image Credit: Adobe Stock

Incorporating new technology can help reduce water use within mining operations.

least because water scarcity on the continent is an issue which continues to deteriorate.

“It is also apparent that water and energy are intrinsically linked. All the solutions which have been put forward for moving towards a low-carbon economy – such as enabling regulations and valuable partnerships – applies to water as well. And this is critical.”

Explaining the significance of partnerships in more detail, de Koker remarked, “Mining companies are seeking alternative partnerships, which present a shared value opportunity to both parties. Regulatory and other conventional operating methods can limit the potential to find these partnerships however they do exist and once defined can present great benefit to both parties involved. The example presented by one of the mining companies in the Mining Indaba

session was a partnership between the mining company and a local municipality on the use of effluent from the municipal effluent plant as an alternative water source.”

Like energy, the implementation of new technology can also have a major, positive impact on a mining organisation’s relationship with water and de Koker has been very excited about the potential new advancements can offer in this field.

“Technology advances in the mining sector are being used to optimise existing water management within an operation and thus reduce water use and waste water from a mining process or operation,” de Koker commented. “This provides opportunity for mines to reduce its environmental impact as well as costs for water treatment.”

“There is a lot that goes into bringing new technology to bare on the continent though. You need regulatory approval, the bankability and feasibility at scale must be proven and ultimately investment must be acquired. To achieve all this, collaboration is key and the lack of this is, in my view, a real inhibitor within the industry at the moment.

“It is actually one area where the energy industry is far ahead. The perceived risk of sharing information and working together in

the mining industry has made, in many ways, an ‘each for their own’ environment and this is not conducive to progress.”

This is where an auditing firm such as KPMG can play a key role as, without giving away specifics, it has the capacity to take the information from its various clients, bring it together and utilise it to help direct decision-making. Ultimately, however, de Koker believes that to change mining’s perception of collaboration as well as, beyond that, water and ESG, a change of mindset is required.

“I think the key message is really you have to think about ESG differently. The historic way of how we mined is clearly not feasible or sustainable and this applies to such a lot of topics on ESG, not just water and wastewater management,” de Koker concluded.

“That is the challenge. Everybody needs to walk the walk, not just talk the talk and this will require a different way of thinking to how we mine, what partnerships we enter into, what technology we adopt and use, utilising local entrepreneurship – all of it. If organisations can just take on that as a starting point in how they do business, then hopefully in five years’ time you will see some improvement.” ■

“The historic way of how we mined is clearly not feasible or sustainable and this applies to such a lot of topics on ESG, not just water and wastewater management.”

CHARLOTTE DE KOKER, ASSOCIATE DIRECTOR FOR KPMG IN SOUTH AFRICA

A new narrative around artisanal mining

David Sturmes, director of fundraising and innovation at The Impact Facility, explains why attitudes towards artisanal mining must be reformed in order to enact meaningful change in the sector.

It was back in 2016 when Amnesty International released its report on artisanal mining in the Democratic Republic of Congo (DRC) under the powerful header ‘This is what we die for’.

In light of the growing global need for rechargeable batteries, the demand for the extraction of cobalt had grown exponentially, the report outlined, spurring a shift which became a tall order for the country providing more than half of the world’s supply. Of this cobalt, which was feeding some of the world’s wealthiest electronics companies, an estimated 10%-20% was being produced by artisanal or small-scale miners (ASM) from the southern part of the country – where an estimated 110,000 to 150,000 ‘creuseurs’ were active.

Amnesty International, supported by African Resources Watch, used its platform to shine a light on the conditions under which many of these artisanal miners were operating. The insight unveiled that there were many cases of very poor working conditions and many accounts of child labour. Also included in the report was an examination of larger companies’ due diligence, where it stated, “companies along the cobalt supply chain are failing to conduct adequate human rights due diligence” and that none of the companies contacted “provided enough detail for Amnesty International to be able to verify their cobalt supply chain or whether they were undertaking all five steps of the OECD Guidance in relation to cobalt.”

