

DATA CENTRES

Fresh projects to keep up with demand **P17**

POWER

Harnessing flare gas as a resource **P28**

CONSTRUCTION

Telescopic handlers taking productivity to the next level **P38**

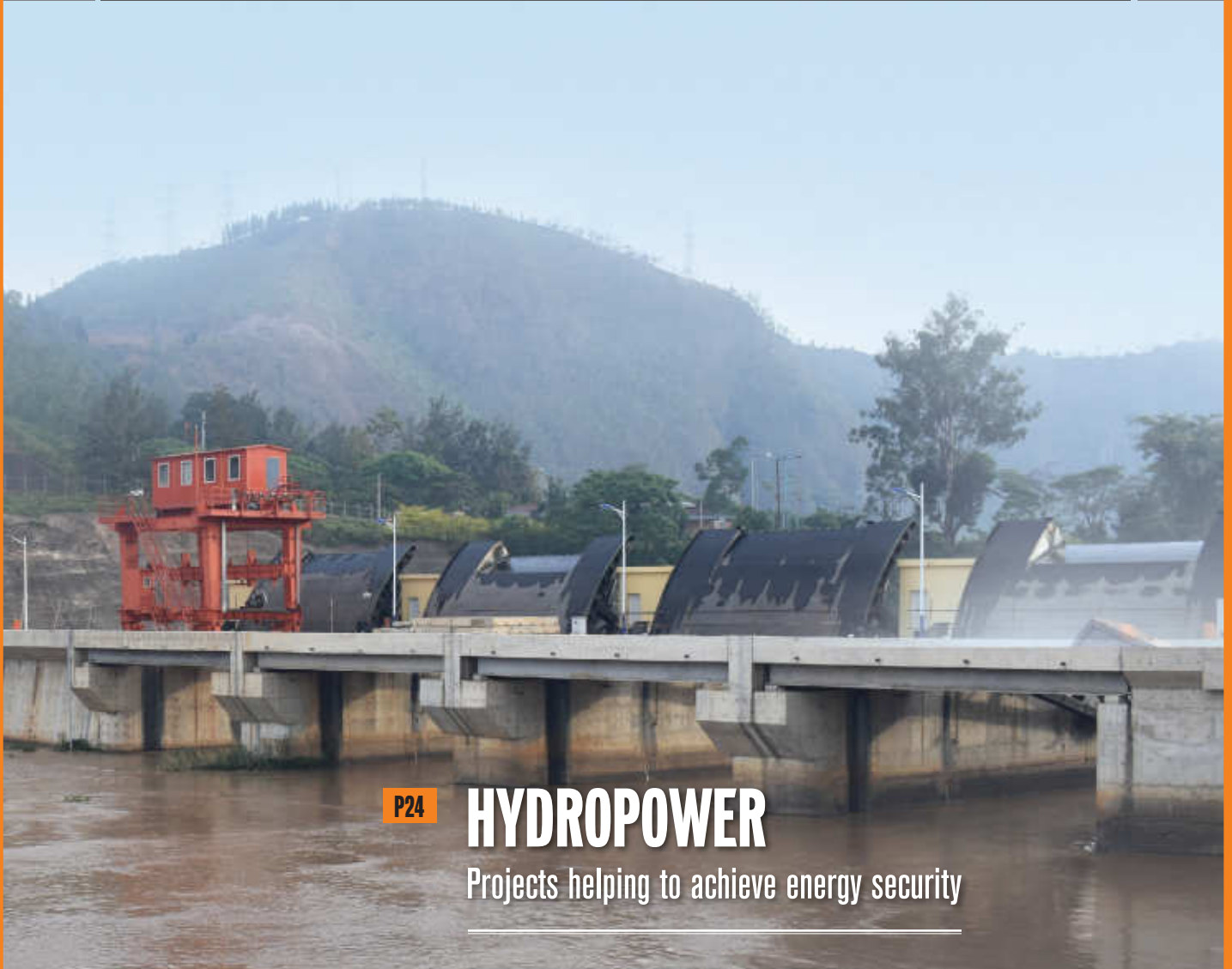
MINING

Optimising water treatment on mines **P44**

African Review

NOVEMBER 2022

of BUSINESS and TECHNOLOGY



P24

HYDROPOWER

Projects helping to achieve energy security

P15

PROPAK WEST AFRICA

West Africa's largest packaging, processing, plastics and print exhibition

P35

ROADS

The roll-out of infrastructure providing a lifeline for remote communities

P30



"There is no doubt that the demand for solar is big but the question is now whether we can really embrace this opportunity."
Hadyr Koumakpai, Africa general manager at JA Solar



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Cover picture: The Regional Rusumo Falls Hydroelectric Project, on the border between Tanzania and Rwanda, which is nearing completion.

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Cover Inset: Hadyr Koumakpai, Africa general manager at JA Solar

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Editor's Note

Welcome to the November issue of African Review. In this issue, we have news, insights, interviews and analysis on the continent's key industries from energy through to construction and mining.

In the spotlight this month is Propak West Africa, the region's largest packaging, processing, plastics, labelling and print event. Our coverage focuses on a selection of exhibitors and the products they will be proudly showcasing (page 15).

With data centre demand continuing to spike as the need for digital services accelerates, we delve into the latest facilities coming online to ensure Africa's requirements are being met (page 17).

Keep an eye out as well for our interview with Hadyr Koumakpai, Africa general manager at JA Solar, who describes why the continent is on the right track to becoming a solar giant (page 30). This renewable resource will work in tandem with hydropower which boasts its own significant collection of projects in the pipeline (page 24).

Alongside our usual overview of the latest construction and mining equipment shaping these industries for the better, we also feature an infrastructure review on the roll-out of new roads and highways (page 35) and look at the benefits of water recycling on mine sites (page 44).

As the post-pandemic environment continues to throw curve balls that threaten business continuity, African Review remains a dependable voice which you can rely on to ensure your company thrives. For daily updates and to stay on top of the latest news as it happens, be sure to log on to our website.

Robert Daniels, Editor

Contents



15 Propak West Africa
More than 5,000 attendees are expected to descend on Lagos as West Africa's largest packaging, processing, plastics, labelling and print event opens its doors.



20 Recycling
Often lacking attention, recycling on the continent is becoming a more popular method of dealing with waste challenges, especially as environmental concerns continue to grow.



22 Lessons from India
Cheryl Buss, CEO of Absa International, explains why India's response to the Covid-19 pandemic could serve as a blueprint for Africa's own economic recovery.



24 Hydropower
Multiple projects are in the pipeline to help provide power for underserved communities.

35 Infrastructure
While there are always calls for more spending on infrastructure development, the roll-out of new roads and highways is a promising sign.

38 Telescopic handlers
The latest machinery available to the construction industry which is helping to take productivity to the next level.

44 Water treatment
Peter Shepherd, partner and principal hydrologist at SRK Consulting, describes why recycling is key to the mining industry achieving its ambitious water conservation targets.

50 Banking
As the banking sector continues to advance in sophistication, Larry Khaduli, field services director East Africa at Schneider Electric, explains why the industry must look after its IT assets if it is to stay on this growth path.

Turbines auctioned as part of Koudia Al Baida wind farm repowering

Escrapalia, a specialised auction platform of the Surus Group, is auctioning 73 wind turbines as part of the project to modernise the Koudia Al Baida wind farm in Morocco.

The Vestas V42 wind turbines, manufactured between 1999 and 2000, have an output of 600kW, includes the nacelle and rotor blades.

The sale will be divided into different online auctions through Escrapalia. The first of these, already available on the portal, features 12 complete wind turbines that can be purchased as a single unit, as individual lots or as a joint lot of all ten units. The remaining auctions will be held until 5 March 2023 throughout the dismantling process.

The auction is part of the complete dismantling project of the Koudia Al Baida Wind Farm, located in Tangier-Tetouan-Al (Hoceïma). The project has been awarded by the Moroccan Agency for Sustainable Energy (Masen) to Siemens Gamesa Renewable Energy, which in turn relies on the expertise of Surus in charge not only of the sale but also of its associated processes. Surus will manage the dismantling of the wind turbines to minimise the visual and environmental footprint.

The Surus Group will apply to this project the experience acquired in Zas and Corme (La Coruña), where 141 wind turbines were replaced by 17 maintaining the same power output (42.3MW); or in Malpica (La Coruña), where 69 turbines generating 15.07MW were replaced by seven new ones that produce 16.45MW. This represents 65% of the total MW repowering carried out in Spain.

Blade recycling is one of the biggest complications to address in terms of sustainability when repowering a wind farm, as fiberglass management is very complex. In the case of this project, Surus will be in charge of recycling the surplus blades, which will be taken to a specialised plant where they will be shredded. This shredded material will be taken to a cement factory and used for the manufacture of cement, thus re-entering the production process, which means the generation of zero waste. In this way, 241 tons of waste that would be generated by the blades alone will be avoided.

In addition to managing the sale of the wind turbines, a second life will also be sought for the wind farm's transformer substations.



The Koudia Al Baida wind farm in Morocco.

Image Credit: Surus Group

PARTNERS TO ADVANCE SUSTAINABLE WASTE MANAGEMENT IN SHARM EL-SHEIKH

BEEAH Group, one of the Middle East's leading sustainability pioneers, and Green Planet, Egypt's emerging environmental services company, have formed a partnership to deliver a landmark ten-year contract in Sharm el-Sheikh, Egypt.

In preparation for the arrival of COP27, which is being held in the city, and over the next decade, BEEAH Group and Green Planet will implement waste management strategies that align with Egypt's sustainability agenda. This includes deploying waste management infrastructure; streamlining waste collection solutions; and recycling services and bringing together a network of RFID-tagged bins, a GPS-enabled fleet and a skilled workforce. BEEAH and Green Planet will also carry out on-ground activities to foster a culture of recycling and proper waste disposal among communities.

Khaled Al Huraimel, group CEO of BEEAH Group, commented, "With Cop27 approaching, it is the ideal time to support Egypt as it solidifies its initiatives under the Vision 2030 agenda. Today, we will begin by deploying world-class infrastructure and services to streamline waste management. Over the next decade, in partnership with Green Planet, our goal is to scale up services, build on zero-waste to landfill strategies, and help shape Sharm El-Sheikh into a sustainable, smart city of the future."

Mohamed Asaad, chairman of the board of directors of Green Planet, added, "We are optimistic about the future and look forward to working with the South Sinai Governorate and environmental affairs institutions to enhance waste management infrastructure in Sharm El Sheikh, which will help maintain its position as a leading tourist destination."

ORASCOM TO CONSTRUCT STRATEGIC WAREHOUSE IN EGYPT

Orascom Construction, a leading engineering, procurement and construction contractor, has signed an agreement with the Internal Trade Development Authority (ITDA) to build, own and operate a strategic warehouse in Fayoum Governorate.

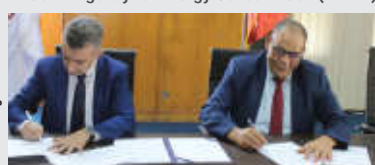
The warehouse is part of the first phase of a programme that will play an important role in providing modern logistics and warehousing for the movement of commodities across Egypt. The project is set up to utilise the latest technology alongside efficient operational methods to meet existing and future needs for the commodities.

Construction is expected to take up to 15 months and will commence once financing has been concluded. After this point, the operation of the warehouse will commence.

► BRIEFS

Egypt and Tunisia strengthen energy cooperation

The Regional Center for Renewable Energy and Energy Efficiency (RCREEE) has received a delegation from Tunisia, headed by Fethi Hanchi, director general of the National Agency for Energy Conservation (ANME), with the aim of strengthening



RCREEE and ANME also aim to identify synergies.

Egyptian-Tunisian cooperation in the field of energy efficiency. A MoU between RCREEE and ANME was signed to join their efforts in developing renewable energy sources and energy efficiency programmes in Tunisia.

Image Credit: RCREEE

CardoO to facilitate access to consumer electronics



Ahmed Adel, CEO and founder of CardoO.

CardoO, an Egyptian-based start-up, has managed to attract its seed investment round which amounted to US\$660,000 as it aims to become the leading provider of premium and price-effective smart devices in the MENA region. Ahmed Adel, CEO and founder of CardoO, said the company hopes to revolutionise consumer electronics supported by Internet of Things (IoT) technology and that the investment will allow for the improvement of products.

Image Credit: CardoO



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HAW moves its Cape Town branch

The Cape Town branch of Hydraulic & Automation Warehouse's (HAW), part of Bosch Rexroth South Africa, has relocated to premises in Milner Street, Paarden Eiland, in the city. The new HAW branch occupies 1,280 sq m of space.

The new offices feature a main sales office, counter sales office, hose department, large warehouse and a mobile workshop area. "The main sales department, the heart of the company, is manned by six sales personnel – three internal and three external, to aid with all customers' hydraulic requirements," said HAW Cape Town branch manager Zane Marx.

"Our counter sales offices are designed specifically to aid walk-in customers. Our hose department enables us to tailor hoses to customer specifications, and our large warehouse area is used for bulk stock, which ensures we have everything that we and our customers need for repairs or replacement to their hydraulic equipment," Marx said.

The branch also has an area dedicated to its mobile division where HAW stocks a complete range of mobile products like hydraulic motors, gear pumps, control valves and power pack components, for example.

"The main benefits of our new location are space and visibility," Marx said. "The new building is more than double the size of the old building, meaning we are perfectly positioned to retain more stock than before which, in turn, enables us to meet the demands of even more customers. The size of the premises not only increases brand visibility but also positions us to bring in new product ranges, increasing our footprint in the Western Cape."

Although the official move took place in mid-winter, the branch celebrated its official opening in October 2022.



The new branch occupies 1,280 sq m.

Image Credit: Bosch Rexroth South Africa

ENVUSA TO DEVELOP A REGIONAL RENEWABLE ENERGY ECOSYSTEM IN SA

Anglo American, in partnership with EDF Renewables, has agreed to form a new jointly owned company, Envusa Energy, in order to develop a regional renewable energy ecosystem (RREE) in South Africa.

In March, the companies signed a memorandum of understanding to explore the ecosystem's development, designed to meet Anglo American's operational power requirements in South Africa and support the resilience of the local electricity supply systems and the wider decarbonisation of energy in the country. The RREE is also expected to catalyse economic activity in South Africa's renewable energy sector, supporting the country's broader just energy transition.

As part of the agreement, Envusa Energy is launching a mature pipeline of more than 600MW of wind and solar projects in South Africa – a major first step towards the development of an ecosystem that is expected to generate 3-5GW of renewable energy by 2030. The first phase is expected to be fully funded – including by attracting debt financing that is typical for high quality energy infrastructure projects – and ready for construction to begin in 2023.

Envusa Energy is expected to supply Anglo American with a blend of renewable energy generated on Anglo American's sites and renewable energy transmitted via the national grid. This energy portfolio approach will aggregate energy from geographically dispersed renewable generating assets and allocate this energy optimally to meet the load demand for Anglo American's sites.

The roll-out of the RREE will also serve as a clean energy source for the production of green hydrogen for Anglo American's nuGen Zero Emission Haulage Solution (ZEHS) – a planned fleet of hydrogen-powered ultra-class mine haul trucks – significantly reducing on-site diesel emissions.

AIRLINK ACQUIRES STAKE IN FLYNAMIBIA

Airlink, an independent South African airline, is acquiring a 40% strategic equity holding in privately owned, Windhoek-based FlyNamibia in an investment which will accelerate Namibia's post-pandemic recovery and drive the expansion of efficient scheduled airline services to, from and within Namibia.

Through this venture, Airlink and FlyNamibia will support Namibia's National Transport Policy vision by providing safe, reliable, effective, efficient and affordable air transport with world-class service levels.

By enhancing productivity in economic sectors and developing complementary engines of growth, it is also aligned with the economic advancement objectives set out under Namibia's Harambee Prosperity Plan II for 2021-2025.

The investment, worth an undisclosed monetary sum, is underpinned by a commercial franchise agreement under which FlyNamibia will adopt Airlink's 4Z International Air Transport Association (IATA) designator for its ticket sales and scheduled flights, while retaining its unique corporate identity, brand and aircraft livery. It will also see FlyNamibia's inventory attaining higher visibility and being promoted on Airlink's computerised reservation system and on those of major foreign airlines which have partnered with Airlink. Airlink will also provide additional airline operations, technical and commercial skills training and development support for FlyNamibia.

► BRIEFS

Ongombo mining licence approved

Image Credit: Adolphe Stock



The process of shallow drilling is ongoing.

African Pioneer plc has announced that the Ongombo Mining Licence has been approved by the Ministry of Mines and Energy of Namibia, and that ongoing shallow drilling continues to define near-surface copper-gold mineralisation to be assessed for possible open pit extraction in addition to the already defined mineral resource. The company is in the process of completing an environmental and social impact assessment to start the mine development process.

Ukheshe helps Zambia go cashless

Image Credit: Adolphe Stock



The solution will help make payments seamless.

Ukheshe's SME in-a-box solution is improving financial inclusion and enhancing business dealings for entrepreneurs through a partnership with Digital PayGo. "SME in a box - Lipila Na PayGo will cater for the pressing need of SMEs which is to make and receive payments seamlessly, while keeping a track record of all transactions thus making reporting and access to finance a possibility," said Charity Mwanza, CEO of Digital PayGo.

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CBEA and ENGIE to build significant mini-grid portfolio in Nigeria

CrossBoundary Energy Access Nigeria (CBEA) and ENGIE Energy Access Nigeria (ENGIE) have announced a project finance agreement to build a US\$60mn portfolio of mini-grids that will connect more than 150,000 people to electricity in Nigeria.

CBEA will finance all of the development and construction activities and will own the projects. Meanwhile, ENGIE will provide long-term operations and maintain services and ensure that the residential, commercial, and productive use-customers receive clean, reliable electricity while delivering high-quality and customer-centric services.

CBEA will invest this private capital alongside the performance based grant funded by the World Bank and administered by Rural Electrification Agency (REA) and the Nigeria Electrification Project (NEP).

The agreement represents further progress in the African mini-grid space as it will expand access to energy to grid-unserved communities, creating economic growth and increasing socio-economic welfare in the community.

Annette Mumbi, associate director at CBEA, commented, “CBEA has improved our project financing approach for mini-grids to deploy capital faster and more efficiently by investing from procurement. These improvements enable developers to build mini-grids and deliver electricity to more people at a faster pace. Our agreement with ENGIE is one more milestone towards closing the gap on more than 600 million people in Africa who lack access to electricity.”

Gillian-Alexandre Huart, CEO, ENGIE Energy Access, added, “We’re excited to work in partnership with CrossBoundary Energy Access to finance this portfolio of mini-grids in Nigeria. This deal reflects our long-term commitment as a leading provider of energy access solutions in Africa. Most importantly, this agreement will connect marginalised rural populations in Nigeria with clean and affordable technologies and facilitate more economic opportunities in these hard-to-serve areas. Promoting productive usages is key to growing resilient economic networks in these areas.”



CBEA finances and owns solar mini grids for electrification across the continent.

Image Credit: ENGIE Energy Access

PROGRESS ON DASA MINE’S PROCESSING PLANT

Global Atomic Corporation (Global Atomic) has signed with Development Consultants Private Limited (DCPL) and Lycopodium Minerals Canada Ltd. (Lycopodium) to commence the basic and detailed engineering, procurement and project management of the Dasa Mine processing plant in the Republic of Niger.

These engineering and project delivery firms were selected to form an Integrated EPCM Project Team synthesising proven uranium processing plant design experience with West African project management and construction experience. DCPL will focus on the basic and detailed engineering required for the design of the Dasa Process Plant, with the initial phase of basic engineering now underway. Lycopodium will prepare the project execution plan, provide input for constructability and provide project services during this phase with the intention of continuing on to manage plant construction.

DCPL has extensive experience having designed and built several uranium recovery and process plants and is currently the foremost engineering company in India, developing that country’s nuclear and uranium sectors. Lycopodium has been actively engaged in 60 mining projects across West Africa and brings recent hands-on project delivery experience in the region.

Global Atomic president and CEO, Stephen Romanm, stated, “The commencement of the EPCM phase is our next important milestone to stay on schedule to become one of the world’s newest uranium production companies. After an extensive selection process, DCPL and Lycopodium emerged to form the best team to undertake the EPCM phase of the Dasa Project. This Integrated EPCM Project Team is committed to completing the project on time and keeping the Dasa Project on schedule to deliver yellowcake to utilities in Q1 2025.”

SHELL ACQUIRES DAYSTAR POWER

Shell has advanced into the African renewable space after acquiring Daystar Power, a West African provider of hybrid solar power solutions to commercial and industrial businesses.

Daystar Power will continue to grow its operations in key West African markets, while expanding its presence to other African countries in East and southern Africa. It has set a target to increase its installed solar capacity to 400MW by 2025.