The fallout from this research, according to Sturmes, was a “knee-jerk” reaction from many of the downstream companies who immediately looked to find



Image Credit: FCA

David Sturmes (middle) posing with miners.

alternative sources for their mineral needs. While this reaction was perhaps understandable, it has left these artisanal miners in self-perpetuating conditions in the view of Sturmes. These people still rely on the work for their livelihoods but are instead often forced to sell their produce to actors who are not currently intrinsically motivated to improve conditions on the ground, meaning conditions remain the same.

It was upon recognition of this that the Fair Cobalt Alliance (FCA), of

which The Impact Facility is co-founder and permanent secretariat, was born. Launched in late 2020 as a multi-stakeholder action platform, the FCA recognises that despite international efforts to disassociate from the sector, artisanal mining is here to stay. Therefore, it is dedicated to coordinating, supporting and scaling local initiatives aimed at the betterment of the ASM sector in line with enabling safe and dignified working conditions; child labour

remediation; raising worker incomes; and achieving market acceptance of fair ASM cobalt.

Deepening cobalt demand

With all eyes firmly locked on the energy transition, the potential for minerals critical to this future is limitless. Demand for cobalt, as a critical mineral required in many clean energy technologies (most notably EVs and battery storage), is projected by most onlookers to soar with the IEA suggesting that by 2040 this could increase by 6 to 30 times higher than today depending on the direction of battery chemistry evolution.

In 2021, the DRC produced around 70% of the world’s cobalt supply and boasts around 50% of the world’s cobalt reserves. These assets present a tremendous opportunity for the Government (which is trying to position itself as a vital cog in the

“ Even if we lean conservatively, around 7% of global supply [cobalt] is being met by ASM, which is considerable.”

DAVID STURMES, DIRECTOR OF FUNDRAISING AND INNOVATION
AT THE IMPACT FACILITY

battery value chain) but also for the artisanal mining communities which are responsible for a substantial portion of cobalt production in the country.

Sturmes commented, “Currently there is a slight oversupply in the world market which means prices are low. However, with the ambitions of car manufacturers switching over to EVs and the targets of countries to become fully electric, we expect demand to surge and prices to go up once again. Statistics on the extent of artisanal mining in the DRC vary between 10%-20% of national cobalt production being met by this sector. So, even if we lean conservatively, that means that around 7% of global supply is being met by ASM, which is considerable. The high end would be 15%. As prices rise, we are likely to see an influx of artisanal miners again because they are generally commodity fluid.”

In recent years, Sturmes admitted, political instability has meant that pursuing initiatives to address the ASM sector was not a priority and, as a result, the state of it has stagnated. Nevertheless, with the drive to enhance local battery manufacturing capacity and wider industrialisation in the country, there has been renewed impetus from Government and international bodies to redress this. For instance, the Musompo Trading Centre is expected to be completed in the first half of 2023 and is designed to control the trade of artisanally-produced minerals by offering a regulated trading hub. It will provide professional determination of mineral contents and taxes for minerals contained in the ore to ensure fair compensation to cooperatives. The FCA has expressed how this is a significant step in the



Sturmes argues that formalising the ASM trade will improve conditions for those working within the sector.

Government’s plans to ensure ASM cobalt meets international standards and is accepted in the formal cobalt supply chain.

Formalising the ASM trade, Sturmes continued, will not only serve to improve conditions for those working within the sector but could play a key role in the DRC realising its economic aspirations. “If we return to that 10% conservative market share estimate, this would mean that literally billions of dollars’ worth of cobalt and copper has originated in artisanal mines. That is a massive industry in a very poor part of the world.

“If we look at one of the wider industry ideals of local battery manufacturing incorporating ESG, we believe artisanal mining is a very likely enabler of that vision and, for me, is a logical material feed for local factories of the future. If we manage to formalise the market and the trade and professionalise how mines are run, the easiest way for Congolese companies to start purchasing minerals would be through the artisanal mining sector.”

An investment opportunity

Government initiatives are starting to make ground in this respect but, in order to make meaningful change and really advance the sector for the benefit of all, investment is needed.

“This is a transition that we are advocating for but, to achieve this, we need to think bigger and really talk about hundreds of millions of dollars in investment as mining is a capital-intensive industry,” Sturmes remarked.