Jasper Graf von Hardenberg, CEO and co-founder of Daystar Power, said, “As part of Shell we will be able to execute our mission even faster to deliver carbon emission reductions and power cost savings.”

Thomas Broström, Shell’s executive vice-president, renewable generation, said, “We have had a long and established presence in West Africa and with Daystar Power we are taking our first steps into the renewable power space.”

► BRIEFS

Kowry commissions solar systems in West Africa



Kowry Energy is aiming to expand its reach across the continent.

Kowry Energy, a sustainability-driven energy service provider, has commissioned four decentralised solar energy systems in West Africa. The projects included a 10kWp PV decentralised solar energy system with battery storage in Senegal; two 286kWp PV solar systems for a plastic recycling plant and a food processing plant in Nigeria; and a 69kWp PV hybrid energy system with battery storage and a backup generator for Access Energie in Mali.

Endeavour begins Lafigué construction



Construction began once a definitive feasibility study was concluded.

Endeavour Mining, has launched construction of its 80% owned Lafigué project on the Fetekro property in Côte d’Ivoire.

The gold project has a production profile of approximately 200,000 ounces per year at an AISC of US\$871 per ounce over its initial 12 year mine life. The initial exploration investment was a modest US\$31mn.

With construction now underway, first gold production is expected in early Q3 2024.

MTN Nigeria and Ericsson launch 5G services

The launch will empower consumers and enterprises with innovative 5G applications.



Image Credit: Adobe Stock

Ericsson and MTN Nigeria, who have a fruitful collaboration spanning 21 years, have launched 5G services in the West African country.

The first phase of the launch covers certain parts of Lagos and Nigeria where Ericsson's 5G technology – which includes 5G Radio Access Network & NSA Packet Core – will accelerate the development and digitalisation of key sectors such as education, healthcare and manufacturing. It will also empower consumers and enterprises with innovative 5G applications that will unlock the true potential of IoT, AI, smart cities and immersive communication over AR and VR for millions of new consumers in the country.

With Ericsson Radio System, MTN will provide advanced mobile broadband and fixed wireless access services. The new 5G services can bring about unique sustainable development initiatives for agriculture, energy, financial inclusion, and security, among others, overcoming past institutional challenges and barriers to growth.

Mohammed Rufai, chief technical officer, MTN Nigeria, commented, "With the speeds 5G offers, we will be able to experience the Internet with low latency, which means no lag; making our virtual interactions more real."

Hossam Kandeel, vice president of Ericsson Middle East and Africa, said, "5G is not just about speed. 5G helps people do more with their devices, unlocking a whole new world of possibilities for society."

ACWA POWER TO ESTABLISH DESALINATION AND NATURAL GAS POWER PLANT IN SENEGAL

Saudi developer, investor, and operator of power generation, water desalination and green hydrogen plants worldwide, ACWA Power, has signed agreements with both the National Water Company of Senegal (SONES) and the National Electricity Company of Senegal (SENELEC).

In close collaboration with SONES, ACWA Power will oversee the development of a 300,000 cu/m per day seawater reverse osmosis (SWRO) plant in Grande Côte. Located approximately 40 km northeast of Dakar, the SWRO development will be the largest desalination project of its kind in sub-Saharan Africa.

ACWA Power will develop a combined cycle gas-turbine plant in Cap des Biches with an initial design capacity of 160MW. In line with Senegal's gas-to-power strategy, the development of the new facility will further assist the country's efforts to reduce its GHG emissions by at least 23% by 2030.

ALIBABA.COM ENTERS SUB-SAHARAN AFRICA

Global tech giant Alibaba has made its first serious entry into the sub-Saharan Africa market with a first channel partnership agreement with World Trade Centre Accra, a member of the Strategic Initiatives Limited Group.

Alibaba.com is a B2B marketplace offering a wholesale platform for millions of buyers and sellers around the world to transact business. It has always been possible to create an Alibaba.com account from Ghana and most countries worldwide for sourcing and purchasing products.

The Alibaba.com platform has several features and tools for exporters (sellers), such as the Global Gold Supplier (GGS), Verified Seller Mark and Key Word Advertisement (KWA), which were not available to users in sub-Saharan Africa until now.

With the tools provided by Alibaba.com, SMEs and exporters can reach millions of new buyers worldwide. The launch of Alibaba.com's first channel partnership in sub-Saharan Africa in cooperation with Strategic Initiatives Limited and World Trade Centre Accra presents a unique pathway for Ghanaian companies to access new opportunities in the global market, with benefits including increased exports and foreign exchange earnings, job creation, poverty alleviation, and inclusive economic growth.

Alibaba.com provides critical support and training for SMEs and large corporates to build successful e-commerce business models. These programmes will build on the capacity of Ghanaian companies to enter new markets and provide access to Alibaba.com's online trade shows.

Government, industry players and the team at Strategic Initiatives Limited can leverage the benefits of Alibaba.com to position Ghana to take advantage of the new opportunities being availed by the Africa Continental Free Trade Agreement.

BRIEFS

IBA expands presence in West Africa



Image Credit: Adobe Stock

The contract marks IBA's increasing presence in the region with operations in 21 countries.

Ion Beam Applications SA (IBA), a provider of radiopharmaceutical production solutions, has announced a new contract with Sweden Ghana Medical Centre, a leading private cancer care centre in West Africa, for an IntegraLab PLUS in Accra. IntegraLab PLUS is a fully integrated solution that combines equipment and services to establish a radiopharmaceutical GMP production centre, tailored to customer's specific needs.

AMA to launch waste separation projects in Accra



Image Credit: Adobe Stock

The project is a means to build a circular waste management approach in Accra.

The Accra Metropolitan Assembly (AMA) has initiated a collaboration with the C40 Cities Finance Facility to carry out community-based solid waste source separation and compost projects in Accra to help mitigate the effects of climate change.

Before the implementation of the project, AMA will embark on a pilot community-based municipal solid waste source separation and compost project in selected communities.

Weholite technology helping to modernise Zanzibar while preserving its beauty

In 2015, CPS Live Ltd, a real estate developer launched Fumba Town, a modern African town in Zanzibar, with the aim of developing modern units that were sustainable and did not compromise quality. The target is to build approximately 3,000 residential units in three phases and currently 700 units are under construction or have been completed.

Fundamental to the whole construction is ensuring that Zanzibar's landscape was maintained. However, ensuring Fumba Town's aesthetics and the project's facilities functionalities presented some engineering challenges, one of which was freshwater storage.

One of the project's new retail blocks needed a 50,000 litre rooftop tank which had to be designed in such a way that it fit into a restricted space and was not visible from the ground and did not protrude higher than the 1.1 m high bund wall around the rooftop.

Sustainability was also an important consideration for the project's developers and again this presented another set of challenges because the traditional building technology would not achieve the desired result. A solution that would resolve all these challenges was available courtesy of an innovative technology which is being pioneered by Dar es Salaam-based Plasco Ltd, the Tanzanian licensee for the manufacture of Weholite HDPE systems.

Ali Gulamhussein, CEO of Plasco, explained that CPS commissioned Plasco to design, manufacture and install the tanks on the retail building's rooftop, making the choice to use Weholite HDPE technology a perfect solution. Weholite HDPE pipes can be customised to fit in any area and in this case, they could perfectly fit within the retail building's limited space and not cross the 1.1 m high bund wall that had been set, ensuring that the project's aesthetics were maintained.

"Weholite was perfect for the project because Plasco was able to deliver within a short period which was key for the client. By using this technology, CPS met all the necessary environmental and sustainability requirements," said Gulamhussein. "Weholite makes it possible to customise products which can then be easily transported and installed in areas that are difficult to access."



Image Credit: Plasco

The tanks were not to be visible from the ground and had to fit in a restricted space.

3T ENERMECH BAGS ENGINEERING AWARD

3T EnerMech has been named 'Regional Winner for East Africa and the Rest of the World' in the prestigious Engineering Construction Industry Training and Development (ECITB) Awards.

After looking at several factors including the number of people trained, quality of training, equality and diversity, innovation and ambition, interaction with the ECITB and generally adding value within its markets, the judging panel acknowledged 3T EnerMech to be the very best in its region.

3T EnerMech will now compete against two others for the overall 'ECITB International Training Provider of the Year 2022 Award' which is taking place at a glittering ceremony in London.

The organisation has already made its mark on the global stage by becoming the only ECITB-approved training provider in Angola and Guyana, establishing a training centre of excellence in Guyana and working with the UK and Mozambique governments to shape future training requirements for Mozambique's growing oil and gas workforce.

"Countries such as Mozambique, Angola and Guyana are quickly emerging as leading players in the global oil and gas industry and we want to ensure these regions are fully prepared by developing a highly skilled, local, competent and safe workforce ready to progress projects as soon as they are needed," said Paul Attrill, vice president of sales at 3T EnerMech.

"We are incredibly grateful to the judging panel for awarding us this accolade and recognising our outstanding efforts in delivering training excellence throughout East Africa and the rest of the world. ECITB standards and procedures are world-class, so to be recognised as the best of the best by this organisation is a great honour."

VINCI CONSTRUCTION TO BUILD WATER SUPPLY INFRASTRUCTURE IN UGANDA

Sogea-Satom and VINCI Construction Grands Projets, have been selected to design and build drinking water supply infrastructure in the Mbarara district of southwest Uganda, on behalf of the state-owned National Water and Sewage Corporation.

This turnkey project, initiated by the Ugandan Ministry of Water and Environment and financed by the French Development Agency, involves the construction of a water intake on the Kagera River, a drinking water treatment plant with a capacity of 30,000 cu/m per day, a booster station, and the laying of 62 km of pipes. 200 people recruited locally will be trained in the context of the works, which will last 22 months.

Once the installations are commissioned, they will guarantee access to drinking water for nearly 200,000 people. Sogea-Satom has a long-standing presence in the country, in particular having built the drinking water treatment plants at Ggaba (2016) and Katosi (2019).

► BRIEFS

Holcim invests in COBOD International



Image Credit: COBOD

A 3D printed Holcim logo.

Holcim has announced its investment in COBOD International, to advance world-class 3D printing materials, robotics, and automation. The two have previously collaborated on a range of innovative building projects such as the world's first 3D printed school in Malawi and a 3D-printed affordable housing project in Kenya. Empowering smart design, 3D printing can reduce material use by up to 50% to build more with less with no compromise in performance.

Trina Solar launches distribution centre in Kenya



Image Credit: Trina Solar

Trina recently completed a 55MW PV installation in Eldoret, Kenya.

Trina Solar Co. Ltd. has announced the launch of a new distribution facility in Kenya which will act as a regional hub for East Africa and serve all neighboring countries. Antonio Jimenez, managing director and vice president for Trina Solar MEA, said, "By opening a second facility in Kenya, East Africa's largest economy, we take a step that underlines the company's growing footprint in Africa to cater to the rapidly-growing demand for solar energy."

DFC to support Golomoti Solar project in southeast Malawi

U.S. International Development Corporation (DFC) CEO, Scott Nathan, has signed a commitment letter for a US\$25mn loan to support the Golomoti Solar project, a 20MW solar photovoltaic power plant and 5MW/10MWh battery energy storage system in southeast Malawi. Lazarus McCarthy Chakwera, President of the Republic of Malawi, witnessed the signing at a meeting on the sidelines of the UN General Assembly.

"I grew up in rural Malawi, where there was no electricity, and I didn't even experience an electrified facility until I was a teenager," said the President. "But that was over half a century ago. The fact that there are still Malawians living in those powerless conditions today is a tragedy we must correct, and I am grateful to the DFC for its partnership in this noble endeavor, because an investment in energy supply is not a hand out, but a hand up."

Nathan commented, "DFC's US\$25mn investment in Golomoti Solar will support a new solar energy plant in Malawi, delivering electricity to the national power grid to directly benefit Malawian businesses and communities." He pointed out that the plant also included Malawi's first battery energy storage system, creating a reliable energy source that would promote economic stability for the country's future development.

"We are proud to assist Malawi in unlocking its renewable energy potential and to be the industry's market leader in the country," said Christian Wray, CEO of JCM Power. "With the support of partners like DFC, projects like Golomoti are achievable."

With DFC's support, the new solar photovoltaic plant is the first utility-scale grid-connected project in Malawi with a 5MW/10MWh battery energy storage system included in the plant. Located at Dedza, approximately 100 km southeast of Malawi's capital, Lilongwe, the plant is connected to the adjacent Golomoti substation which provides much-needed power to Malawi's national grid.

JCM Power and InfraCo Africa co-developed Golomoti Solar, which commenced operations in early 2022.



Image Credit: Adobe Stock

The new solar photovoltaic plant is the first utility-scale grid-connected project in Malawi.

AFREXIMBANK LAUNCHES LEARNING HUB IN UGANDA

The Afreximbank Academy (AFRACAD) has been launched by the African Export-Import Bank (Afreximbank) in Kampala, Uganda.

Stephen Kauma, director and global head, human resources at Afreximbank, said at the launch ceremony that the establishment of the Academy fulfills the capacity building dimension of the Bank's mandate.

"Afreximbank has been at the forefront of building the capacity of Africans on the continent and the diaspora in trade related matters. In this regard, under the Bank's 5th Strategic Plan for the period 2016 to 2021, we planned to create a responsibility centre under which all our various capacity building initiatives would be housed," Kauma noted.

He also revealed that the academy, which plans to train up to 100,000 people over the next ten years and offer up to 58 different learning opportunities, aims to enhance existing capacity and leadership to unlock business opportunities. This will improve the trade environment across Africa and enable the continent to compete globally.

AFRACAD provides high impact learning solutions that cover trade and project finance, industrial capacity, innovation, leadership, trade language, and knowledge and networking. So far, AFRACAD has already begun the process of obtaining regional accreditation, starting with the Chartered Institute of Bankers of Nigeria (CIBN), while exploring and reaching out to other accrediting bodies.

The Academy has started implementing a proof of concept using the Certificate of Trade Finance in Africa (COFTIA) programme, a flagship trade finance course, which AFRACAD runs with FCI and the American University in Cairo.

AFRACAD also offered a scholarship for one person to each institution participating in the 2022 Afreximbank Trade Finance Seminar.

MINI-GRID MODEL ROLLS OUT IN DRC AND RWANDA

InfraCo Africa has signed an agreement with Equatorial Power (EP) committing US\$1.7mn to scale the company's innovative mini-grid model in the Democratic Republic of the Congo (DRC) and Rwanda.

Companies will be co-developing four mini-grids and three APHs in southeast Rwanda, granting small businesses access to electricity, creating jobs directly and through the local supply chain.

Ranging in size from 60kW to 85kW, the new mini grids will incorporate battery storage to manage fluctuating sunshine during the countries' rainy seasons. It is anticipated that the project will deliver around 3,330 connections to low income consumers in DRC and 2,500 in Rwanda, providing more than 35,000 people with clean energy access by 2023. InfraCo Africa has leveraged a US\$1.35mn capital grant from its sister company, PIDG Technical Assistance (PIDG TA), to support the project, and the World Bank has committed US\$1.054mn of grant funding for the roll out in the DRC.

BRIEFS

Sustainable high-rise in Zanzibar



Image Credit: CPS Zanzibar Limited

It will be the world's tallest timber tower.

Zanzibar is planning the highest green building in the world, a 28-storey apartment tower designed in hybrid timber technology. The residential tower, with 266 residences, is to be located in Fumba Town, developed by engineering firm CPS. "Burj Zanzibar will be the highlight and natural continuation of our efforts to provide sustainable housing in Africa, thereby empowering local employment and businesses," elaborated CPS CEO Sebastian Dietzold in Muscat.

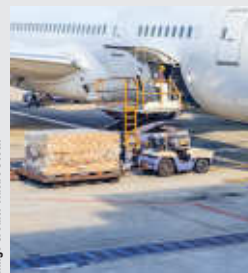


Image Credit: Adobe Stock

Astral Aviation is a rapidly growing full freighter operator.

Expanding digital footprint

UK-based SaaS company e-Cargoware has announced that Astral Aviation, an upcoming full freighter operator with a head office in Nairobi, has chosen FR8Manage - Airline and FR8-Booking solutions to further expand its digital footprint in the market.

CEO of e-Cargoware, Ramesh Darbha, said, "e-Cargoware is delighted to play a part in enabling Astral Aviation to realise its mission to be the leading cargo airline in Africa."

Upcoming Events Calendar 2022-2023

NOVEMBER

6-18

COP27

Sharm El Sheikh, Egypt
<https://cop27.eg/>

8-10

AFRICACOM

Cape Town, South Africa
<https://tmt.knect365.com/africacom/>

8-11

ECOMONDO

Rimini, Italy
<https://en.ecomondo.com/>

15-16

THE MINING SHOW

Dubai, UAE
<https://www.terrapiinn.com/exhibition/mining-show/index.stm>

16-17

AIDEX 2022

Brussels, Belgium
<https://www.aid-expo.com/>

22-24

PROPAK WEST AFRICA

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

28-1 Dec

17TH BIENNIAL SAGA CONFERENCE AND EXHIBITION

Sun City, South Africa
<https://sagaconference.co.za/general-travel-info/>

DECEMBER

5-7

SUPERRETURN AFRICA

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

5-8

THE BIG 5

Dubai, UAE
<https://www.thebig5.ae/>

JANUARY

16-18

WORLD FUTURE ENERGY SUMMIT

Abu Dhabi, UAE
<https://www.worldfutureenergysummit.com/>

FEBRUARY

6-9

INVESTING IN AFRICAN MINING INDABA

Cape Town, South Africa
<https://miningindaba.com/>

23-25

MINEXPRO AFRICA 2023

Dar-es-Salaam, Tanzania
<https://expogr.com/minexpotanzania/>

Uncovering the future of the mining and quarrying industry

Returning for its 14th annual year, The Mining Show is coming to the Festival Arena, Dubai from the 15-16 November 2022 to help the industry capitalise on the development and change in mining and quarrying across the Middle East, South Asia and Africa.

With more than 3,000 attendees from 60 countries expected to converge in the UAE for the event, The Mining Show presents an annual platform to meet buyers in the region and discover the latest key projects, mineral exploration opportunities, and code and regulation developments which are shaping the sector for the future.

More than 100 speakers participating in 40 sessions of presentations and panel debates will provide their valuable insights and share their expertise to help navigate the key challenges of the time. Content themes under the spotlight this year include:

- Digital transformation & technology
- Alternatives in exploration
- Resilience & relevance: innovation in finance
- Sustainability & ESG
- Quarrying
- Smart operational excellence
- Waste management
- Rethinking supply chains
- Lifecycles management & operations
- Workplace culture & safety systems.



Image Credit: Adobe Stock

Products and solutions that are shaping the mining and quarrying industry will be on display.

In addition to the comprehensive agenda, visitors will also have the chance to explore the wide range of cutting-edge products and solutions being showcased by more than 100 exhibitors.

Industry leaders attending The Mining Show will be joined by a range of companies including: AVEVA, Weir Minerals, Corescan, FLSmidth, Multotec, RPMGlobal, Barrick, Schenck Process, Metso Outotec, Worley, Micromine, Howden, and many more.

Organisers have noted that the show will present unique opportunities to network with those changing the face of mining and quarrying across the region, establish connections with professionals working throughout the industry, and learn from the two days of curated content.

Find out more at:
<https://www.terrapiinn.com/exhibition/mining-show/index.stm>

“For two decades, Safaricom has combined the power of technology and our innovative spirit to solve customer and societal challenges. Led by our Purpose to Transform Lives, we have deepened digital and financial inclusion in Kenya by connecting people to people, people to opportunities and people to information. With these lessons and experiences, we look forward to positively impacting the people of Ethiopia with a sustainable and quality mobile network that will be a vital launch pad for nationwide digital telecommunications services to over 118 million Ethiopians.”



Image Credit: Safaricom

PETER NDEGWA
CEO of Safaricom on Safaricom Ethiopia switching on its mobile telecommunications network and services in Addis Ababa

Using gas is far less “damaging than going back to coal, as some European nations are doing. By embracing African gas, developed nations can reduce the impacts of the upheaval in Europe by diversifying their suppliers and sources, while still mitigating the existential threat from climate change.”

ROGER BROWN
CEO and executive director at Seplat Energy

“Entrepreneurship is a huge driver for social and economic development in Africa. The Africa’s Business Heroes Prize Competition provides a platform for outstanding start-ups to showcase targeted solutions that tackle problems in an impactful, competitive, sustainable and value-adding way. This year’s heroes – as with other years – continued to demonstrate the resilience, passion, imagination and traction that we need in our entrepreneurs here in Africa.”

BIRAME SOCK
Founder and chief executive officer of Kwely Inc

“We are delighted to be able to continue advancing our vision of sharing the positive impact of the digital economy with entrepreneurs and enrolling our second cohort of African participants. With companies taking to online channels to keep their business afloat during the pandemic, digitalisation is no longer a foreign concept to consumers and entrepreneurs.”

DAN LIU
Senior advisor at Alibaba Global Initiatives on enrolling the second class of African entrepreneurs on the Alibaba Netpreneur Training programme

“Tourism in Africa has a long history of bouncing back. And it has shown its resilience again. Many destinations are reporting strong arrival numbers. But we must look beyond just the numbers and rethink how tourism works so that our sector can deliver on its unique potential to transform lives, drive sustainable growth and provide opportunity everywhere in Africa.”

ZURAB POLOLIKASHVILI
UNWTO secretary-general

“We are delighted to welcome Cameroon as a member of AFC. Our rapidly expanded membership is a sign of confidence in our past collaborations and demonstrates interest in partnerships and initiatives that will further drive economic development and play a critical role in enabling key infrastructure.”



Image Credit: AFC

SAMALIA ZUBAIRU
President and CEO of AFC

“Digital innovation can transform sectors, but it needs investment. Viebeg is a fantastic example of what can be achieved with the right mix of innovation, entrepreneurship, and financial backing. It is telling that the Rwanda Innovation Fund, initiated by the Rwandan government and financed, in part, by the African Development Bank, has been catalytic in the development of Viebeg. Local investment in a local business has brought transformative local results. It is a partnership model that can play well in other markets.”

ABDU MUKHTAR
AfDB’s director for industrial and trade development on Viebeg Technologies helping to expand access to affordable healthcare in Africa through AI

AFRICAN REVIEW / ON THE WEB

A selection of product innovations and recent service developments for African business
Full information can be found on www.africanreview.com

STEINMÜLLER AFRICA INTRODUCES 3D MODELLING TO REFINE HEAT EXCHANGER DESIGN



Image Credit: Steinmüller Africa

The 3D modelling is executed using parametric modelling in AutoCAD Inventor software.

Steinmüller Africa, a South African company which brings local custom-engineered industrial shell and tube heat exchangers to sub-Saharan Africa's process industries, has now introduced three-dimensional (3D) modelling to the heat exchanger and boiler design process to increase design accuracy while simultaneously reducing both turnaround times and costs for its clients.

The new software replaces the traditional process of designing heat exchangers in logical steps, which sometimes results in part fit-up problems, impacting the design process and project execution. All heat exchangers from Steinmüller Africa are now designed purely as 3D models to begin with, which allows the various engineers to design and fit all required parts with minimal effort and to generate drawings along with the bill of materials, facilitating accurate pricing, even at the design stage.

Mohammed Khan, director at Steinmüller Africa, explained, "Our 3D modelling makes it relatively easy for our proposals department to obtain effective pricing, and our manufacturing department to accurately manufacture the heat exchanger with the least quantity of materials possible. This substantially simplifies the design process, allowing us to generate several different designs, time dependant, and identify the most cost-effective version while still at tendering phase."

CONDRA AIMS TO LEAD THE PACK IN SOUTHERN AFRICA



Image Credit: Condra

A condra jib crane.

Due to five-day factory workweeks sustained throughout the pandemic, an increasingly strong order book and the recent purchase of Cape Town's BB Cranes, Condras has experienced a strong growth period so that it is now challenging as a leading crane manufacturer throughout southern Africa.

Carefully planned expansion of capacity and capability in crane designs and manufacture, and a steady extension throughout central and southern Africa of the after-sales service network have led to continual growth of the company. This is supported by new automations and solutions to provide the most effective and efficient solutions for customers.

Condra's automated crane option, for example, was made available in 2019 and represents the culmination of fifteen years' experience in semi-automated installations. Using new developments in sensors, controls and software to precisely control load uplift and positioning in repetitive operations, automation increases productivity and reduces the risk of load damage in specific manufacturing and mining applications. The option is available across all three types of Condra crane: overhead (bridge) designs in single and double-girder configuration, portal (gantry) cranes, and jib (cantilever) cranes.

AFRICA'S ECONOMIC GROWTH SLOWS DUE TO HIGH INFLATION



Image Credit: World Bank

According to Africa Pulse, SSA's economic growth is set to decelerate from 4.1% to 3.3%.

Africa's economic growth is slowing as countries continue to contend with rising inflation, hindering the progress on poverty reduction.

According to the World Bank's latest 'Africa's Pulse', economic growth in sub-Saharan Africa (SSA) is set to decelerate from 4.1% in 2021 to 3.3% in 2022, mainly as a result of a slowdown in global growth, including flagging demand from China for African commodities. The war in Ukraine has exacerbated an already high inflation rate, with 29 of 33 countries in SSA with available information experiencing inflation rates of more than 5%.

In light of this, the World Bank noted, it is essential to improve the efficiency of existing resources and optimise taxes. In the agriculture sector, governments have the opportunity to protect human capital and climate-proof food production by re-orientating their public spending away from poorly targeted subsidies, and instead towards nutrition-sensitive social protection programmes, irrigation works, and research and redevelopment.

Such reprioritisation maintains the level of spending in a critical sector, while raising productivity, building reliance to climate change and achieving food security. Creating a better environment for agribusiness and facilitating intra-regional food trade could also increase long-term food security in a region that is highly dependent on food imports.

MEGMAR TO CUT COSTS AND EMISSIONS FOR ANGOLAN CELL TOWERS



Image Credit: PowerX

The PowerX AI software deployment in Megmar tower cabinets will relay back to the NOC exactly how individual sites are running.

Megmar Holdings, a provider of infrastructure solutions to the telecommunications industry, has partnered with PowerX Technology to autonomously optimise performance and supply live maintenance information to tower network operation centres across Angola.

The PowerX AI solution promises to lower costs and greenhouse emissions from cell towers in rural Angola. It is an innovation that takes the industry forward in two giant technical leaps; firstly, by unlocking data intelligence to redefine remote monitoring, site operations and maintenance for entire cell tower networks and its equipment, and then by using AI to drive autonomous continuous site-level improvement at scale.

Megmar's deployment of PowerX will enable the local tower company's Network Operations Centre (NOC) to see at-a-glance sites where resilience is at risk or which are running inefficiently. The system also learns from past usage behaviour and even live weather reporting to automatically adjust load balancing and power usage to optimise performance with no manual interventions.

For tower operators, this means they will no longer need to estimate when a component is nearing its end of life, is malfunctioning, or if power reserves are running short. Instead, they will be able to engage in real-time with detailed operational information and dispatch engineers to solve problems only when they are needed, and with the right equipment to hand.

Premier products on show at Propak

From 22-24 November, the Landmark Centre in Lagos, Nigeria, will play host to Propak West Africa as the best of the packaging, plastics, printing and processing industries display their wares to more than 5,000 expected attendees. Leading companies from the region and around the globe will demonstrate the latest in industry innovation and share experiences to collectively raise the profile of the manufacturing sector in West Africa. Take a look at some of the leading exhibitors:

SKY'S THE LIMIT WITH SKYSAT TECHNOLOGIES



Image Credit: SKYSAT Technologies

The KM Accurio press C14000 boasts a very low cost per print.

This year, SKYSAT Technologies, a platinum sponsor of Propak, is coming back with its biggest stand ever, showcasing a live demo of the new Industrial Printing Solutions from Konica Minolta.

Digital printing presses for light packaging are quickly making inroads into the West African market for variable data on demand quick turnaround packaging, including labels, takeaway boxes, calendars, and more.

On display for a live demo will be the Accurio Press C14000, printing up to 140 ppm on 450 gsm light packaging substrate; the Konica Minolta AL230 Label Printer for variable data label solutions, and Accurio Shine 3600 for spot UV, varnish and foil embellishment. The company has encouraged prospective clients to book appointments and send their sample prints in advance for a live demo at the show.

TETRA PAK TO MEET CUSTOMER CHALLENGES

Tetra Pak works closely with customers to provide safe, innovative and environmentally sound products to create fit-for-purpose integrated solutions.

In processing, these include innovations for equipment for dairy, beverages, prepared food, and more; a complete carton packing range for consuming fresh and safe products in packaging; and services to help improve customer's performance, optimise costs and ensure food safety.

At Propak West Africa, it is showcasing its portfolio of carton packages designed to meet customer challenges. Customers can choose from a huge range of volumes, shapes and sizes, from the smallest 65 ml Tetra Classic, to the large 2,000 ml Tetra Rex. Clients can select from its range of aseptic packages that can protect product quality taste and nutritional value without the need for refrigeration or to add preservatives.

It will also explore the more than 200 processing products it has on offer. These contain unique technologies in the areas of heat treatment, high-accuracy blending, mixing and dosing products, and industry-leading filtration products.



Image Credit: Tetra Pak

Clients can select from a range of aseptic packages.

IPCO'S ROTOFORM GRANULATION SYSTEM SETS THE STANDARD

IPCO, a leading manufacturer of steel belts and industrial processing technologies, will showcase the Rotoform granulation system which combines a Rotoform drop depositor with a steel belt cooler.

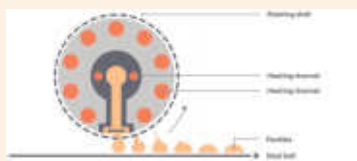


Image Credit: IPCO

Melts with widely varying properties can be handled and pastilles can be produced with diameters from 0.8 to 36 mm.

Molten product is fed into the Rotoform pastillator via a pump and then uniformly deposited across the steel belt. Water sprayed onto the underside of the belt removes the heat of the product and ensures cooling of the pastilles. The solidified product is then discharged in the form of hard, uniform pastilles. Benefits of the solution include direct solidification from the melt; pastilles of a highly uniform shape and stability for dust-free production; free flowing pastilles that are ideal for handling, blending, storage and further processing; and higher bulk density and better packing properties than bulky flakes.

In addition, cooling media (water) and product are kept apart so there is no possibility of cross contamination, and fast cooling minimises oxygen contact of the hot product to ensure very little vapour or gas can get into the atmosphere.

ARMOR-IIMAK TO INTRODUCE RANGE OF THERMAL TRANSFER RIBBONS

Inkanto ribbons and packaging.



Image Credit: ARMOR-IIMAK

ARMOR-IIMAK is a global market leader in the design and production of thermal transfer ribbons for the printing of variable traceability data on labels and flexible packaging.

Their well-known brand, Inkanto, combines quality, security, simplicity, and longevity, and is backed by triple ISO certifications. At Propak West Africa on stand 2D01, ARMOR-IIMAK will introduce their range of thermal transfer ribbons that meet 99% of marking demands across the supply chain. In addition, they will meet with potential distributors in the region to expand their footprint into West Africa.

Visit them at their stand or contact salesza@armor-iimak.com for more information.

UNINTERRUPTIBLE POWER PROVIDED BY NEWLORD

In collaboration with Riello UPS Italia, Newlord Power Solutions is one of Nigeria's most reputable providers of reliable power quality and power protection solutions which protect and extend the life of industrial machinery by providing clean and interruption-free power.

Riello's Master HP series UPS, ready for display at the conference, ranges from 100kVA to 800kVA and is suitable for industrial installations requiring high-energy efficiency and maximum power availability. The series provides maximum

protection using an IGBT-based rectifier, DSP technology and provides true on-line, double conversion power protection, which can be distributed in parallel configuration of up to eight units.

The company holds extensive inventory in Nigeria, along with spare parts and after sales service through its National Service Presence including service centres in Abuja, Port Harcourt & Kano. It currently services more than 10,000 installations nationwide in various verticals including F&B industry, printing and packaging, medicare, hospitality, telecommunications, broadcasting, and data centres.



Image Credit: Newlord

Riello's Master HP/HE series provide protection and power quality.

STOROPACK OFFERS PERFECT PROTECTION

Protective packaging specialist, Storopack will be exhibiting at Propak West Africa to show its perfect packaging solutions and the support it offers customers over the long term. Included in their line-up is PAPERplus paper cushioning which offers all-around perfect protection for packaged goods, whether they are small and fragile or bulky and heavy.



Image Credit: Storopack

Airplus air pillows are an ideal solution for protecting sensitive goods in transit.

Storopack's product portfolio is as diverse as the protective functions of PAPERplus and offers a variety of paper cushioning systems that produce the right packaging materials for every requirement. They all have one thing in common: innovative shapes enable optimal cushioning and exceptional stability with limited use of materials. In addition, because PAPERplus allows customers to produce paper cushioning as required directly at the packing station, they can save valuable storage space.

Also on display are the company's Airplus air pillows – the ideal solution for protecting sensitive goods in transit from vibration, filling voids, and blocking and bracing products in the carton. The extensive range accommodates a whole host of applications.

Storopack's air pillow systems produce cushioning directly at the packing station which saves valuable storage space and adapts the packing process to meet on-site needs.

IPT SUPPLIES SPAN OF SERVICES

Integrated Power Technologies Limited (IPT), is a professional technology infrastructure service provider, designing and implementing solutions to various market sectors such as oil & gas, telecommunications, banks, financial service organisations, and corporate bodies.



Image Credit: IPT

IPT is a distributor for SOCOMEC.

Among others, it is the distributor for established companies such as SOCOMEC, STULZ, KIDDE Fire Systems and SUNLIGHT Batteries.

Together, with a combined experience of more than 300 years, they support clients and provide unparalleled infrastructure service provision, management and support.

Included in their offering and for attendees to explore at Propak West Africa are solutions around uninterruptible power supply, batteries, industrial stabilisers and automated voltage regulators, data centres, automatic fire suppression, maintenance and other power solutions, and precision cooling systems.

FROM PREFORM TO FILLED BOTTLE WITH SERAC

Serac has committed to ultimate quality blow-fill-cap units for mid-size bottle production.

The company, traditionally recognised for its know-how and experience in weight filling on both food and non-food markets, has also acquired, over the past few years, notable expertise in packaging manufacturing which it is looking to bring to Propak West Africa and share with visitors at its stand.

Under the name COMBOX, Serac is proposing a unique, single block blow-fill-cap equipment associating a high-precision blowing unit with a rotary weight filler for low to medium outputs.

The net weight filling technology, a specialty of the group for more than 50 years, offers great benefits in terms of filling accuracy and reliability, clean-in-place (CIP) facilities, easier maintenance, as well as lower costs alongside higher quality.



The COMBOX series is ideally suited for high value-added products.

Image Credit: Serac

Keeping up with data centre demand

Fresh projects are being unearthed as the need for digital services accelerates.



The ground-breaking ceremony for Raxio's new colocation data centre in Mozambique.

Image Credit: Raxio

The demand for digital services is rapidly growing. While this statement, which opened a recent report published by the International Energy Agency (IEA), is hardly a ground-breaking declaration, the statistics to support it are certainly enough to raise an eyebrow. Since 2010, the IEA notes, the number of Internet users worldwide has more than doubled while global Internet traffic has expanded 20-fold.

As developers continue to push the boundaries and design more sophisticated digital technology such as cloud computing and machine learning to help businesses in their pursuits, organisations must lean into this phenomenon lest they get left behind. As a result, strong growth in demand for data network services is expected to continue; mobile data traffic is projected to grow rapidly (quadrupling by 2027); and demand for data centre services is poised to rise. Over the coming decade, with the onset of 5G, the Internet of Things (IoT), the metaverse and more, the nature of data centre demand is likely to evolve, noted the IEA, as calls for

low-latency computing increases the need for edge data centres.

According to Mordor Intelligence, this demand could see the global data centre construction market register an impressive CAGR of 13.47% between 2021 and 2026. Africa, with an expanding youthful population, growing network penetration and ensemble of ambitious businesses keen to partake in the digital revolution, will represent a strong chunk of this growing market with some reports suggesting data centre investment on the continent could reach US\$5bn by 2026. Indeed, hardly a day goes by without an announcement from organisations jostling to compete in this budding market coming to the fore.

“As the economy is becoming increasingly data driven, the pressure on digital infrastructure and the data centre grows exponentially.”

PREM RODRIGUES, DIRECTOR FOR SALES AND MARKETING FOR IMEA AT SIEMON

Raxio breaks ground on new locations

Never far from the spotlight, Raxio Group has continued its unrelenting pan-African expansion by marking the start of construction for two new facilities on the continent.

The first, a Tier III carrier-neutral colocation data centre located in Kinshasa, DRC, was kick-started in a formal ground-breaking ceremony attended by members of government, members of the media, customers and senior representatives from the company. Raxio noted that connectivity in the country is undergoing a transformation due to the arrival of subsea cable landings and the expansion of inland terrestrial and metro fibre networks. To contribute here, Robert Mullins,

CEO of Raxio Group, commented, “It is our aim that the DRC’s first Tier III carrier-neutral data centre will provide a critical and missing part of the country’s digital infrastructure. This will facilitate internet traffic amongst content providers locally and internationally, making the internet experience faster, more resilient, and more affordable for all digital users.”

Expected to be commissioned at the end of 2023, Raxio DRC is designed to a ‘metro-edge’ international standard, with capacity to deliver 1.5MW of IT capacity and accommodate approximately 400 racks using the latest technology.

Hardly pausing for breath, Raxio quickly followed this by holding yet another ground-breaking ceremony; this time in Mozambique. Watched by another impressive list of attendees, the company formally began construction of another Tier-III carrier-neutral colocation data centre located at Beluluane Industrial Park in Maputo.

The facility will provide colocation capacity to the country’s digital backbone and nurture interconnection through redundant meet-me rooms. Mobile network

operators, ISPs and carriers will be able to interconnect to each other and their customers, reducing the cost of access to content across the country, at a time when new submarine cables will also be providing Mozambique with enhanced international connectivity. The centre will be fully equipped with industry best-in-class cooling technology, security, AC/DC power compatibility and redundancy in an ‘always-on’ environment.

The company is on track to complete 10-12 data centre investments across Africa to meet the increased demand for international standard data centre infrastructure in the region.

South Africa sees substantial development

Elsewhere, in South Africa, the digital landscape has seen development with the announcement from Open Access Data Centres (OADC) that it is deploying a further three edge data centres in the country.

Located in East London, George and Paarl on national fibre routes, the company stated the centres represent a further stage in the deployment of its unique and expanding, core-to-edge architecture, which is consolidating edge computing, edge data centres and hyperscale connectivity within a

“With almost 30 EDGE facilities now operational, we are bringing a transformational proposition to the South African market.”

OADC CEO AYOTUNDE COKER

single ecosystem. This ecosystem is accelerating delivery by 5G operators, ISPs and fibre providers of services across South Africa, enabling rapid and cost-effective deployment of high-quality, low-latency network infrastructure.

OADC CEO Ayotunde Coker, said, “With almost 30 edge facilities now operational, we are bringing a transformational proposition to the South African market; one that we intend to start rolling out to more countries in the new year.”

The OADC is not the only company pursuing a policy of expansion in the country, as Africa Data Centres recently broke ground for the expansion of its Samrand Facility in Johannesburg.

“The expansion will happen in multiple phases,” said Tesh Durvasula, CEO of Africa Data Centres. “The construction of the first phase will deliver 20MW across eight data halls by 2023. The next

phase will include an additional 10MW of IT load by the end of 2025. The infrastructure will be fully modular, with all critical plant rooms being prefabricated off-site.”

Once the Samrand facility expansion is completed, Africa Data Centre’s entire platform capacity is expected to exceed 100MW. This will mark an impressive milestone as it continues to invest heavily into Africa’s ICT infrastructure, showcasing its commitment to driving digital forward on the continent.

Keeping afloat on the digital wave

With so many companies working tirelessly to expand networks and drive advances in the digital sphere, it can be quite challenging to keep abreast of the changes shaping this environment. Recognising this, Siemon, a specialist in the design and manufacture of IT infrastructure solutions and services, has launched

a series of data centre-focused tech briefs in the Middle East and Africa.

The series is designed to help data centre infrastructure professionals gain a better understanding of how the value derived from their data centre is changing in the light of digital transformation and newly-emerging technologies and applications. Within it, Siemon will explore the value equation within today’s modern data centre and examine new designs and services, digital infrastructure considerations and key strategies for ensuring resiliency and support for future demands. Also presented are emerging trends such as adopting a hybrid approach via a balance between cloud, on-prem and colocation models, as well as real-world use cases of companies that are successfully modernising their business via the right digital infrastructure.

“As the economy is becoming increasingly data driven, the pressure on digital infrastructure and the data centre grows exponentially,” remarked Prem Rodrigues, director for sales and marketing for IMEA at Siemon. “We have created this Industry Insight Series to help data centre professionals adopt a new digital thought process at the data centre level and help them with the changes that are necessary to move further into the digital age.” ■



As Africa becomes increasingly data driven, the pressure on digital infrastructure and data centres will grow.