“However, to achieve this, we need to change our mindset and how we think about this sector. This is not a charity case; it is an investment opportunity. Traditionally, the media has portrayed the sector in a one-sided negative image but that falls short of recognising ASM as a hugely important livelihood in the region and it disempowers the prospects of investment as such.

“So we need to change that perception and that is what we are aiming to do. We are also looking to support the Government and encourage more reform to create an investment-conducive environment. Because, if you think about it, the sector has already produced billions of dollars’ worth of cobalt without formal investment; how much more could it do if we actually put some real money into the sector?”

To achieve this, Sturmes believed, investment needs to start small with a few mine sites as proof of concept. But, once up and running, he could see them being rolled out across the industry and including national financial institutions, international organisations, development bank donors and more.

“Ultimately, there are no proven solutions that could be easily scaled and adopted but I think there is an increasing appetite to find ways to engage with informal miners and help them formalise and

professionalise – and that is what we promote,” continued Sturmes. “There is a palpable ESG-centric approach being taken by many organisations which revolve around the mining industry but this often falls into the default of environmental. But if we look at the social element, working with artisanal mining, by virtue of providing employment, helping them not be in danger at work and get paid fairly for their efforts; I think many companies will seek to have ASM as part of their mix in the future.

“One of the companies that founded the FCA is Fairphone which set out to make the most ethical smartphone in the world – their strategy is that to stress the importance of ASM as a livelihood and I think others could be inspired by that.”

Sturmes concluded, “At the moment, conditions are unacceptable as they are but the way to change that is through working with the sector. We need to reframe the narrative and, it must be mentioned, only through collaboration is that change possible. If we work in silos or if we compete in the development space, we are just slowing down potential change to the region. This will require intergovernmental collaboration of geological services, investors and international actors to adopt a common, progressive ASM standard.

We need to have a pre-competitive mindset and look at it as a bountiful opportunity – one that, up to now has been, overlooked and misunderstood.” ■

“ I think many companies will seek to have ASM as part of their mix in the future.”

DAVID STURMES, DIRECTOR OF FUNDRAISING AND INNOVATION AT THE IMPACT FACILITY

ATLAS COPCO DELIVERS MOBILE COMPRESSED AIR SOLUTION IN SOUTH AFRICA

Atlas Copco Power Technique and long-standing distributor, Airlif Compressors & Pumps, have collaborated to deliver a reliable compressed air solution to a foremost opencast mine customer in Mpumalanga, South Africa.

The ultra-robust Atlas Copco U110PACE unit was chosen as the ideal partner for the application, having been specially engineered to bring mobility and reliability to even the toughest mining landscapes.

Airlif Compressors is a leading Level 2 B-BBEE supplier to prominent mines and companies in the Mpumalanga region. The company was first approached by Atlas Copco Industrial South Africa two years ago to market their range of industrial air products, and has since established itself as a trusted distributor.



Image Credit: Atlas Copco

Atlas Copco U110PACE compressor mounted on the back of a service truck.

Airlif Compressors supplied the U110PACE to the service vehicle manufacturer who was responsible for mounting the unit on to a

refurbished Water Bowser. This particular configuration is currently only being used in the mining sector, predominantly for demanding open cast mining projects.

Climate and environment are ever-changing variables in open cast mining, meaning the air compressors reliability depends on its ability to adapt quickly. The U110PACE has been rigorously tested and proven to weather any terrain, and achieves a consistent, reliable output of compressed air through snow, mud, rain or dust.

All units are equipped with a high-speed fan for optimum performance in high temperatures, and they undergo full footprint data tests to track flow and pressure optimisation, contact surface temperature and starting capability.

Orica debuts 4D bulk explosives system

Orica has unveiled a new range of 4D bulk explosives for the underground market with staged availability to Australian customers this year and later release to the global market.

Following the launch of the 4D bulk systems for surface operations in 2021, Orica has now developed a new bulk emulsion explosives delivery system for underground operators that allows precise control of in-hole explosive energy. Subtek 4D offers the widest available energy range on the underground market with accurate matching of energy to suit varying rock properties and mine design requirements.