Image Credit: Adobe Stock

Nothing should get in the way of getting business done

It's time to get business done better with MTN Business ICT Solutions.



Image Credit: Getty Images

There is a growing recognition that digitising operations can offer unprecedented commercial value in flexibility, productivity and growth.

More and more often, clients are looking for ways to keep their staff productive in a dynamically changing business environment. Whether employees are working from home, the office, or abroad, there is a growing recognition that digitising operations can offer unprecedented commercial value in flexibility, productivity and growth.

This new digital reality means that it is more important than ever to stay agile – if there is anything that can slow a business down, it is being burdened by old technology.

Having made substantial investments in fibre technology, high-speed terrestrial and undersea networks and new frequency spectrums across the markets wherein it operates, MTN is perfectly positioned to respond to this shift in the market.

A few years ago, MTN also made the decision to build an IP capable

radio network for its mobile services, giving its core network the ability to seamlessly integrate with enterprise IP networks. The company's mobile towers deliver services to enterprise clients absolutely anywhere they have a network, shortening the last mile and removing complexity and cost.

“ For MTN, the focus has shifted from just being a core telecommunications services provider, towards also becoming a technology solutions provider.”

Now there is increasing demand from clients to connect their remote sites in all areas, including rural and semi-rural. MTN has assisted clients with overcoming this connectivity hurdle, enabling their staff to get the job done wherever they are.

MTN's evolution

For MTN, the focus has shifted from just being a core telecommunications services provider towards also becoming a technology solutions provider.

Its service offering now also includes the Internet of Things (IoT),

The expectation is that a company like MTN must respond to these challenges, helping clients to get business done better as they shift from old to new technologies.

As many businesses continue to grapple with a digitally dynamic world, they face new challenges that have to be solved. This environment will benefit those that are more digitally enabled and agile. It is a brave new world that will favour online over on-site, wireless over wired and fluid over formulaic. Businesses will seek out partners and suppliers that are every bit as flexible and forward-looking as they are.

Ultimately, clients need partners like MTN Business that will invest in infrastructure, deliver the services they require, have market credibility, are financially sound and have a long-term commitment to their market presence. ■

Waste not, want not

Plastics and waste recycling is big business worldwide and is now generating significant interest and investment right across Africa.

With Africa's population fast rising, plus an ever-increasing focus on sustainability, waste recycling is becoming big business.

Given the lack of basic amenities in major towns and cities, historically, it has not always been the case.

Anyone who has witnessed conditions in some of Africa's poorer regions will have seen first-hand how waste collection and recycling have been pushed down the long list of priorities... But the times are changing. Pressing environmental concerns are shining a spotlight on an issue that could – with commitment, ingenuity and of course investment – potentially resolve waste issues and bring with it commercial opportunities.

Grand goals for Dow

Following a successful pilot phase in Nigeria, US chemicals giant Dow recently expanded its flexible packaging recycling initiative, known as Project REFLEX, into Egypt and Guinea.

The company aims to divert 10,000 Metric Tons (mt) of flexible packaging waste by 2025 through the initiative.

It supports the group's global commitment to help advance a circular economy for plastics and reduce plastic waste.

Working together with local partners in each of its markets, the aim is to increase flexible packaging recycling in Africa to establish a market for recycled contents to help address the waste issue, while providing job opportunities for local communities.

So far, Project REFLEX has diverted more than 520 mt of flexible packaging waste into mechanical recycling streams and new applications that would otherwise have ended up in landfill or the environment.

The goal is to create direct employment opportunities for more than 50,000 waste collectors across Nigeria, Egypt and Guinea through dedicated innovative waste management company, Wecyclers.

Post-consumer recyclates (PCR) produced during the pilot phase in Nigeria are now being trialled by a large brand owner for use in some of its non-food packaging applications.

If successful, it will be a live example of a closed-loop system for plastics in Africa and



Image Credit: Dow

Project REFLEX aims to increase flexible packaging recycling in Africa.

further prove the commercial viability of PCR materials from flexible packaging waste.

Collaboration has been a key part of opening up recycling opportunities in these markets.

The expansion into Egypt began with Dow entering an 18-month partnership with international non-governmental organisation, WasteAid, which shares waste management and recycling skills in lower- and middle-income countries, to advance plastic waste recovery and recycling in Aswan.

The Project REFLEX expansion will see similar partnerships with public, private and community-level actors in Egypt and Guinea to increase the collection and valorisation of flexible plastic.

Separately, Dow is also engaged in industry-specific initiatives too, including a sustainability project that focuses on Ethiopia's high-growth fashion industry.

Dow is supporting a cooperation project alongside Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Dutch ZDHC Foundation to develop more sustainable manufacturing processes within the industry.

Through education, training and consultancy, the project has paved the way for improved chemical and waste management practices along the textile value chain.

That's all the more important for an industry enjoying a bumper growth period.

Ethiopia has attracted major investments in new textile manufacturing in recent years, with several international brands and retailers shifting their garment sourcing there.

Cicelia van Rooi, sales director, Dow Industrial Solutions Middle East, Africa & India and managing director, Dow Southern Africa (Pty) Ltd, said the initiative can help the country "in implementing more sustainable chemical and waste management practices" and bring with it a positive social, environmental, and economic impact.

Leading the way

Other major corporate names are also taking a more proactive stance to waste management and recycling in Africa, including Veolia and Avera.

The latter announced recently that it is to build a plastics recycling facility in South Africa with the aid of a loan from the International Finance Corporation (IFC), a part of the World Bank Group.

The factory, in Rosslyn, Gauteng, will process up to 12,000 tons per year of High-Density Polyethylene (HDPE) and Low-Density Polyethylene (LDPE) by converting it back to reusable A-grade plastic pellets, with start up anticipated early 2023. ■

Towards a modern warehousing and logistics sector

The latest crop of cargo and logistics projects in Africa are a step up in terms of security, efficiency and best practice, reflecting a general rise in confidence and ambition across the region.

The prevalence of cargo theft has been a thorn in the side of warehouses and logistics companies operating across Africa for many years – and one that comes with a huge cost.

Improvements in security, both physical and digital, are now embedded in all the latest warehousing facilities to ensure the integrity of goods moving through the continent.

Sometimes it can be a matter of national interest, not only in the collection of duties and fees, but in the control of illicit goods and traffic, including people smuggling.

This is just one area of improvement where, once again, operators in Africa are utilising technology to close the gap and match best-in-class facilities elsewhere in the world.

Activity in Egypt's Suez Canal Economic Zone is a prime example.

Here, industry leader Agility recently signed a contract to develop and operate a slick customs and logistics facility that will showcase the very best in terms of security and efficiency.

The flagship project will see Agility establishing a technical and logistical arm that will automate customs processes and operations in the SCZone.

This automation will link the SCZone's customs departments and relevant government agencies concerned with inspection work – it highlights how digital security has taken centre stage in logistics operations in the modern era.

The project, which is intended to turn the zone into a global logistics hub, will improve the flow of goods and commodities, raise efficiency, and lower costs to international companies and investors operating there.

Agility will invest US\$60mn to build two 100,000 sq m customs and logistics hubs in the industrial zone at Ein Sokhna, as well as in East Port Said. Egypt sees the project – to be implemented during the second half of 2023 – as a key part of raising its appeal as an enticing investment destination.

It will enable the Suez Canal Authority to improve visibility over inbound materials and finished goods, while enhancing efficiency through a single-window customs platform, resulting in a quicker release of cargo.

Agility's vice chairman, Tarek Sultan, said it will position Egypt as one of the world's most advanced trade operators.

"Companies with a presence in the Suez Canal Economic Zone will have access to the world's best logistics infrastructure and services," Sultan noted.

Closing the gap

At the other end of the continent, investment is also pouring into temperature-controlled logistics (TCL) infrastructure, a sector deemed essential to food security in sub-Saharan Africa.

Funds managed by African Infrastructure Investment Managers (AIIM) plan to invest up to US\$150mn in a cold chain logistics platform, Commercial Cold Holdings (CCH), with an initial acquisition of CCS Logistics from Oceana Group.

CCS has been operational for over 50 years and is an established leader in South Africa's TCL market, with about 100,000 pallets of storage across six facilities in Johannesburg, Cape Town and Walvis Bay, Namibia.

Damilola Agbaje, AIIM investment director, explained that the cold chain logistical infrastructure sector is hugely underdeveloped – and in many places non-existent – right across Africa.

"South Africa – which possesses the continent's most advanced TCL infrastructure at 13 cu/m of cold storage per 1,000 residents – lags comparable economies such as Egypt and Brazil, which have 105 cu/m and 83 cu/m, respectively."

Agbaje said TCL infrastructure is critical for both improving Africa's food security, allowing domestic producers to meet the standards required to participate in global trade, and creating higher value jobs through more formal food retail and wholesale models.

Such modern A-grade infrastructure will also underpin the long-term success of intra-regional trade through initiatives like the African Continental Free Trade Area agreement, which connects 1.3 billion people across the region. ■



Temperature-controlled logistics is critical for improving Africa's food security.

Image Credit: Adobe Stock

Lessons from the Indian rebound

The Indian response to the Covid-19 pandemic could serve as a blueprint for economic recovery for the African continent, says Cheryl Buss, CEO of Absa International.

While there is a major focus on the Chinese expansion into Africa, there is often less appreciation of the importance India plays in Africa. Countries like Nigeria, Mozambique, Ghana and Tanzania all count India as their single biggest export trading partner while South Africa is India's largest trade market on the continent.

Of the top 1,000 Indian corporates, nearly 100 have operations in Africa. These are primarily focused around pharmaceuticals, motor vehicles, and consumer goods. The importance of these bi-lateral trade relationships cannot be overstated, and we believe that this mega-trend will be a highlight of economic growth for at least the next decade.

As one of Africa's leading pan-African banking group with strong relationships with Indian corporates and institutions, we are fortunate enough to be able to engage with commercial partners across both Africa and India. We believe there is an important dynamic playing out post the Covid-19 lockdowns and the associated supply-chain disruptions, which have subsequently been exacerbated through events in Ukraine.

A lesson for Africa

According to official statistics from the World Health Organisation (WHO), India has been the second hardest-hit country in terms of infections after the United States. This in turn drove an inward focus from the Indian Government and business community where there was a heavy investment in local capacitation of sectors such as healthcare and pharmaceutical activities.

Post the Delta Covid-19 strain in India, there was a noticeable shift where the country adopted a more

outward-focused message: India was open for business and was going to lead a global resurgence through investment in infrastructure to ultimately become a key player in global supply chains.

To achieve this, India has invested in infrastructure and Africa has been a natural beneficiary, exporting coal and steel to help fund this drive.

In the past, Asian expansion into Africa has typically been government-led but, over the last 12 to 18 months, this has been driven by the private sector.

This series of events is important for African governments who are still trying to rebuild their domestic balance sheets. By collaborating with the private sector, it is sensible to do business with better infrastructure and lesser red tape that will convert into economic growth.

Longevity, consistency and bi-directional benefits

One of the key features of Indian investment on the continent is a focus on patient capital rather than extractive, quick wins. If one looks at the history of Indian businesses, they are accustomed to competing in low-margin, competitive economies with young populations.

This means they are ideally positioned to succeed in Africa.

Many of our clients have made long-term commitments to the development of their operations on the continent. Organisations across automotive and consumer products, as sector examples, have spent significant time and money investing in the integrity of their brands and have built loyal followings across multiple African countries. In line with their long-term commitment to the continent, they have also been



Image Credit: Absa International

Cheryl Buss, CEO of Absa International.

significant investors in infrastructure that will benefit the continent for years to come.

This long-term approach is starting to pay dividends and in February 2022, Mahindra announced that it had achieved record sales in South Africa – a market which is characterised by intense consumer competition in the automotive space.

Countries like Kenya and Nigeria are benefiting from the establishment of technology hubs in their respective regions and one of the interesting developments has been how East Africa has 'exported' the concept of mobile money. This bi-directional transfer of technology perfectly encapsulates the nature of the relationship between Africa and India.

These investments are being supported by Exim Bank which has established a presence in South Africa, Ethiopia and Ivory Coast. Exim have sanctioned significant credit across multiple industries and projects and they estimate that the continent offers US\$3.6 trillion in business opportunities each year.

India and Africa enjoy a long-standing historical relationship that incorporates social, economic and political exchanges. These relationships are the springboard for an economic recovery which will be a key driver of economic growth and as a banker to multinationals exploring the African continent we would like to send one message: we are open for business. ■



Image Credit: Adobe Stock

The importance of bi-lateral trade relationships cannot be overstated, according to Buss.

REA launches AMP to improve energy access in Nigeria

The Rural Electrification Agency (REA) has launched the Africa Minigrids Program (AMP) to support access to clean energy by increasing financial viability and promoting scaled up commercial investment in renewable energy mini-grids.

The programme, which has received funding by the Global Environment Facility (GEF) and support by the United Nations Development Programme (UNDP), is active in 21 African countries with the Nigeria national project the first to commence implementation. REA launched this at an inception workshop hosted in collaboration with representatives from the UNDP; GEF; the Ministries of Power, Environment and Agriculture; and other key stakeholders.

The AMP in Nigeria is designed as an enabler project of the REA's Energising Agriculture Programme (EAP) which aims to advance one of REA's strategic priorities of focusing on the unserved and underserved to increase economic opportunities through agriculture and productive sectors in rural communities across the country. This objective is in line with the mandate of the REA to catalyse economic growth and improve quality of life for rural Nigerians.

Mohamed Yahya, UNDP resident representative in Nigeria, commented, "Access to reliable, sustainable, affordable energy is a catalyst to socio-economic development, and in achieving the Sustainable Development Goals.

"By scaling up solutions such as renewable energy mini-grids, we will be able to close the energy access gap and unlock opportunities for people in Nigeria and across the region."

Sanusi Ohiare, executive director of Rural Electrification Fund, remarked, "To enhance the viability of mini-grids and the impact of electrification, the programme will deploy pilot mini-grids to achieve the electrification of rural communities and agricultural value chains and establish the most appropriate solutions and business models, while amplifying the knowledge gained to catalyse private investment."



Image Credit: Adobe Stock

The programme will help increase access to clean energy.

IAEA HIGHLIGHTS AFRICA'S NUCLEAR POTENTIAL

The International Atomic Energy Agency (IAEA) released a new publication regarding climate change and nuclear power during the 66th IAEA General Conference. The event showcased the 2022 edition of Climate Change and Nuclear Power, which provides a wealth of technical information and data about the benefits of nuclear power in contributing to achieving net zero greenhouse gas emissions by 2050.

IAEA director general, Rafael Mariano Grossi, said, "Everywhere I am hearing this global conversation about energy security, climate change and nuclear power, and whether by virtue of changes in circumstance, climate or security needs, it is quite clear that nuclear now has a place at the table. What I like about this discussion, is that there is no discussion without Africa. The Africans have said themselves we need to contribute, and we need our own specific analysis of how this nuclear jewel is going to be used for African economies."

In sub-Saharan Africa, the World Bank has reported that almost 80% of businesses suffer from power outages. Meanwhile, Africa's energy demand is increasing twice as fast as the global average due to urban population growth. Against this backdrop, several countries are exploring the possibility of adding nuclear power to their energy output, with Egypt recently starting construction on its first nuclear power plant. South Africa, the only nuclear operator on the continent with two reactors totalling 2,000MWe, is considering long-term operation of the Koeberg nuclear power station, and expanding its nuclear power programme.

Through its Milestone Approach, the IAEA supports around 30 'nuclear newcomer' countries in Africa and around the world in their efforts to develop the necessary infrastructure for a safe and secure nuclear power programme.

VOLTALIA TO SUPPLY RENEWABLE POWER FOR RICHARDS BAY MINERALS

Voltalia, an international player in the renewable energy market, has concluded a corporate power purchase agreement with Richards Bay Minerals (RBM), a leader in mineral sands extraction and a subsidiary of Rio Tinto, for the largest renewable energy site dedicated to a corporate client in South Africa.

The 20 year contract will supply around 300GW/h of renewable energy every year via a wheeling arrangement to RBM's smelting and processing facilities in KwaZulu-Natal. The electricity will be generated by Voltalia's Bolobedu site, a 148MW solar plant to be built in the Limpopo Province in the northeast of the country. Voltalia will ensure the development, construction and operation of the plant which is expected to begin generating in 2024.

Rio Tinto Minerals' chief executive, Sinead Kaufma, commented, "As this solar energy project progresses, we will continue exploring additional renewable solutions that further reduce our emissions."

BRIEFS

BGFA contracts Easy Solar in Liberia



Image Credit: BGFA

The financed project will help to improve the affordability of off-grid energy products in Liberia.

The Beyond the Grid Fund for Africa (BGFA) programme has signed an agreement with off-grid energy service company Easy Solar to support the scale-up of high-quality solar home systems and appliances in Liberia.

Easy Solar is the fourth project to be contracted in Liberia by BGFA as part of plans to establish up to around 94,000 off-grid energy connections by the end of 2026. This will help provide energy access for people living in rural and peri-urban areas.



Image Credit: Rolls-Royce

Gerd Hummel, managing director / CDO at SOWITEC, and Andreas Görtz, president, sustainable power solutions at Rolls-Royce.

Providing power-to-x projects

The Rolls-Royce business unit Power Systems and SOWITEC, a specialist in renewable energy projects, have agreed to cooperate with the aim of providing power-to-x projects with a total electrolysis capacity of up to 500MW by 2028. The plants will use renewable energy sources to generate electrical power that will be used to produce hydrogen with mtu electrolyzers. This can then be used as fuel for fuel cells and hydrogen engines.

A key element for energy security

Increased investment in hydropower is a global trend as governments and key stakeholders come to recognise the benefits this clean and renewable power source offers in building a sustainable and secure energy future. Across Africa, many hydro projects are either underway, or are in the pipeline, often with support from leading international organisations. Tim Guest reports.



Africa holds significant potential for further hydropower development.

Image Credit: Adobe Stock

No stranger to off-grid geographies, Africa's landmass offers the renewable energy sector more opportunities to establish alternative sources of energy to provide electrical power for already underserved and energy-deprived populations that run into the millions.

Wind, solar and hydro-electric sources are the solutions that organisations like the UN, IFC, IMF and others see as lining Africa's path to universal energy supplies... eventually. But it's the hydro sector that was the subject of a new campaign by the International Hydropower Association (IHA) at COP26, which is now being participated in by a coalition of countries, organisations and

associations, including several in Africa.

The IHA's initiative, under the slogan 'We Can, With Hydropower', is calling for urgent investment, globally, to combat climate change, accelerate progress towards net zero and strengthen energy security by harnessing sustainable hydropower. This complements more variable

renewables such as wind and solar; 'when the wind doesn't blow and the sun don't shine', hopefully water will be flowing – and vice versa.

The COP initiative also highlighted the need for governments to speed up their progress phasing out coal, with increased hydro investment seen as a major way forward. Commitments

at COP26 are already expected to be morphing into policies, investments and tangible action, and progress will be disclosed and discussed at COP27 in Egypt in November. Watch this space.

In the meantime

In March this year, commercial operation began on the 7.8MW, Nyamwamba II, hydropower project after commissioning by the Uganda Electricity Transmission Company Limited (UETCL). The plant is owned and operated by Nairobi-headquartered Serengeti Energy and is the company's second hydro project on the Nyamwamba river, in Kasese, western Uganda.

Construction commenced in Q3 2019 and, although the Covid-19 pandemic caused challenges, the

“ The COP initiative also highlighted the need for governments to speed up their progress phasing out coal, with increased hydro investment seen as a major way forward.”

project development and construction teams have been able to meet desired timeframes. Southern African engineering firm, Zutari, is Serengeti's engineer, and SAEMS Hydro of Sri Lanka is civil engineering procurement and construction contractor. Germany's Andritz is the Electromechanical 'water-to-wire' contractor.

Constructing and running small to medium-sized renewable energy projects in sub-Saharan Africa is Serengeti's specialty, projects to which it brings development, financing, construction, and power-plant operation expertise. Among its several backers is Norfund, the Norwegian state-owned bilateral development bank, which already funds another hydropower plant in western Uganda.

Serengeti's 7.8MW capacity Nyamwamba II will support the local Kasese district government's aim to eventually become 100% reliable on renewable energy.

In Gabon, Asonha Energie – owned by Meridiam and the Gabonese Sovereign Investment

Fund – is developing the large Kinguélé Aval hydropower plant, a classic 'run-of-river' scheme located on the Mbei river bordering the Crystal Mountains National Park, 100 km from Libreville. The facility will eventually have a capacity of 34.5MW and supply Gabon's national network with up to 205GWh per year, including 13% of the capital's electrical needs.

The project's 48 m-high concrete dam, with a crest length of 470 m, will use the Kinguélé Falls steep gradient to provide the plant's hydro-energy potential.

With two unrelated existing hydropower schemes upstream, the new plant only requires construction of a 300 m powerline to connect to the existing 225kV TL, as well as <1 km of new access roads.

Realignment of a 1.4 km access road will, nevertheless, be required. Construction materials are being sourced from nearby existing quarries, though no new borrow pits are expected. Purchase of construction equipment and materials from Gabonese companies



Image Credit: Gabon Power Company

A depiction of the Kinguélé Aval hydropower plant when completed.

is being favoured for the project to support diversification, development and economic recovery in the country.

With environmental sensitivity connected to the project, Mott McDonald was hired as independent environmental and social consultants and undertook site inspections in July 2019. Construction began end-2020 and is currently on target to take 40-45 months, with a variable number of

local workers employed at any one time, ranging between 450 and 700, according to backer, IFC. Once commissioned during 2024, some 20 Gabonese professionals are expected to run the plant.

The Kinguélé Aval hydropower plant will help replace existing thermal capacity and save more than 150,000 tonnes of carbon dioxide emissions annually, as well as contributing to overall social inclusion in Gabon. ■

END IN SIGHT FOR RUSUMO HYDROELECTRIC PROJECT

Main construction works of the Regional Rusumo Falls Hydroelectric Project (RRFHP) – located on the border between Tanzania and Rwanda – have entered the final stages after registering steady progress.

The 80MW project is a transformative generation and transmission integration initiative that would enable Tanzania, Rwanda and Burundi to jointly have access to the benefits of the region's energy resources. Partly funded by the African Development Bank (AfDB) and World Bank, its implementation will increase the hydro electricity supply capacity in order to address power deficiencies in the



Image Credit: RRFHP

country and their low energy access rates.

As of August, the overall project implementation was at 95%, with hydro mechanical works at 97% and

electromechanical works at 92.5%. This was reported by project manager, Alloyce Oduor, as he hosted a delegation from the Rusumo Project Ministerial Council. In addition, the Rusumo substation and associated transmission lines are also nearing completion. This news was met with appreciation from the Council, which complimented the progress made thus far and requested that remaining work was sped up in order to complete the project as quickly as possible.

It is hoped that with the continued and sustained progress on the project, it will be completed before June 2023.



Image Credit: RRFHP



Image Credit: RRFHP



Image Credit: RRFHP

Small hydro having a major impact

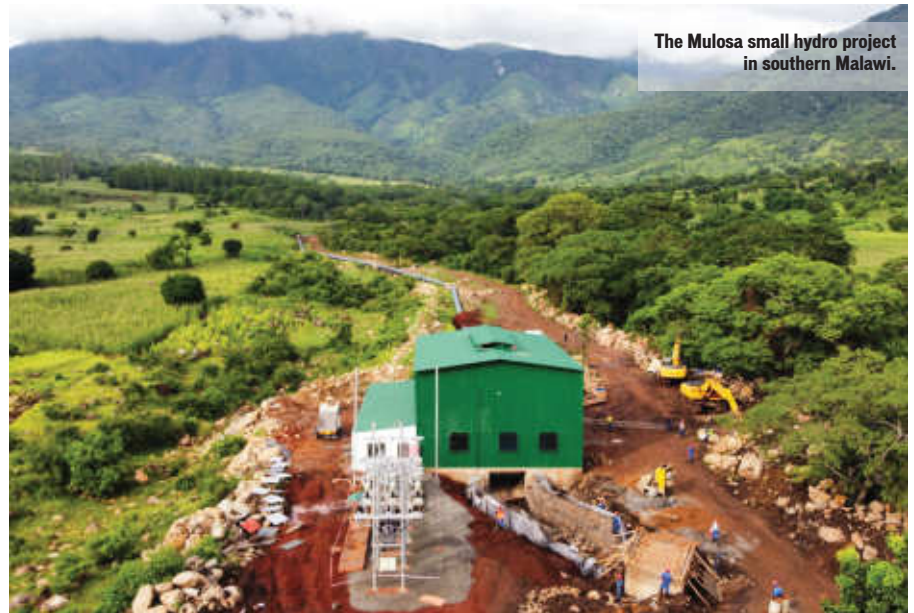
Gilkes Hydro's successful projects in Malawi demonstrate how small hydropower can make a big difference on the continent, from entire countries down to local communities.

With hydropower accounting for around 17% of electricity generation on the continent, as quoted by the IEA, Africa boasts a strong relationship with this form of renewable energy.

Indeed, hydropower represents an unrivalled opportunity for economic development and, according to the International Hydropower Association (IHA), its potential exceeds current and medium-term energy demand in Africa while also representing one of the cheapest forms of renewable energy resources globally.

While international investment continues to flood in for its development, it is generally the large-scale projects which dominate headlines and the focus of media attention. Generally, this is understandable given the elephantine capital they require and the variety of organisations involved in their delivery, but it does mean that small hydro projects (generally defined as under 50MW) can go under the radar. This is unfortunate because there are numerous benefits to small hydro which makes it an attractive prospect for the continent.

Requiring just enough water flow and head to make energy generation viable (such as streams, small rivers or even manmade sources like wastewater collection), such projects can be constructed in rural or even undeveloped



The Mulosa small hydro project in southern Malawi.

Image Credit: Gilkes

locations. In addition, generally requiring far less capital to bring to development, small hydro offers short return on investments and a long asset life which can even be scaled up.

These factors, combined with their tendency to be much simpler to maintain and operate, make them a formidable addition to be incorporated into Africa's energy mix.

This is a lesson which Gilkes is bringing to the energy table and there are few better case studies demonstrating small hydropower value than their projects in Malawi.

Mulosa River

The first of these is located on the Mulosa River in the Mulanje District of southern Malawi. It was first identified as a suitable location in 2019 by Cedar Energy (which was established for the purpose of developing small hydropower in the country), which swiftly approached Gilkes for guidance.

After being armed with head and flow data from the client, Gilkes' engineering team selected a twin jet Turgo turbine as the most optimum solution for the scheme. This was based on several factors including the turbine's capability to operate effectively on silt laden water – a characteristic shared by many rivers on the continent.

The simplicity of the Turgo turbine means that minimal service and maintenance is required (making it suitable for the remote location) however the Mulosa scheme remains a manned site. Gilkes engineers trained site operators during the commissioning phase and now offer remote support if required.

The 3MW project on the Mulosa River is purely



The simplicity of the machinery at the Mulosa River means that minimal service and maintenance is required.

Image Credit: Gilkes

grid connected and brings much needed, reliable power to the main grid (Gilkes assisted with the transmission team to commission the grid connection having previously fostered a good relationship with Malawi's power and distribution company: ESCOM).

Notably, the project was delivered in just six months after order placement which allowed power generation to start at the beginning of the rainy season. This achievement is all the more impressive as it was delivered during the arrival of the global pandemic.

Ruo-Ndiza

At the foot of Mt. Malanje, southern Malawi, can be found a second small hydropower project brought online by Gilkes. Carried out on behalf of Mulanje Hydro (MHL) in two phases over two years, the run-of-river project utilises the flow from both the Ruo and the Ndiza rivers to drive dedicated turbines in the same common powerhouse.

The first phase involved the installation and commissioning of a 3.4MW Pelton turbine using the flow from the Ndiza River, which was closely followed by the delivery of another two 3.2MW Pelton Turbines to harness the flow of the Ruo River and complete the second phase.

The civil works and grid connection were carried out and completed by MHL (with the support of Gilkes) and, like its counterpart on the Mulosa River, also supplies power to the national utility but with an average annual output of 22.3GWh. The system has been designed and installed to allow black start and run islanded and provides support to the ESCOM grid while ensuring the Lujeri tea estates (where they are located) can maintain production with a reliable and stable power supply. When running at full power, the system accounts for around 3% of



The Ruo-Ndiza project has operated well since it was brought online.

Image Credit: Gilkes

Malawi's total grid power, according to Gilkes.

The project was completed in early 2020 and matched expectations in terms of estimated generation within its first full year of operations. *African Review* caught up with a representative from MHL through Gilkes to find out more details on the project and how it has been fairing since.

Explaining some of the most substantial challenges with implementing this, and small hydro projects, the MHL associate noted that with the locations being remote, the terrain can often pose a test and can require new roads to be built. In addition, often they are quite far from major transmission infrastructure which must also be addressed.

In the case of the latter, for the Ruo-Ndiza project it was identified that the electrical network was of poor quality and that voltage fluctuations would cause significant issues with generating capability of the proposed increase in capacity. Therefore, Gilkes assisted with the grid impact study which highlighted areas of concern

and weaknesses. MHL acknowledged intervention was required and assisted with the network upgrade of the local area while Gilkes made design changes to the generators' capability, allowing the new station to assist with voltage regulation and stability.

The MHL spokesperson noted that electrical network effectiveness is almost always an issue from any project they undertake; often requiring upgrading or refurbishment. But this is something it has come to expect and plan accordingly. Nevertheless, understanding these drawbacks make them easier to mitigate in the future.

The representative from MHL continued by exploring their view on the importance of small hydro in Malawi. They said, "Small hydro has made, and has the potential for a much larger, positive impact in Malawi and other African countries. Particularly, this can be seen in the effect it has on the reduction in load shedding on the network into which it generates, as well as supplying customers whom had not previously had access to electricity. More investment can be attracted by reducing the risk (perceived and actual) to financiers of these projects."

Since commissioning, the projects have had an immense effect on the local Mulanje network, they added. "Ruo-Ndiza has continued to operate very well, barring a cyclone event, the results of which were very well mitigated. Consumers are no longer load shed at all (previously every week) and the local community has found gainful employment and has benefited from electrification projects carried out by the hydro operators.

"For the wider country – Ruo-Ndiza provides possibly 5% of the country's energy. More importantly, it was a successful test case showing that IPPs could successfully operate in the country, given the right conditions, and thereby attract further investment." ■



The Ruo-Ndiza project utilises the flow from both rivers.

Image Credit: Gilkes



Aggreko installed a power station utilising flare gas instead of diesel for a client in Egypt.

Image Credit: Aggreko

Using flare gas to optimise efficiency in the energy transition

As organisations across the globe continue their energy transition, it is becoming increasingly important for them to create long-term partnerships to support them in that journey and, according to Hesham Tawfik Elshamy, country manager for Egypt at Aggreko Africa, there is an enormous opportunity for oil and gas companies to not only transition to cleaner energy, but to also reduce wastage that results from flare gas.

There is a global initiative to reduce gas flaring, with the World Bank aiming to eliminate routine flaring associated with oil production by 2030,” Elshamy comments. “While Egypt as a country has been making great strides in reducing flare gas, the country is still ranked among the top 30 flaring countries in the world according to the 2022 Global Gas Flaring Report. And with access to electricity being a challenge across the continent, there is significant opportunity to utilise this flare gas to generate electricity for the continent.”

Aggreko Africa has partnered with a national oil company in Egypt to optimise their total cost of energy and aid them in the energy transition, while enhancing their profitability. “The client has one of the biggest oil production fields in the Western Desert. They used to have scattered diesel generators over every single well, resulting in significant costs to electrify the production field,” says Elshamy.

“Aggreko proposed a centralised power station utilising flare gas

instead of diesel, to eliminate the waste associated with flare gas, reduce their carbon footprint, and ultimately drive down the cost of energy for the company.”

Using Aggreko’s bespoke solution consisting of their gas generators, transformers, and switchgear, they were able to replace all their diesel generators, connect all the wells through overhead transmission and supply them with around 10MW of continuous electricity, while saving around 80,000 litres of diesel per day. “The total saving for them is around US\$25mn,” Elshamy remarks. “Not only is that a significant cost-saving, but it helps them reduce their carbon footprint as well.”

“ There is significant opportunity to utilise flare gas to generate electricity for the continent.”

HESHAM TAWFIK ELSHAMY, COUNTRY MANAGER FOR EGYPT AT AGGREKO AFRICA

Aggreko has been operating in Egypt for several years and is aggressively investing in the Egyptian market, not only through their equipment, but also through local skills development. “We invest heavily in ensuring that we have the right skills on the ground in the countries we operate in across the African continent,” says Elshamy. “There is huge potential in harnessing flare gas as a resource to generate power for the continent. It helps reduce the energy shortage in Africa, while eliminating waste and reducing emissions.”

The project is also scalable, and the output can be increased to 15MW, providing the client with the

redundancy they need. The bespoke design also allows for further future expansion, should it be required.

“The project is structured so that it can either be extended, or the client can purchase the entire plant at the end of the project. We have the capabilities to design and engineer extremely complex gas flaring to power solutions to help our customers achieve their target emissions and reduce their cost of energy. In addition to that, we provide them commercial flexibility by removing the need for heavy upfront capital investment,” Elshamy concludes.

“This is part of Aggreko’s strategy to build long-term energy solutions partnerships across the African continent. Using flare gas to generate electricity also aligns with our global strategy to reduce our diesel footprint by 2030, by providing clients in the region with a variety of hybrid solutions to help incorporate alternative fuel sources as they seek to transition to cleaner and greener fuel sources.” ■

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A solar giant in the making

Hadyr Koumakpai, Africa general manager at JA Solar, explains how Africa is in a prime position to become a solar giant in the coming years.



Image Credit: JA Solar

Questions around Africa's energy transition have perhaps never been more pertinent as COP27 arrives on African shores in November (to be held in Sharm el-Sheikh, Egypt). These come into greater focus as effects of climate change increasingly take a more noticeable form – according to the recently released *The State of the Climate in Africa 2021* by the UN, this phenomenon is undermining human health and safety, food and water security, and socio-economic development and is threatening to destabilise countries and even entire regions.

While Africa is still only responsible for around 2-3% of global greenhouse gas emissions, the vast renewable resources it possesses means it has unrivalled potential to become a leader in this space which could (aside from the environmental benefits) serve to meet much of the continent's energy needs.

Koumakpai commented, "It is now well understood that solar on this continent, compared to others, is unparalleled and can offer so much to the population. For years the world has been looking at Africa



The Benban Solar Park in Egypt.

and expecting to see big volumes on the market. There is no doubt that demand is big (matching even that of Asia's if the continent reaches its full industrialisation potential) but the question is now whether we can really start to embrace this opportunity, bring in more volume and ultimately count the continent alongside the giants when it comes to solar."

In answering this question, Koumakpai described how the resource has been bolstered by the maturity of technology which has made the price of solar much more competitive and answered questions over reliability; the fact that it presents an effective way of implementing power capacity quickly; and that it is incredibly scalable.

“There is no doubt that demand is big but the question is now whether we can really start to embrace this opportunity.”

HADYR KOUMAKPAI, AFRICA GENERAL MANAGER AT JA SOLAR

"We have enough records of solar projects to show this is the case and, as a result of these factors, there has been a lot more movement in the market, especially in the last few years."

By example, Koumakpai recounted how JA Solar supplied just over 450MW to Africa in 2021 but already this year it had supplied more than 500MW as of August-end and is expecting to close 2022 with around 600-700MW delivered to the continent.

"We supply some of the largest projects in Africa including the Benban project in Egypt (130MW); the Zaafarana solar park in Egypt (50MW); a 30MW mine in South Africa; and generally a variety of ventures across the continent. Next year, we are looking to provide more than 800MW or even 1GW to this region alone."

One of the final pieces of the puzzle, Koumakpai noted, is the thorny issue of regulation as poor regulatory framework can inhibit projects getting off the ground and more capacity being brought in.

"Africa is not like a lot of other regions with regulation across the board. The West African community differs much from the East and the

Image Credit: JA Solar

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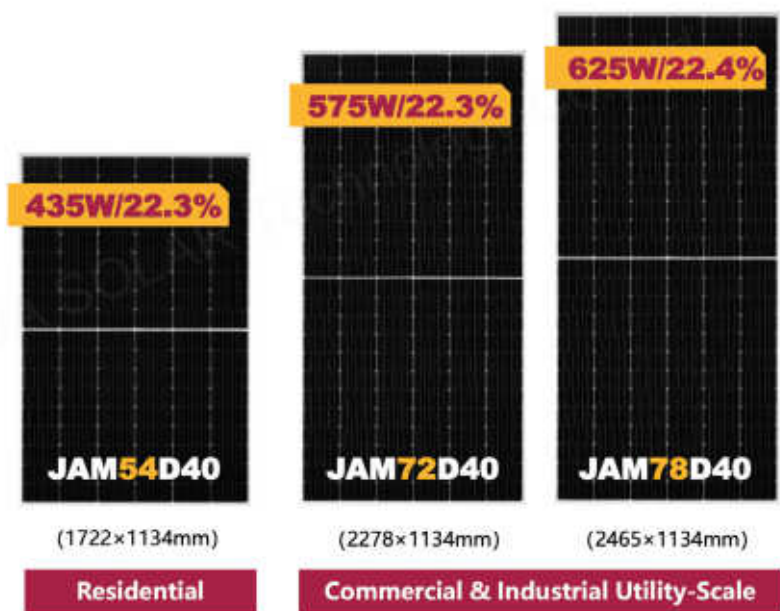


Image Credit: JA Solar

JA Solar works to bring the most cost-effective and reliable products to the market.

regulation within these differs as well, so it is important to take each market separately. However, I think it is fair to say if governments and regulators can really work on this and create an enabling environment with strong framework then I think that Africa really can become a solar giant and I am hopeful this will happen.”

Advancing technology

While the science around solar power has come a long way, as Koumakpai mentioned, the drive to advance and achieve greater gains is never abated and JA Solar, along with its competitors, is continuing to push the technological boundaries.

“We call ourselves a source of technology and innovation. We have more than 800 patents and place our focus on bringing not just the most cost-effective products to the market, but the most reliable as well,” remarked Koumakpai.

“We were the first to bring the PERC module into the industry and, since then, we have seen many companies move in that direction. We were also one of the first to transition from polycrystalline to monocrystalline and we pioneered gallium-doped technology back in 2019. Since then, all our p-type

technology has been topped with gallium-doped and now the entire industry is moving towards that type of technology which is great to see.”

Of the latest developments in this sphere, Koumakpai explained that

“There are a lot of technologies that I think will come into the industry in the future, but it is just a question of meeting these three aspects (affordability, reliability and efficiency) before they go onto the market.”

HADYR KOUMAKPAI, AFRICA GENERAL MANAGER AT JA SOLAR

JA Solar has started production on n-type PV modules (with Bycium+ GFI cell technology) and is now been preparing development of future technology such as Perovskite or Tandem.

“Today with our gapless flexible interconnection (GFI) technology we eliminate the micro crack problem for high-density modules by

adopting round ribbon and special buffer treatment which deals with mechanical stress at cell connections. This ensures stable and reliable long-term power generation performance,” Koumakpai surmised.

“Currently holding the lion’s

case of ensuring that it is affordable, reliable and efficient. In this sense, there are a lot of technologies that I think will come into the industry in the future, but it is just a question of meeting these three aspects (affordability, reliability and efficiency) before they go onto the market.”

From factory to market

Bringing sustainable solutions onto the market is not enough for JA Solar as Koumakpai was keen to point out the company is also pursuing policies to reduce its climate footprint throughout its operations.

For instance, the company has installed water treatment facilities in all its 21 factories across China which has allowed it to reuse around 80% of water used at the sites (saving about 400,000 cu/m) and has reduced noticeable amounts of waste acid and chemicals. In addition, energy efficiency management has reduced the company’s CO₂ emissions by more than 69 mn tons per year.

“I think this shows how important we consider our commitment to sustainability which manifests not just in the products we offer but also in our daily life.” ■

MWM RAM AND TPEM ENABLES REMOTE SERVICING OF GAS ENGINES

The new online status monitoring system, MWM Remote Asset Monitoring (RAM), is now available for MWM gas engines with the digital power plant control TPEM (total plant and energy management).

MWM gas engines with TPEM control are now delivered RAM-ready. On request, existing plants can easily be upgraded with a retrofit kit.

The combination of MWM RAM and TPEM enables optimum operating support and, maintenance and servicing of gas engines, even remotely. To gain access to all benefits of RAM for gas engine gensets for combined heat and power generation in cogeneration power plants with TPEM control, all that needs to be done is to activate the RAM subscription online.

Various subscription levels are available for selection under consideration of the needs of



Image Credit: MWM

MWM gas engines with TPEM control are now delivered RAM-ready.

the respective plant. No additional installation work, hardware, or complex wiring is required. Regular online updates make sure that the entire system is up to date and secure. Connectivity options include the existing TPEM Ethernet connection or, alternatively, a cellular connection. That way, several gas engines or the

entire fleet can easily be remotely supported and monitored.

MWM gas engines are delivered RAM-ready, equipped with TPEM CC (control cabinet) Factory Fit. By default, the TPEM CC is equipped with the PLE telematics device required for RAM.