In combination with Orica's proprietary emulsion chemistry, the suite of smart explosives delivery technologies integrated with the new 4D MaxiLoader allows instant application of selected energy into the blasthole to match any complexity of blast design, as well as adjust energy between blastholes or within an individual blasthole.



Image Credit: Orica

Convergence of Orica's technologies powering the revolutionary 4D bulk system.

METSO OUTOTEC UNVEILS NORDBERG HP200E CONE CRUSHER

Metso Outotec has launched a new Nordberg HP200e cone crusher range evolution for higher performance.

The HP200e cone crusher provides more performance and uptime in a more sustainable way, enabled by kinematics and new chamber designs. The new liners are fitted in the crushers without backing material, making maintenance breaks shorter and the liner replacement faster, safer and less hazardous for the environment.

Metso Outotec ensures strong aftermarket support and availability for the HP200e crushers. The majority of spare parts in the current HP200 and the new HP200e are common, which will enable continued global spare part support for new units.

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Managing IT in dark times

Fikile Sibiyi, chief information officer (CIO) of e4, a technology company specialising in digitalisation, explains why CIO's need to think on their feet to prevent loadshedding wreaking havoc on their teams and departments.

As a software-on-demand company with solutions that need to be available to customers 24/7, e4 understands the current business challenges better than most.

However, according to Sibiyi, by being proactive, companies can ensure that they can stay afloat when challenging circumstances threaten business – whether now or in the future.

Sibiyi provides five top tips to navigate the biggest challenges CIOs are currently facing:

- **Diversify:** As loadshedding increased in South Africa, companies had to diversify their electricity supply, either using backup power, renewables, or generators. This is a good principle to apply in other business areas – diversifying service providers creates resilience. Instead of relying on one input, have two or even three options. It comes at a cost, of course, but you need to weigh the benefits this will bring to your business against the risk of long-term interruptions. With fibre providers also now alluding to cable theft and infrastructure damage, consider bringing additional suppliers on board before interruptions threaten your business.
- **Build resilience:** Business challenges are a matter of ‘when’, not ‘if’. You can’t avoid problems, but you can build resilience. In the IT space, having reliable, tested backups is top of mind when it comes to resilience. Disaster recovery is almost like insurance – you do not get value out of that expense until you need to call on it. But when trouble comes knocking, it will



save you from complete ruin. If you use a third party such as a cloud provider for this, you also have to double check that they can deliver on their promises. Don't abdicate all responsibility and simply trust that your provider will save you should your security be compromised – ensure that they really can.

- **Customise:** Cloud is not a silver bullet for everyone. For some, it is indeed the cost saver it's touted to be. Other organisations have gone the cloud route and repatriated back to on-premise, and saved millions in the process. For others, a hybrid solution is best. You need to be very clear on your strategy and realistic about

costs and find a configuration that works for your business. The same goes for security solutions. SMEs in South Africa, in particular, don't have the resources of large companies to employ in-house security teams. But sadly, the same crimes still affect them. Even a basic antivirus programme could at least save them from complete collapse should they have a serious malware infection. You don't have to do everything, but start somewhere, and ensure the basics are covered.

- **Be flexible:** South Africa is, unfortunately, facing a skills drain – especially in the tech space. Don't expect employment structures to look the way they did years ago. Explore new options such as a mix of permanent, contract, and gig workers to diversify your skills base. Consider partnering with others to use their expertise when needed. And provide flexitime or remote working opportunities to those who prefer it, but ensure you also get the facetime you need in the office. Speak to staff and management continuously and don't get fixated on set requirements – change them as needed.
- **Practice:** Reassess all these areas regularly. Your priorities might change, and your plans need to change with it. But that is not enough. Often, businesses have wonderful disaster management plans filed away in a cabinet, but no-one knows their role and responsibilities should these plans need to go into action. Be sure to test your disaster recovery regularly, and make sure your teams know what to do when a crisis hits. ■

“By being proactive, businesses can ensure that they can stay afloat when challenging circumstances threaten business.”

FIKILE SIBIYA, CIO OF E4



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