As it is fully integrated in the TPEM control cabinet, no further wiring is required. By default, the TPEM Ethernet connection is used for the communication with the RAM servers; a cellular module is available on request. The easy online activation of RAM eliminates the need for work on site and additional travelling.

Retrofit kits are suitable for all existing TPEM control cabinets so that even existing ones can be easily upgraded and their functionality and appearance are equivalent to those of the ex-works integration.

SIEMENS GAMESA LAUNCHES 7MW TURBINE

The boundaries of onshore wind continue to be pushed higher with the launch of a new product of the Siemens Gamesa 5.X platform with a rated power of 7MW.

The SG 7.0-170 turbine will offer one of the most competitive levelised cost of energy (LCoE) in the industry, enabling customers to provide more clean power. The variant has evolved from the original SG 6.6-170 turbine and is particularly aimed at medium to high wind sites globally.

The powerful Siemens Gamesa 5.X wind turbine has attracted strong interest from customers since its launch with sales of around 4.5GW to date from Brazil to Finland.

Siemens Gamesa's CEO, Jochen Eickholt, commented, "This is a natural evolution of the species. The Siemens Gamesa 5.X has already offered our customers one of the most powerful machines providing green energy in the onshore landscape, and we can now boost its capacity even higher.

"This will provide real benefits for our partners, and we will work closely with them to guarantee we continue to deliver sustainable energy to the world with this benchmark turbine."

The first Siemens Gamesa 5.X turbine was installed in Sweden at the 231MW Skaftåsen project. Since that first project, customers have placed orders for the wind turbine in many other countries including Brazil, Finland, Germany, Romania and Spain.

With a leading position in onshore, offshore and service, Siemens Gamesa engineer, build and deliver powerful and reliable wind energy solutions in partnership with customers.

Volvo Penta and CMB.TECH to promote dual-fuel technology

Volvo Penta and CMB.TECH have announced a partnership agreement designed to accelerate the development of dual-fuel, hydrogen-powered solutions for both on land and at sea applications. The strengthened collaboration will include joint projects ranging from pilots to small-scale industrialisation, providing increased access to this important technology for reducing greenhouse gas emissions.

The dual-fuel solution's main advantage is that it will reduce the emissions of greenhouse gases while at the same time provide a robust and reliable solution. And, if hydrogen is not available, the application continues to run on traditional fuel, safeguarding productivity.

The design and testing of the hydrogen-injection system will take place at CMB.TECH's Technology and Development Centre in Brentwood, UK. Volvo Penta engines will be tested there to optimise the hydrogen-diesel injection strategy for maximum reliability and emission savings.

"The simplicity of the dual fuel technology allows a quick introduction into many applications. The potential to decarbonise with green hydrogen is huge, but many applications require a fallback scenario of traditional fuel to maintain a viable business. With the dual fuel technology, your asset is future proof, even without a full coverage of a reliable hydrogen infrastructure today," said Roy Campe, chief technology officer of CMB.TECH.

"This solution is a valuable tool to have on our way to reaching our ambitious commitment to the Science Based Targets initiative where we aim to reach net-zero value chain emissions by 2040," said Heléne Mellquist, president, Volvo Penta. "There is no one-solution-fits-all answer, which is why Volvo Penta is investing heavily in exploring a wide range of sustainable and bridging technologies."

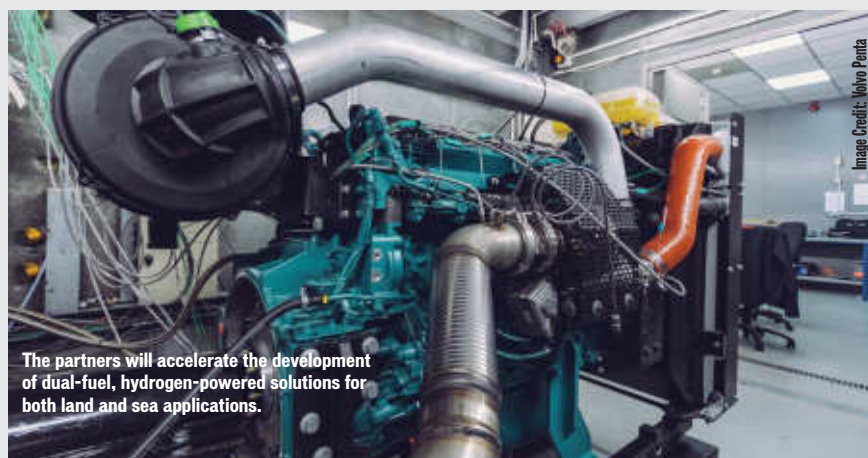
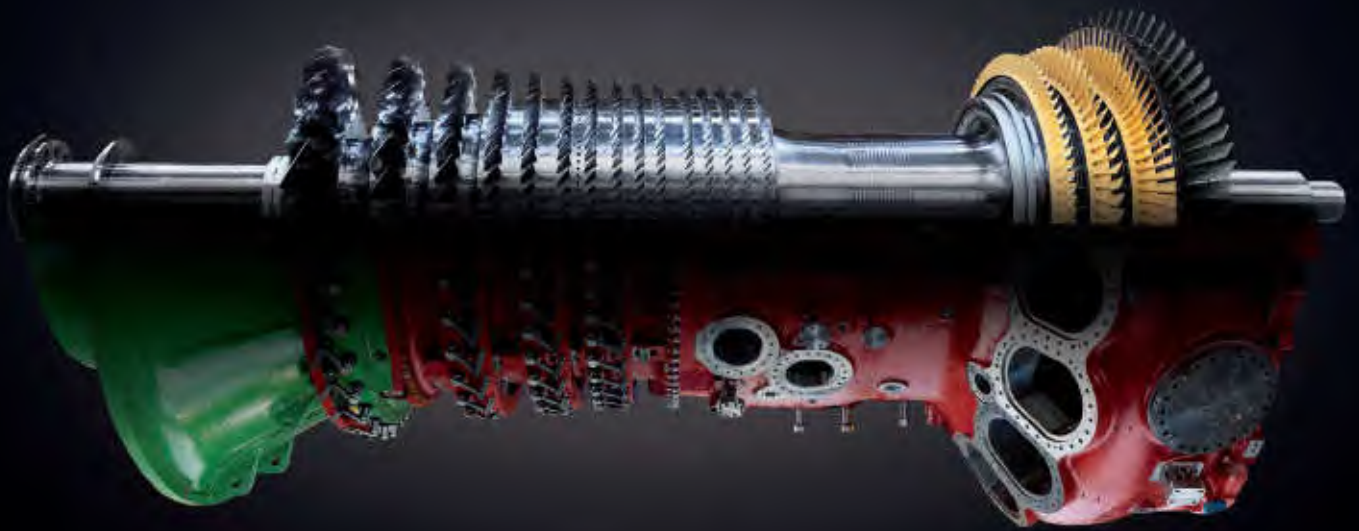


Image Credit: Volvo Penta

The partners will accelerate the development of dual-fuel, hydrogen-powered solutions for both land and sea applications.

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African Development Bank funds to develop two major projects in Cameroon

The African Development Bank Group has provided funding for two ongoing major projects in Cameroon; the Develop Access Roads to the Industrial and Port Area of Kribi Project (PARIZIK), and the Yaoundé City Sustainable Enhanced Drainage and Sanitation Project (PCADY).

The Bank's director general for central Africa, Serge N'Guessan, and Alamine Ousman Mey, Cameroon's Minister of the Economy, Planning and Regional Development signed the loan agreements for both projects.

PARIZIK will receive approx. US\$39mn following on from an earlier US\$111mn tranche. The company aims to ease road traffic between the towns of Edea and Kribi, and to increase road security, which entails the rehabilitation of the roadway linking the towns. The road will also be extended to reach the Equatorial Guinea. Additionally, a bridge will be built over the Ntem River to strengthen the national and trans-African corridors.

The second loan will go to the PCADY project, a large-scale operation launched in 2013 in order to reduce the flooding that overwhelms the Cameroonian capital and improve the stormwater management, sanitation and public hygiene.

The new phase of the PCADY project will also benefit from a US\$8mn grant from the Global Environment Facility (GEF) to finance the design studies for the Ongot landfill in Yaoundé as well as the construction of a treatment centre for hazardous waste in the Douala's Ngombé district.

"I thank you for the impetus that our cooperation has just received under your leadership. The fulfilment of these two operations is the fruit of your efforts, combined with those of your staff who, together with ours, made up a dynamic and committed team dedicated to the achievement of our country's development objectives," said Mey during the signing ceremony. "For the African Development Bank Group, these two operations bring the volume of its active portfolio in Cameroon to almost US\$2bn, broken down into 25 operations."



Serge N'Guessan and Alamine Ousman Mey shake hands at the signing ceremony.

Image Credit: Africa Development Bank Group

US\$400MN PROJECT ENHANCES EGYPTIAN TRANSPORT SECTOR

The world Bank's board of executive directors has approved a US\$400mn development financing agreement in order to enhance the performance of the logistics and transportation sectors in Egypt, as well as support the shift towards low-carbon transportation along the Alexandria-the 6th of October-Greater Cairo Area (GCA) railway corridor. With Egypt's rail system acting as one of the most extensive systems in Africa, the Cairo Alexandria Trade Logistics Development Project will implement a railway bypass to the congested GCA.

Currently, the system has a heavy focus on passenger services, with three freight trains per direction per day while the rest is dedicated to passenger trains. The bypass will provide freight trains between Alexandria Sea Port and the newly constructed 6th of October Dry Port, with an alternative route to the west of the GCA. It will also provide 15 container trains per day by 2030, and 50 trains by 2060 to this dry port as demand increases.

The transportation sector is the second largest contributor to Egypt's greenhouse gas emissions after energy, contributing approx 19%. The bank estimates the project will reduce GHG emissions by 950,000 tonnes over 30 years, as transporting freight via train has a lower carbon footprint.

"The Government of Egypt is committed to SDG 13: Climate Action, by designing and implementing mitigation projects that establish an advanced, sustainable and clean transportation network, while also decreasing carbon footprint," said Rania Al-Mashat, Egypt's Minister of International Cooperation.

This project also aims to encourage female labour force participation by supporting the professional development of female employees as well as available childcare.

HUGE INVESTMENT LEADS TO FFS REFINERS EXPANSION

FFS Tank Terminals has hosted a sod-turning event at the Maydon Wharf in the Port of Durban. This marked the first phase of a R350mn (approx. US\$19mn) investment into the expansion of the storage and handling facility of the company, formerly OTGC Terminals, before the acquisition by FFS Refiners in May 2022.

This expansion will enable the bulk import of the essential product in critical road construction, bitumen, into the Port of Durban and will also provide much-needed jobs in the region.

"As a Level One BBBEE black-owned company, the acquisition of this business and subsequent expansion projects provides a real example of how successful transformation can be achieved. Furthermore, South African contractors will carry out the expansion, providing a much-needed boost for the local economy," said Andrew Canning, CEO of FFS Refiners.

► BRIEFS

Morocco-built modules delivered for UK project



Image Credit: Bouygues UK

430 modules were built in the Moroccan factory.

Bouygues UK has completed a modular project in Canterbury, UK, delivering 491 bedrooms of student accommodation. This was delivered using modular construction, with 430 modules built in a dedicated factory in Morocco.

"As our first self-delivered modular project, completing the student accommodation at Canterbury Riverside is really an exciting milestone for us," said CEO of Bouygues UK, Rob Bradley.

Cummins celebrates 300,000 engines delivered to HCE



Image Credit: Cummins

Cummins and HCE have a 30-year-long relationship.

Cummins Inc. has announced 300,000 engines will be delivered to Hyundai Construction Equipment (HCE) by the end of 2022.

Cummins and HCE have been in business for more than 30 years, with this marking another milestone for both companies. "Cummins is happy to provide Hyundai Construction with its 300,000th engine, and to have been working with them for over 30 years," said Eric Neal, Cummins executive director for Off Highway.

Rolling out the roads of tomorrow

Infrastructure spending and development in Africa is still playing catch up for the most part, but the roll-out of new roads and highways across the continent bodes well for the future.

Africa's roads are the infrastructural arteries of the continent, from the fast, tarmac highways that now connect the big cities to the pot-holed tracks deep in the interior which provide a lifeline to remote communities.

If intra-regional trade is to flourish, and Africa is to thrive, then investment in the roads sector on a mass scale is essential – and it is happening, with significant commitments from government agencies, public bodies and multilateral agencies, working alongside private contractors.

The roads sector is deemed high priority by the African Development Bank (AfDB), for example, which is supporting a multitude of projects, past and present, up and down the continent.

Its work has focused on regional transport corridors, rural roads, rehabilitation and maintenance work, as well as capacity building and promoting public-private partnerships.

Transport, of course, is not just about roads: in Africa, as everywhere else, passenger and freight travel are, for the most part, intermodal, involving transport by land (road and rail), air and sea.

While there is an enormous amount of work yet to do – it's not hard to find roads that turn to mud in the rainy season or are choked by dust in the dry season – there's no doubt the continent is in the midst of a vast roads and infrastructure roll out.

In just one of the AfDB's latest projects, it is lending a further €28.88mn (approx. US\$28.2mn) for improvements to the road network linking six Senegalese municipalities, as part of the so-called Senegal Cities Modernisation Programme.



AfriSam's Roadstab Cement will be used for road stabilisation.

Image Credit: AfriSam

The cash injection will support the construction of 28 km of urban roads in asphalt concrete, paving stones and concrete across Yeumbel Nord (Dakar suburbs), Keur Massar and Guédiawaye (Dakar region), Thiès (West), Kaolack (Centre-West

and Saint-Louis (North-West).

It will complement earlier project work that includes the construction of 45.4 km of asphalt roads, 21.6 km of paved roads and the rehabilitation of 11.2 km of asphalt roads.



A completely new 65 m long five-span bridge is being built over Mxelo River, with the old bridge to be demolished.

Image Credit: AfriSam

Significant upgrades in the South

New investment is obviously a big pull for the industry, with leading builders, contractors and road technology and equipment groups keen to support Africa's infrastructure expansion.

In more developed markets, such as South Africa, there is ongoing work to upgrade the nation's infrastructure.

SANRAL's significant upgrade of the R63 route from Fort Beaufort to Alice is progressing well.

The contractor, Rumdel Construction Cape, is completing the revamp of Fort Beaufort's main road, while the rural section is also well advanced.

AfriSam is providing its high-strength cement for structures, including the project's three new bridges, two bridge widenings, 12 cast-in-situ box culverts and V-drains.

The group is also supplying its specialist road stabilising Roadstab Cement, of which 1,300 tonnes is going into road by-passes and 4,500 tonnes for the main works.

On either side of Fort Beaufort, two bridges have been widened, over the Kat and Brak rivers respectively.

On the route to Alice, a new 65 m bridge is being constructed over the Mxelo River.

Two road-over-rail bridges – the Kwatinidubu and Kwezana bridges – are also being replaced.

Rumdel Construction Cape project manager Alistair De Lacy says the project is having a huge positive spin-off for local subcontractors, suppliers and workers.

Two years into the scheme, the contractors have engaged more than 70 small businesses, and about 90 will benefit by the end of the

project's duration in October 2023.

"A key element of the project has been the early completion of 12 cast-in-situ box culverts along the route," said De Lacy. "This allowed us to place fill material and let it settle for the required five-month duration before proceeding."

Connecting Cameroon

French-speaking Africa has also attracted its fair share of new roads spending in recent years.

In Cameroon, a great deal of work took place in the run-up to the African Cup of Nations football tournament, which took place earlier this year.

A Lintec CSM4000 containerised asphalt plant was commissioned locally to support the construction of the nation's first-ever expressway, between its two largest cities – Doula and Yaounde – replacing an older roadway which had been in place for over three decades.

The 60 km stretch of phase one of the project was completed just in time for the tournament.

The cost of this phase has been estimated at up to US\$528mn. A second phase, to be executed under

a Public Private Partnership, will cover the remaining 136 km to Douala at an estimated cost of US\$1.3bn.

The wider context was that the rapid growth of traffic on the old National Road No.3 had long left it struggling to support the economic and population growth of the two cities.

Worse still, it was once labelled the world's sixth-most dangerous road, and at one time was even responsible for a third of the country's traffic accidents.

In 2015, China First Highway Engineering Company (CFHEC), a subsidiary of China Communications Construction Company, began work on phase one, the 60 km stretch between Yaoundé and Bibodi, plus 25 km of access roads connecting it with National Road No.3.

Almost ready before the tournament began in January 2022, the final step was to finalise construction of additional infrastructure, including five interchanges, nine toll booths, three rest areas, two service areas and 11 river crossings.

The rapid pace of work was made possible by the flexibility and durability of the CSM4000, which boasts an impressive output of 320 t/h of asphalt in batch sizes of 4,000 kg.

Its containerised design also enables it to be transported to other sites quickly, a mark of Lintec's trademark plug-and-play installation.

Offering the fastest erection and relocation times of any large-capacity asphalt plant, it requires no concrete foundations to be prepared at the next destination due to the flat, rigid surface area ensuring high stability on compacted soil, resulting in both time and cost savings.

"This was such an important project that the government made opening up the 60 km of Phase 1 a priority before the tournament began," said Tony Liu, chief executive of Lintec & Linnhoff China.

"Progress had suffered from the frequent heavy rains and other setbacks, but of course our CSM4000 performed perfectly whenever it was called upon."

Liu said that building Cameroon's first expressway has improved the

lives of ordinary citizens through enhanced public safety and speeding up access between two major hubs.

Major roll-out in Ghana

Across the roads sector, Chinese firms have been active throughout Africa, with SinoHydro playing a key role in a major roll-out in Ghana recently.

Ghana's Vice President, Mahamudu Bawumia, commissioned the construction of inner-city roads in the Central Regional Capital, Cape Coast in September.

This forms part of a wider support agreement between the government and the Chinese contractor.

A total of 441 km of roads and two interchanges are part of phase one of the agreement, which, among others, includes the 100 km Kumasi Inner City Roads, the ongoing Takoradi interchange, the Tamale Interchange, and the Jasikan-Dodi-Pepeso road.

Long-term, these transport improvements also have the potential to yield lasting and tangible economic benefits. ■



The Lintec CSM4000 produced asphalt for the construction of Cameroon's first-ever expressway.

Image Credit: Lintec

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JA Delmas



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Taking productivity to the next level

Manitou takes the telescopic handler headlines with a new addition to their heavy duty range as innovations and climate concerns continue to shape this jobsite workhorse.

Often the first to arrive on site and the last to leave, telescopic handlers represent one of the most versatile pieces of machinery in the construction world, capable of adapting to a variety of worksite tasks. As a result of their distinct practicality on site, manufacturers are consistently advancing their offerings in this field.

Sany, for their contribution to bauma 2022, has muscled to the front of the group with its new STH1440 and STH1840 telescopic handlers. The new machines boast a German-developed cab with a comfortable seat, touchscreen display with encoder control for on-screen navigation, a tiltable and telescopic steering column and more; while a high level of safety is provided by a rear-view camera and sensors.

The Dana transmission and axles are matched to ensure maximum power and efficiency and the operator can switch between two-wheel, four-wheel or crab steering. From heavy-duty trucks to shovels and from lifting platforms to load hooks, numerous attachments are available to ensure the machine does not compromise when it comes to flexibility and changing them is easy thanks to the hydraulic auxiliary air valve via the keypad in the cab.

Of course, as is a sign of the times, many companies are now taking into consideration mounting environmental concerns and are working to ensure their designs can operate effectively while leaving the smallest possible carbon footprint for clients. The need for this change was most recently demonstrated by ACCIONA which recently acquired electrical machinery for use in construction projects across the globe.

The pilot project made it the first construction company in Spain to invest in this kind of electrical machinery when it purchased four telescopic handlers for use in its urban construction projects in the country. The first of the telehandlers was bought and handed over from JCB through its distributor WALKIA with the others to be delivered late in the year.

ACCIONA estimated that the use of this electrical machinery could reduce up to 100 tonnes of CO₂ emissions which is in line with its goal of reducing its direct emissions by 60% between 2017 and 2030. With so many companies also harbouring similar ambitions, there is little doubt that electric machines such as these will become the norm on construction sites in the near future.



MHT-X 11250 with cylinder handler.

Image Credit: Manitou

Manitou makes a mark

Currently holding the spotlight in the telescopic handler market is Manitou, as it recently launched a new addition to its heavy-duty telehandler range at Electra Mining Africa. The MHT-X 11250, a first of its kind on the African continent, offers a capacity of 25 t and a maximum lifting height of 11 metres. This combined with a fuel efficient, high torque, 211 hp twin-turbo engine makes it an ideal solution for all types of maintenance and servicing activities on a mine site.

The company has not been adverse to climate concerns either, as the new engine – coupled to a hydrostatic transmission – boasts a 15% fuel saving figure, ensuring that the machine can efficiently handle heavy and bulky loads on all terrain.

The MHT range is also available in 9,13.5, 16 and 20 t configurations which are now being stocked for the African markets and come with a wide range of attachments available including forks, hooks and winches, personnel cages as well as tyre, cylinder and pipe handlers. For maximum comfort, this machine is equipped with a panoramic cab, easy step access, JSM joystick and brand-new colour touch-screen display with dynamic load charts.

In addition to the large MHT-X 11250

telehandlers, Manitou also showcased their MRT rotating telehandler range as well as their MT-X 733 and MHT-X 790 mining specification telehandlers, offering lifting heights of up to 7 metres and 3.3 t and 9 t capacity respectively. Equipped with the Guardian Angel, front and rear negative brakes, window guards, camera system, directional lights and more, these mining telehandlers are specifically designed for the mining environment with safety and ease of use being a key deliverable.

The MT-X range represents Manitou's highest selling telehandler range in Africa, in particular the models ranging from 3.3 to 4 t capacity and 10 metre to 18 metre lifting height – this includes the MT-X733, MT-X 1033, MT-X 1440 and MT-X 1840 models.

These telehandlers are all designed to work in off-road conditions which, together with an array of attachments, increases versatility and productivity. To further add a value offering, Manitou has been offering the MXT range of machines in 8 metre and 17 metre reach which gives customers a low cost offering while maintaining the same reliability and support associated with a Manitou product. ■

PASCHAL EXPANDS LOGO.PRO PRODUCT RANGE



Image Credit: PASCHAL

PASCHAL is complementing the LOGO.pro wall formwork range with a panel height of 340 cm for even faster forming of large areas.

LOGO.pro wall formwork with one-sided anchor technology has been optimising time and cost expenditures on the construction site for almost three years. In order to further optimise the panel sorting of the LOGO.pro, the product portfolio has now been expanded to include the new panel height of 340 cm.

The continuous formwork panels with a height of 340 cm offer are able to shutter even larger wall heights without the additional extension of segments or needing only two panels to reach a height of up to 6.80 m, for example. Due to the large dimensions, there are fewer panel elements per wall surface and therefore also fewer accessories to be mounted – reducing shuttering times and the cost for materials used.

In addition to the new large-size panel 240 x 340 cm, the LOGO.pro formwork panels are available in panel widths of 135, 90, 75, 60, 45 and 30 cm as well as matching inside and outside corner posts.

LEICA ICON SITE EXCAVATOR BRINGS MACHINE CONTROL TO COMPACT EXCAVATORS

Leica Geosystems, part of Hexagon, has launched the Leica iCON site excavator, a machine control solution that enables compact excavators to carry out work with more ease and accuracy.

The iCON site excavator solution introduces three new components: a software application, a dual GNSS receiver and an optional communication device. The iCON site excavator application will be available for a range of iCON field controllers in various sizes. The new GNSS receiver and communication device are designed specifically for compact machines, allowing more flexibility to adjust to different sites and project requirements.

Magnus Thibblin, president machine control at Leica Geosystems, commented, “The Leica iCON site excavator is a very flexible and easy-to-use machine control solution which opens the door to digital construction for small- and medium-sized heavy construction companies.

“Now, compact excavators can contribute to small or large projects with efficiency powered by Leica Geosystems’ machine control functionality. This sets contractors on a path toward autonomy, enabling them to do earthmoving and detailed grading tasks more efficiently and sustainably.”

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The dynamics of the African construction market

The construction industry represents one of the largest and fastest-growing in Africa and, to support this blossoming sector, Mantrac Group is hosting a webinar series to offer a 360-degree overview of project solutions, forecasts and insights.



Image Credit: Mantrac

Mantrac Group boasts dealerships in more than 10 African countries.

The construction industry employs a huge number of people and, each year, billions of dollars are invested into it through government funding, consortiums, and private investors.

Whether West, South, East, North or central Africa, each of the continent's five key regions have specific construction goals, with experts predicting more growth than ever in all sectors, including transportation and energy.

In 2020, the African construction market was valued at roughly US\$5.4bn. This is only set to increase as the market is expected to register a Compound Annual Growth Rate (CAGR) of 7.4% between 2021 and 2026.

This rapid pace of growth is driven by both public sector spending on infrastructure development projects and private investment in residential housing units as well as commercial

buildings such as shopping malls with retail outlets. Energy, power and transport projects have consistently been key contributors to the sectoral mix of projects underway, with the real estate sector – predominantly commercial real estate – emerging as a critical sector in recent years.

It is safe to say, due to fast-paced urbanisation, the construction industry in Africa is booming and will likely continue to do so for years to come. The construction industry is a huge part of the economy across the continent and construction requirements are diverse.

The right fit

With an ever-increasing demand for construction and growth, the world's largest manufacturer of earthmoving equipment, Caterpillar Inc., has a huge presence on the continent. As a global manufacturer of construction and mining

equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives, Caterpillar equipment is globally trusted and well-known to be tough and reliable enough to withstand even the harshest conditions on the African continent.

As one of the continent's largest authorised Caterpillar dealers, Mantrac Group boasts dealerships in more than 10 African countries and has been providing and offering the very best construction solutions across the continent for the past 40 years.

With an extensive network of dealerships, Mantrac offers various equipment, products and fully customisable solutions to meet each customer's needs. With extensive experience with in types of construction projects – from roads to mines, railroads, quarrying, power plants and everything in between – its team of experts are ready to find the best fit depending

on project type, terrain, and number of hours worked to ensure machines performs efficiently under any circumstance or weather condition within this diverse and extensive region.

The African construction market continues to grow at a rapid pace, fuelled by an influx of private investment as well as more public funding via development partners. Africa is considered the next frontier for growth in construction, and although the continent faces its unique challenges, experts continue to predict that the construction industry will continue to grow and boom in the coming years. ■

For more industry insights, latest best practices, machine demonstrations or to talk to Mantrac consultants and industry experts, register for the free Mantrac Live online series today at: <https://www.mantracgroup.com/construction-webinar/>

VÖGELE INTRODUCES NEW MINI ROAD PAVERS

Vögele has presented four new mini road pavers that are able to pave widths ranging from 0.25 to 1.80 m.

Both the wheeled paver and the tracked paver will be available with optional diesel or battery-electric drive systems and round off the lower end of Vögele's wide range of asphalt paving products.

Marcio Cavalcanti Happle, head of sales, local marketing and product/customer support at Vögele, commented, "The demand for flexible and sustainable solutions at small construction sites is high and our view is that it will continue to increase. Our new mini pavers will enable customers to complete small paving jobs quickly, cost-effectively, sustainably and therefore profitably."

Their compact dimensions and variable paving widths make the MINI 500 (diesel) and MINI 500e (battery-electric) tracked pavers, as well as the MINI 502 (diesel) and MINI 502e (battery-electric) wheeled pavers ideally suitable for use in small-scale construction projects that include constructing cycle and pedestrian paths, paving between railroad tracks as well as repair work in small inner-city sites, which are often characterised by their



Image Credit: Vögele

The new Vögele mini road pavers are available as wheeled or tracked pavers with electric or diesel engine drive systems.

narrow working spaces.

The standard screed working width is 0.80 m and it can be enlarged up to 1.35 m hydraulically. The minimum paving width can be reduced down to 0.25 m, or the width can be built up to a maximum of 1.80 m using bolt-on extensions.

Compact transport dimensions of 2,670 x 870 x 1,585 mm and low weights of between 1,000 and 1,500 kg (depending on the model) allow for easy transport, while a narrow turning radius makes the four wheeled or tracked pavers extremely agile.

The new Vögele MINI series has been developed and will be manufactured for Vögele by C. M. S.r.l., an Italian company with more than 40 years' manufacturing experience with roadbuilding equipment.

Manitowoc transforms Model 999 with series of updates

Manitowoc has extended the reign of its popular 999 model (regarded as a top contractor choice in the 275t crawler class for more than two decades) by introducing the new MLC250.

While retaining the characteristics that made the 999 so popular, the MLC250 boasts significant updates which have been incorporated to make operators and service technicians work more efficiently and in greater comfort.

The MLC250 has the same #82 boom sections that provide a max boom length of 290 ft and key specifications remain generally unchanged. Where it does differ is in a switch to open-loop hydraulics from the closed-loop system used by the 999. With this alteration, every main function (with the exception of the swing) is powered by the same two main pumps, reducing parasitic load and improving overall hydraulic performance.

The engine remains the durable Tier 4F Cummins QSL9 that offers one of the best power-to-weight ratios in its class. However, there have been several major changes to the carbody. Most notably, the counterweights now double as part of the upper deck and serve as a more stable


walking platform to replace the 999's walkways that pivoted over the counterweights. The new model also features fabricated steel component enclosures with swing-open doors (rather than the fiberglass gullwing doors of its predecessor) which improves compartment access and mobility around the crane. The upper platform can now be easily reached via new steps mounted onto the undercarriage.

The crawler tracks are offered in standard 48 inch shoe width and new optional 60 inch width for greater stability and reduced ground pressure. The crawler drive motor is relocated from the carbody to the tumbler to provide better performance.



The MLC250 depicted here for marketing purposes, not the finalised product.


Image Credit: Manitowoc




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Epiroc to acquire provider of digital core imaging solutions

Epiroc, a leading productivity and sustainability partner for the mining and infrastructure industries, has agreed to acquire Geoscan Pty Ltd, a provider of digital geological imaging solutions to mining companies.

Geoscan is based in Perth, Australia, and has presence in Australia, Latin America, North America, Europe, and Africa. Its main offerings are Corescan and Coreshed.

Corescan is a leader in hyperspectral scanning, core photography and 3D laser profiling of drill core, rock chips and other geological samples with the associated processing and interpretation.

Corescan offers an automated solution that increases both the speed and reliability of imaging, processing and data delivery.

Providing a rapid and reliable mineralogical profile of each drill core, Corescan improves the mining companies' decision making across exploration, resource modelling and ore processing.

Coreshed complements this by providing an advanced digital core storage, visualisation, management and data integration solution for drill core and other geological samples.

Helena Hedblom, Epiroc's president and CEO, commented, "Mining companies continue to strive for greater orebody knowledge to strengthen productivity and consistency in their operations, and Geoscan's solutions play a vital role in achieving that."

Epiroc continues to develop and provide innovative and safe equipment such as drill rigs, rock excavation and construction equipment and tools for surface and underground applications. It also offers service and other aftermarket support as well as solutions for automation, digitalisation and electrification for its customers based in more than 150 countries around the world.

"This acquisition will complement our existing offerings well. We look forward to welcoming the strong team at Geoscan to Epiroc," added Hedblom.

The acquisition is expected to be completed in the fourth quarter of 2022.



A Corescan hyperspectral core imager.

Image Credit: Epiroc

IPR BOLSTERS FLEET IN ADVANCE OF RAINY SEASON

Integrated Pump Rental (IPR), a South-African based specialist pump rental organisation that caters to the needs of all sectors including mining, has boosted its fleet ahead of the rainy season.

The company expects that disruption on work sites will grow in the next few months as rain returns in force. Often, in order to continue operations, a rapid dewatering system is the only solution.

IPR, foreseeing a demand rise, has added capacity for the spike in urgent enquiries as, according to operations manager, Henru Strydom, renting dewatering pumps is a great option for dealing with emergencies.



Trailer-mounted units allow for greater mobility and flexibility.

Image Credit: IPR

"The high level of responsiveness that IPR offers is directly related to the available fleet that we have developed," said Strydom.

Having a rental fleet that is commensurate with the growing market demand has been vital to IPR's ongoing success and Strydom noted that most of these are trailer mounted. He explained that trailer mounted units allow optimum mobility and flexibility. Pumping units can be deployed rapidly to sites when required and can also be easily moved on the site itself.

"As a quick-response team that is completely focused on our equipment's readiness, IPR of course handles all the maintenance requirements of rental pumps," he added. "We can also provide on-site training to customers' staff, so that the equipment is employed to its fullest value."

PREFEASIBILITY STUDY COMPLETED FOR LITHIUM PROJECT IN GHANA

Atlantic Lithium has completed a prefeasibility study (PFS) for the Ewoyaa project located in the Cape Coast region of Ghana.

The PFS demonstrates a production target for the Ghana project of approximately 255,000 tons per year of 6% lithium spodumene concentrate (SC6) over a 12.5 year mine life from ore reserves of 18.9mn tons at 1.24% Li₂O.

Estimated capital costs for the project increased as part of the PFS. However, Atlantic Lithium expects operating expenditures at the planned production plant to decrease. CAPEX increased from US\$70mn to US\$125mn. Of the increase, US\$27mn is attributed to Atlantic Lithium's decision to bring crushing in-house for improved operational control and reduced lithium losses.

BRIEFS

A platform for mining electrification



The Hagerbach Test Gallery facilities.

Xerotech, a global leader of battery technology for heavy-duty non-road mobile machinery (NRM) has announced a partnership with VersuchsStollen Hagerbach - Hagerbach Test Gallery (VSH) and founding members including Amberg Group, Normet, Motics, Alumina and Fortescue in the creation of a Sub Space Energy Hub. This development allows Xerotech to partner with VSH's leadership to fast-track the potential of underground mining electrification.

Image Credit: Xerotech

Filter services for platinum plants in Africa



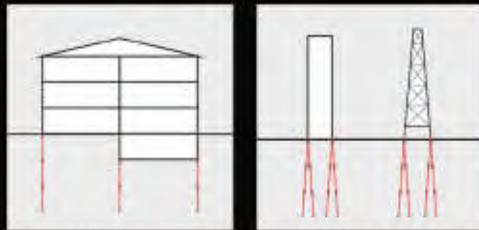
Metso Outotec has performed more than 14,000 filtration tests world.

Metso Outotec has signed a three-year life cycle services contract with one of the biggest platinum producers in the world. "We are very pleased to have been chosen as the key supplier of filter services for our customer's sites. Our service approach will improve the safety, overall filter reliability, and performance in line with customer's throughput targets," said Vivian Pillay, director, global key account management at Metso Outotec.

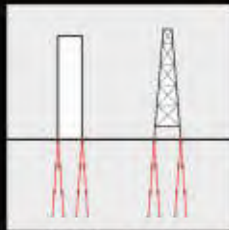
Image Credit: Metso Outotec

DUCTILE IRON PILES

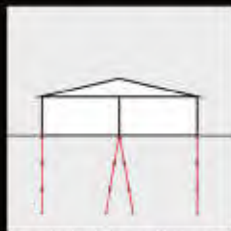
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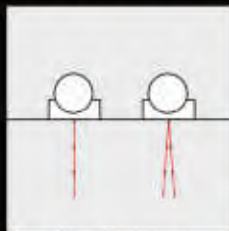
Housing



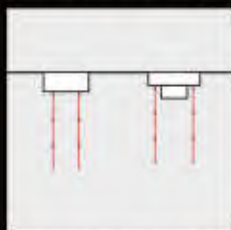
Tall Structures



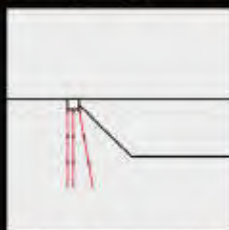
Industrial Building



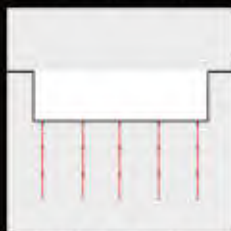
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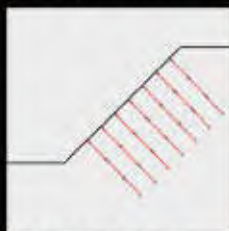
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Optimising water treatment on mines

Relatively little water used during mining needs to be clean or potable, so mines can reduce both water consumption and treatment costs by understanding what water qualities are needed where, says SRK Consulting.



Image Credit: SRK Consulting

Most of a mine's water will generally be used in the process plant, and these applications can usually manage with much lower water qualities.

According to Peter Shepherd, partner and principal hydrologist at SRK Consulting, the mining sector's drive towards ambitious water conservation targets means recycling more so that less fresh water needs to be procured.

There is also a financial benefit to recycling, as having to treat water before use or discharge is an expensive exercise. Shepherd highlighted that treatment can be kept to a minimum if mines are clear about what level of water cleanliness is required by its different on-mine processes.

"Clearly, a mine does not want to be using potable water to mix with tailings for pumping to a tailings storage facility," commented Shepherd. "Most of a mine's water will generally be used in the process plant, and these applications can usually manage with much lower water qualities."

That said, there would be specific phases of the plant that require cleaner water – for the mixing of reagents and chemicals, for instance. There is also a need for water that is low in sediment particles for use in the gland seals of pumps.

Mines can therefore optimise the reuse and recycling of their water through developing a water quality 'cascade', explained Bjanka Korb, principal environmental engineer at SRK Consulting. This will detail the minimum water quality demanded by each process, so that water is not treated to higher levels of quality that are needed at the point of use.

"This approach opens the door to increasing the volumes that can be reused and recycled,"

added Korb. "The accumulation of water in the system and resultant discharge of low-quality water into the environment is thereby also minimised."

An additional benefit is that the mine would be able to reduce its reliance on treated municipal water and therefore the operational cost to the mine could also be decreased. Where untreated dam water can be procured from a municipal source, the mine could use this directly in the plant – and only treat water to potable standards that is used in bathrooms, kitchens and drinking use.

Staying afloat

With more extensive reuse of water, Korb pointed out, water quality within the mine system can deteriorate to the point where regular intervention is required.

This is a consequence that must be carefully managed. "Fortunately, most regions have seasonal rainfall which assists with keeping the water quality cleaner. However, concentration of salts will occur over time regardless of this, and the reality is that mines may need to consider water treatment for recycled water in the later stages of the life of the mine."

Developing the cascade approach needs a good understanding of the water and salt balance within the broader system – including the mine workings, the processing circuit, the tailings dam, the fresh water supply and the receiving watercourses.

"By identifying the major drivers of water use, a mine can better target its recycling efforts," said Korb. "For instance, if the water being returned from the tailings dam is sediment-laden or there are other elements within the water that do not easily settle out, then it may not be usable in certain key plant processes."

Achieving the best results from a water quality cascade relies on good communication between the management of the mine's process plant and its tailings facility. Plant managers, who know the water volumes and qualities required from day to day, are important players in determining whether the process water demand can be fulfilled by return water from the tailings dam. The communication is vital as the tailings return water dams are often where most of the mine's water is stored.

"The process plant and tailings teams together can assist significantly in managing the mine's water balance, and in helping reduce the volumes of water being procured externally," she said.

Shepherd noted that leading mining companies have recently begun appointing dedicated experts to focus on water stewardship, to ensure that strategies are implemented and coordinated mine-wide to conserve water use. This, he said, was a positive step towards balancing a mine's need for optimal recoveries in the plant, with the need to reduce water consumption from external sources. ■

Sewage treatment plant delivered for Lesotho diamond mine

WEC Projects, a South African EPC contractor specialising in water and wastewater treatment solutions, has completed the design, manufacturing, delivery, installation and commissioning of a new WEC Model B packaged sewage treatment plant for the Mothae Diamond Mine in Lesotho.

The Mothae Diamond mine, located in the Maluti Mountains about 135 km from Maseru, is a partnership between the Lucapa Diamond Company and the Lesotho Government and began production in 2019. Mining more than 30,000 ct of diamonds in its first year of operation, it also generates 60 cu/m of raw sewage every day, presenting a real issue around disposal.

Loreen Grobbelaar, project manager at WEC Projects, said, “Prior to the new treatment plant’s installation, the mine was forced to dispose of its sewage waste using honeysuckers / sewage trucks to transport the sewage to the nearest disposal facility, almost 100 km away. This was, understandably, an inefficient and costly disposal method.”

To deal with this problem, WEC Projects installed a conventional activated sludge (CAS) treatment plant which was delivered to the client at the beginning of September 2022.

Grobbelaar continued, “The mine’s relative remoteness made the logistics of transporting and installing a complete sewage treatment plant a challenge. However, the WEC Projects Model B plant is a packaged solution that incorporates a modular design with a small footprint. This made it much easier to transport to site, install and



Image Credit: WEC Projects

The facility housing the bioreactor on the left ensures that the temperature remains at optimum levels for biological growth.

commission than other conventional treatment plants. We did encounter a few problems due to snowy weather and pump supplier delays but overall, we were able to complete the installation and commissioning of the plant on time.”

The Model B sewage treatment plant supplied to the mine is a combined activated sludge and

clarification plant with a capacity to process up to 80 cu/m of raw sewage per day. An automated screening system inclusive of de-gritting and oil removal was installed upstream of the treatment system. In addition, the plant has been housed in a large facility to ensure that the correct temperature for optimal biological population growth is maintained (around 19°C) as it gets cold in the Maluti Mountains with large temperature fluctuations, particularly in winter.

WEC Projects was also contracted by the client to provide operations and maintenance services. To this end the company will provide the mine with quarterly audits of the treatment plant. A process engineer will travel to the site to take samples which will then be analysed by an accredited laboratory. WEC Assist, the operations and maintenance division of WEC Projects, will analyse the laboratory results which will allow for optimisation of the treatment plant by fine-tuning of the process.

WEC projects also provided specialist training to the mine’s operations staff during commissioning and will supply needed spares and consumables used in the sewage treatment process. ■



Image Credit: WEC Projects

Containerised, modular design of the treatment plant makes for faster installation.

Rail networks are frequently utilised to serve mines across Africa.



Image Credit: Adobe Stock

Conveying success

Transportation is critical in bringing the best out of Africa's mines.

Mines are only as effective as the transport services supporting them. Without reliable and efficient conveyance to and from site for people and resources, there is little hope of them functioning to a practical standard.

This lesson has been most readily demonstrated in recent months by the strike action affecting Transnet's rail and port network in South Africa. The Minerals Council South Africa estimated that bulk mineral exporters lost around R815mn (approx. US\$45mn) worth of exports per day during the walkouts because they were unable to rail and load around 357,000 tonnes of iron ore, coal, chrome, ferrochrome and manganese onto ships daily.

"Around R151bn (approx. US\$8.3bn) could be gained [on an annual basis] in additional exports, with the concomitant benefits of employment in mining increasing by 40,000 jobs to 500,000, the fiscus benefiting from improved tax revenue and higher revenues for Transnet if all rail and ports systems were optimally and efficiently run at design capacity," the Minerals Council statement noted.

Such a challenge to one of the most important industries in one of Africa's strongest economies is a stark reminder of the central role logistics plays

within the mining sector. Fortunately, there are a plethora of companies lining up to offer their services across the continent and ensure Africa's mines can reach their full potential.

To find out more about this aspect of the industry and the trends shaping it, *African Review* caught up with Dolores Biamou, mining projects director Africa at Bolloré Logistics.

African Review (AR): What are the biggest challenges with providing transportation services to African mines?

Dolores Biamou (DB): Mines in Africa are usually located in remote areas where access can be difficult for many reasons such as lack of proper infrastructure (in some cases roads need to be built up to get access to the site); a need to deploy specialised equipment to handle out-of-gauge cargo; security issues in some areas, with necessity to escort convoys; and political sanctions (lately with border closure sanctions imposed on Mali for example).

AR: What are some of the transportation solutions best suited to serving African mines?

DB: The choice of transport means depends on

the location of the mine. Different means of transportation can be combined onshore from arrival at port; rail, road, river transportation (barge), and air, for example. Cargo safety also plays an important role when looking for the right transport solution.

We have an extensive experience in the management of major industrial projects in the mining sector from early works up to project execution. Our dedicated teams conduct feasibility studies in order to offer the best logistics solutions to our clients.

AR: What are some of the trends affecting services most on the continent?

DB: We have noticed growing concerns from our mining customers in regards to CSR. This includes among others a strict compliance with the regulations of the countries in which they operate.

Mining companies are also much more aware of climate change concerns and promote sustainable projects. More and more solar plant constructions are being developed at mine sites. At the same time, sustainable fuels are used in the transport industry to reduce the carbon footprint for all means of transport. ■

South Africa mining holds firm

South Africa's mining sector has posted a sterling performance over the past year despite local and global challenges, according to a new report by PwC.



South African mining companies have found themselves in a strong financial position.

Image Credit: Adobe Stock

The SA Mine 2022 report published by PwC has indicated that the mining industry in South Africa has exceeded expectation on most fronts in regards to financial performance. This includes distributions to shareholders more than doubling, capital expenditure growing by 36%, and taxes paid increasing by 14%.

Notably, growing demand for commodities saw record prices for the platinum group metals basket, iron ore and coal, other commodity prices remained at relatively high levels and the global low-carbon energy agenda means there is an expected increased demand for a number of associated commodities in the medium- to long-term.

In the face of adversity

These achievements have been reached in a challenging time for the country. As related in the report, the South African economy was only 1.4% larger year-on-year in the first half of 2022 as the fallout from the Ukraine conflict, Covid-19 lockdowns (most notably in China), floods in KwaZulu-Natal, and the

ever-present thorn of load-shedding restrained growth.

Despite experiencing labour strikes, higher-than-usual rainfall and continued disruptions to global supply chains, mining companies have found themselves in a strong financial position with debt largely repaid and returns to shareholders at many companies reaching record levels. The PwC report added that the fiscus also benefited from increased direct and indirect taxes and mining royalties to the extent that it could support ongoing socio-economic grants during the pandemic.

“Realising the full potential benefit of our resources and creating long-term sustainable outcomes will depend on our ability to mine cost competitively and to integrate various value chains profitably.”

ANDRIES ROSSOUW, PWC'S AFRICA ENERGY, UTILITIES AND RESOURCES LEADER

Despite this growth, PwC expects a significant erosion of profit margins for the near-term as lower production levels and other pressures could increase unit costs above inflation and infrastructure challenges hamper companies' ability to earn export revenues. Vuyiswa Khutlang, PwC South Africa energy, utilities and resources assurance partner, commented, “The remaining available cash resources leave mining companies with interesting capital allocation decisions. Strategies will include expansions and new development, acquisitions, strengthening of local

infrastructure and host communities, as well as market development and investments up and down the value chain. Execution on these strategies will require disciplined long-term sustainable mind sets.”

Looking ahead

The report stated the country's mining sector could really benefit from demand growth prompted by minerals required in the energy transition but the extent of this will largely depend on whether it can address bottlenecks in supply and mine to market infrastructure.

“There is an obvious need to invest in the right skills, infrastructure, energy and water, and in general, creating an enabling environment for exploration, mine development, production and sales.

“Realising the full potential benefit of our resources and creating long-term sustainable outcomes will depend on our ability to mine cost competitively and to integrate various value chains profitably,” remarked Andries Rossouw, PwC's Africa energy, utilities and resources leader. ■

SANDVIK SHOWCASE ‘THE FUTURE OF MINING’ WITH 65 TONNE ELECTRIC TRUCK

Visitors were in for a treat during the Electra Mining Africa show as Sandvik unveiled their new 65 tonne TH665B battery electric vehicle (BEV) with the focus of providing for ‘the Future of Mining’.

According to Jakob Rutqvist, vice president of strategy and commercial at Sandvik, this innovation will take mining into the Fourth Industrial Revolution.

“Many industries are well advanced in the technological trajectory of digitalisation, automation and electrification – and it now mining’s turn,” he said.

“Fortunately, Sandvik has been positioning itself for some time to lead the industry in this journey into the future of mining.”

Rutqvist went on to highlight that Sandvik’s BEVs are faster, stronger and much less constrained than machines that are converted from a diesel design. A decade of experience has gone into applying battery technology into the mining sector, and it is a process that is now integrated into the business through its acquisition of US-based Artisan Vehicle Systems in 2019.

“Our display at Electra Mining Africa demonstrates our overarching commitment to achieve a full range offering of battery electric trucks and loaders – covering all major class sizes – by 2025,” Rutqvist said.



Sandvik’s 65 tonne TH665B battery electric vehicle.

Image Credit: Sandvik

Alongside the 65 tonne BEV, Sandvik’s range includes a 50 tonne equivalent and an 18 tonne capacity battery electric LH581B underground loader – which is already on order from a South African gold mine.

Bolstering Sandvik’s theme of ‘the Future of Mining’ was the company’s AutoMine software offering for underground and surface mines. AutoMine is now installed on approximately 600 machines on mine sites worldwide.

FLSMIDTH LAUNCHES GAME-CHANGING MINE OPTIMISATION SOFTWARE

FLSmidth promises to supercharge mine performance through digital solutions and equipment knowledge following the launch of PerformancelQ Services at PERUMIN last month.

PerformancelQ Services focuses on brownfield mining operations to detect performance gaps and identify priority solutions which enhance operational efficiency. Working in partnership with customers, local FLSmidth experts provide improvement targets and suggest the most appropriate and impactful actions for the specific operation to meet the mine’s characteristics.

The performance data of equipment and technology is monitored, adjusted and enhanced on a continual basis with the goal of achieving measurable, sustainable productivity improvements. These include the reduction in unscheduled downtime and a more efficient use of water and energy. After this phase, a cycle of analysis, value proposition, implementation and evaluation begins to create step-by-step improvements which become the foundation to move beyond the current objectives.

“Real, tangible benefits come with a full flowsheet approach to optimisation and through close work and partnership with our customers on site,” said service business line manager at FLSmidth, Joshua Meyer.

“Our experts bring local knowledge, process knowhow and experience and combine this with digital solutions that monitor, analyse and improve the performance of mine operations. It is an exciting proposition because we see a lot of improvements, both short and long term that will be game-changers for productivity and sustainability.”

Cat showcases 789 mining truck

Industry giant Cat has launched its new 789 mining truck which promises to live up the legacy of proven performance already benchmarked by the company. The design offers a weight advantage over their competition to haul more material with every load and deliver a cost-per-tonne advantage. The 789 moves more material with less fuel, offering up to 9% reduced fuel consumption compared to the Tier 2 design.

An advanced powertrain increases engine life by 12% and offers the highest horsepower in its class, meaning the mining truck features 10% more payload and is more than 5% faster on grade than competitors. Delivering long-life reliability, the new Cat 3516E engine features design modifications to the camshaft and piston for optimal fuel efficiency, and the structural improvements to the cylinder head and crankshaft deliver 12% more durability than previous engines.

The 789 allows a choice of numerous body style configurations to meet specific site needs. The High-Performance Body maximises payload by reducing the weight by 2-5 tonnes. The Mine Specific Body excels in mature mines, while the Combination Body combines features of high volume and optional liners to haul both ore and overburden. The more ergonomic cab also improves operator efficiency and productivity, with a 17% wider design with adjustable centre console offering 34% more operator space, 11% more legroom and 19% more shoulder room. The cab also offers 40% less Sound Pressure Level (SPL). The 789 next generation mining truck replaces the current 789 Stage V/Tier 4 Final model. The popular Cat 789D will continue to be produced and is available to markets outside of North America and Europe.

The new Cat 789 mining truck offers class-leading power, fuel efficiency, and more payload capacity.



Image Credit: Cat

KLEEMANN IMPACT CRUSHER OFFERS HIGH PRECISION WITH ALL ELECTRIC DRIVE

Kleemann has presented the latest member from their PRO line, the mobile impact crusher MOBIREX MR 130 (i) PRO, which is used as a primary and secondary crusher to combine output, precision and sustainability.

The impact crusher covers a wide range of applications, from soft to medium-hard natural stone to the processing of concrete, rubble and asphalt. With an hourly output of up to 600 t/h and a powerful electric 250kW drive, the crushing unit can guarantee a very high and stable throughput.

Due to its all-electric drive concept, E-DRIVE, with an option for external power supply, the MR 130(i) PRO can be operated on site emission free, therefore guaranteeing a low power consumption

per ton of final product. Hydraulic oil is only required for set-up functions which reduces the environmental risk and maintenance costs, and the optional power pack housing ensures a significant noise reduction.

The MR 130(i) PRO's high production capacity and top product quality are tied together by the robust crushing unit with two impact toggles and versatile rotor ledge options, and the 8.4 sq m optional double-deck post screening unit. This makes it possible with a single machine to produce two classified final grain sizes.

The use of optional wind sifter technology can optimised the final product quality further by removing contamination in the material, such as in wood and

plastic. The airflow can be controlled depending on the material.

As the operation of crushing plants is becoming more sophisticated, the holistic operating system, SPECTIVE, from Kleemann, gives the operator different tools to facilitate their typical workday. With the large SPECTIVE radio remote control, the plants are moved from the low loader and the set-up procedure can be carried out a safe distance from the machine. The smaller remote can be used to execute all relevant functions from the excavator. The digital solution, SPECTIVE CONNECT, facilitates the work site digitalisation of the MOBIREX MR 130(i) PRO.



The MOBIREX MR 130(i) PRO is the latest in the Kleemann PRO collation.

Image Credit: Kleemann

Advertiser's Index

Ansaldo Energia S.p.A.	33
Balkrishna Industries Ltd	7
Barco n.v.	5
Condra Cranes and Hoists	41
IMECO Handelsgesellschaft m.b.H.....	43
JA Delmas S.A.S.	37
Liebherr Export AG	2
Liugong Dressta Machinery Sp. z o.o.	51
Metalgalante S.p.A.	39
MTN Group Limited	52

WEIR AND STM ALLY TO ACCELERATE SUSTAINABLE MINING

Swiss Tower Mills Minerals AG (STM) have announced an alliance with Weir in which they will market STM's innovative vertical stirred grinding mills for coarse grinding applications around the world. Integrating these mills into Weir's minerals processing flow sheet will provide substantial improvements to customers in throughput and energy efficiency, helping them to meet their productivity and sustainability goals.

STM's technology is well proven for energy efficient comminution in the mining market with more than 80 units currently operating in the hard rock mineral processing industry worldwide. It is used within the comminution segment of the minerals processing circuit as part of a series of crushing and grinding processes that create fine particles from minerals are extracted through floatation.

Comminution is one of the most energy intensive parts of the mine, accounting for 25% of the final energy consumption of an average mine site. Weir's HPGR technology drive down energy consumption by approximately 40% for their customers.

Commenting on the alliance, Weir Minerals divisional president, Ricardo Garib, said, "Weir and STM share the same vision of enabling primary resource providers to produce resources in the most sustainable manner. This is a perfect match of best-in-class technology providers. Integrating STM mills with Weir's comminution products, which includes Enduron high pressure grinding rolls (HPGRs) and Enduron screens, will improve throughput and help bring substantial reductions in carbon emissions."

STM chairman, Fritz Moser, commented, "Both the HPGR and the STM vertical stirred mills provide significant energy savings compared to conventional grinding technologies. Our new supply agreement with Weir will enable us to fast track the roll out of an innovative flow sheet using STM mills in conjunction with Weir's Enduron HPGR."

A vital cog in Africa's growing banking sector

Larry Khaduli, field services director East Africa at Schneider Electric, explains why the banking sector must look after its IT assets as it continues to advance in sophistication.



Larry Khaduli, field services director East Africa at Schneider Electric.

The African continent has one of the world's most lucrative yet untapped banking markets in the world, according to analyst groups. With more than 700 banks, the continent is seeing a growth in financial technology, telcos and neobanks (online bank only).

However, to remain competitive, African banks must invest in new technologies which allow for capabilities such as automation and self-service to optimise their operations. Plus, technology adoption must go hand-in-hand with the stringent regulations, such as the recently published Basel IV that govern banks across the world.

As the African banking sector evolves so digital demands will increasingly start putting strain on existing technology infrastructure,

pushing it beyond initial design standards. This, in turn, puts equipment at risk and possibility of failure which can be catastrophic to a bank and its customers.

Furthermore, while the sector and its customers become more sophisticated, it is also giving way to increasingly complex and varied computing environments. For example, in Tanzania, which currently has 35 commercial banks, the country is seeing an increased adoption of mobile consumers using banking apps to conduct daily transactions.

Instead of supporting one monolithic infrastructure, banks now have to manage distributed platforms and need to deploy hybrid cloud and edge solutions as well as expand existing data centres. Also,

banks must partner with suppliers that offer the requisite support to ensure their infrastructure always runs optimally and securely.

This is where standardisation, speed of deployment and overall IT cost reductions come into play and micro data centres, edge computing and modular, scalable UPS solutions are feasible options to meet the needs of an expanding, sophisticated banking sector and customer base.

In tandem with the above, should be maintenance contracts with expert suppliers that ensure equipment is monitored, managed and potential failure mitigated with sound predictive maintenance practices in place. In the event of equipment failure, an expert field services team must be able to

quickly find a solution and ensure operations are up and running in no time.

Providing peace of mind

Schneider Electric's EcoStruxure Asset Advisor is a cloud-enabled predictive analytics solution that manages the performance of banks' assets and is provided as a service through our global field services team. Solutions such as this provide insight into the operating conditions of banking assets, mitigating the risk of equipment electrical failure. It offers banks with complex building infrastructure peace of mind that a trusted source with OEM expertise is looking after their assets.

By partnering with an OEM that offers an intuitive solution, backed by expert field services team, banks benefit from a predictive approach that supports other on-site service and preventative maintenance plans while improving CAPEX planning such as proactive equipment replacement based on condition.

Predictive maintenance can also determine maintenance adjustments for improved cost optimisation and risk mitigation, such as keeping staff safe through early warnings and maintaining critical processes.

Ultimately, as the African continent's banking sector grows and becomes more sophisticated, it is vital that institutions look after the reliability and performance of their IT assets in head offices and branches. Cloud-based IoT solutions in partnership with a field service team will allow banks to stay one step ahead of downtime or failures. ■



To remain competitive, African banks must invest in new technologies.






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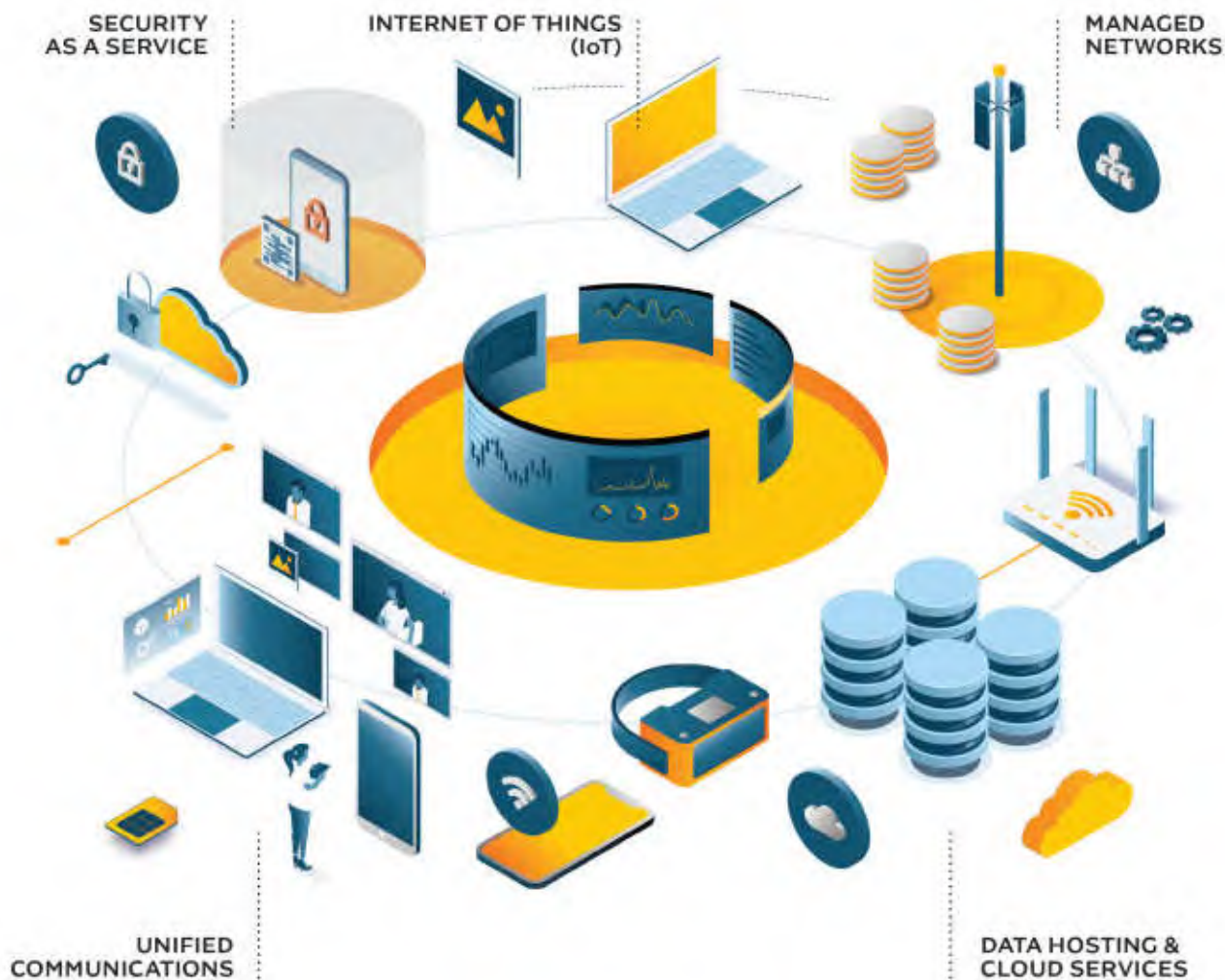
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