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African Review

MARCH 2018

of BUSINESS and TECHNOLOGY

P18

" We need to communicate better about the solutions we have in Nigeria "
Uzoma Dozie, CEO, Diamond Bank

54 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964

Audit Bureau of Circulations - Business Magazines

Cover picture: The New Coastal Road, which is being built on Reunion Island. © SCIMAT
Cover Inset: Uzoma Dozie, CEO of Diamond Bank. © Diamond Bank

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Printed by: Buxton Press

Printed in: February 2018

ISSN: 0954 6782

SUBSCRIPTIONS:

Rates for one year (11 issues):
Europe €107, Kenya KSh3400, Nigeria N6600, South Africa R460, United Kingdom £77, US$140

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Editor's Note

Welcome to our March issue. It's that time again when bauma Conexpo Africa hits Johannesburg from March 13 to 15, attracting the leading players of the construction and mining industry. They will be showcasing their latest products and taking advantage of new opportunities emerging in the African markets (page 41). Good luck to you all.

There is room for optimism as construction activity picks up on the continent with a range of exciting small and large-scale projects happening across the region (page 44). We examine what is happening with the world's most expensive road project on Reunion Island – an impressive 5.4km viaduct being built in the Indian Ocean to replace the inland route (page 50).

Elsewhere in this issue, our resident economist Moin Siddiqi shares the best strategies for private equity investors to implement for successful returns in Africa (page 22), and how the manufacturing industry in Nigeria is set for a boost as Peugeot Automobile Nigeria (PAN) regains its leadership role in car manufacturing (page 24).

Samantha Payne, *Editor*

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Logistics, pharmaceutical and industrial companies top Algeria employer list

Image Credit: Siemens

Siemens, which was the consortium leader on the Algiers Metro, is an Algerian top employer.

DHL, Novartis, Roche, Siemens and ElKindi Pharmaceutical have topped the list of the best places to work in Algeria, according to the annual workplace survey by global research firm, Best Companies Group USA. The survey is part of an international programme which provides employers in different regions with the opportunity to learn more about the engagement and satisfaction of their employees.

The 2018 research programme has found that engaged employees stay with their employers longer, serve customers more effectively and help contribute toward a more profitable company.

The top five companies made the list based on multiple criteria, receiving outstanding scores for benefits, leadership, satisfaction and opportunities, and personal growth of the employees. A two-step process is involved in determining the list, starting with an evaluation of workplace policies, practices, and demographics. The second step consisted of employee surveys aimed at assessing the experiences and attitudes of individual employees with respect to their workplace.

“Thanks to the commitment of our employees, Siemens continues to prove its ambition to position itself as a trusted partner in Algeria, combining innovation and entrepreneurship for the benefit of its customers,” said M. Benabdoun, general manager of Siemens Algeria.

M. Melaika, general manager of Novartis Algeria cited “a shared vision, common goals, open communication and mutual respect” as the factors for success within the company.

The Best Places To Work Programme certifies and recognises leading workplaces in several countries including leading programmes in Africa, Europe, Middle East and Asia.

EU MONITORING TUNISIA FOR MONEY-LAUNDERING

Tunisia has been added to the European Union’s blacklist of third countries thought to be at high risk of money-laundering. The list is part of the EU’s toolkit to protect itself against such practices, and Sri Lanka and Trinidad and Tobago were added at the same time as Tunisia. The addition of Tunisia came after intense debate among Members of the European Parliament (MEPs), with the final vote resulting in 357 votes in support of the motion to 283 votes against and 26 abstentions. MEPs who tabled the motion against the inclusion of Tunisia said its addition to the list was undeserved and that, as a burgeoning democracy in need of support, the listing fails to take into account steps the North African country has taken to strengthen its financial system against criminal activity. In a statement to parliament, the Commissioner for Justice, Consumers and Gender Equality, Vera Jourová, declined some MEPs’ requests to delist Tunisia immediately. She said the commission would reassess Tunisia’s progress “as early as possible” this year.

MASTERCARD URGES BEST FINTECH PRACTICE

Mastercard has highlighted its support for the Egyptian government’s efforts to accelerate the advancements within the financial industry in Egypt through innovations in the payments sector.

Speaking at the Seamless North Africa 2018, held in Cairo in February, Khalid Elgibali, Division President for Middle East and North Africa, Mastercard, emphasised that Egypt is going through a phase of rapid growth and transformation, and digitisation presents a tremendous opportunity to drive sustainable and diversified economic development.

In his keynote address to the “Success Global Fintechs Update” panel, Mr Elgibali noted that in addition to the potential of generating significant financial returns, fintech companies can also help the economy become more inclusive and less cash-based, which are important objectives along the economic development journey. He cited the latest World Bank reports, which found that Egypt has the potential to bring more than 44 million people into the formal financial sector.

“Technology-led systems are offering greater access, lowering costs, improving usage, and creating better service delivery for consumers. Financial services in developing regions will be reimagined through the innovative use of data solutions, a deeper understanding of customer needs and a new collaboration model, which will, in turn, boost inclusive growth. However, it will require strong channels of co-operation and collaboration with partners from across and within industries to bring this to fruition,” he told delegates.

In addition, the panel discussed global fintech updates and transformational trends, evaluation of fintechs in the wider global markets, challenges facing industry leaders and opportunities that can help accelerate the adoption of successful fintech solutions.

BRIEFS

Morocco-UAE remittance deal

Image Credit: UAE Exchange

A UAE Exchange outlet.

Groupe Banque Populaire has partnered with UAE Exchange to facilitate remittances to Morocco. The partnership will enable remitters to send money from UAE Exchange branch to Groupe Banque Populaire or third-party bank accounts in Morocco, while providing the beneficiaries with an option for cash pay-out at all Banque Populaire branches. Laïdi El Wardi, retail banking general manager, Groupe Banque Populaire described the partnership as “strategic” and will add diversity.

Al Baraka bank profits up

Image Credit: Magharebia/Flickr

Positive news from Al Baraka Bank.

Al Baraka Bank Egypt continued its growth across all activities in 2017, announcing a total income increase of 51 per cent in 2017 to reach EGP 5.43 bn. Net profits jumped by 42 per cent to reach EGP 725.3mn in 2017 compared to 2016. Total assets of Al Baraka Bank Egypt stood at EGP 50.3bn at the end of 2017, growing by 19 per cent compared to the end of 2016. Total financing and investments portfolio reached EGP 33.1bn at the end of 2017, up by 23 per cent.

Deloitte report: 13% of infrastructure projects in Kenya completed on time


Project overruns in Kenya were due to procurement delays.

Image Credit: © derejeb

A report released by consulting firm Deloitte East Africa found that cost and time overruns are major factors in why infrastructure projects are abandoned in Kenya, according to Kenyan radio station Capital FM. The findings released by Deloitte East Africa noted that 48 per cent of projects were over budget and 87 per cent of projects have a time overrun. Jean-Pierre Labuschagne, Deloitte Africa Infrastructure & Capital Projects Leade, revealed that the project overruns in Kenya were due to procurement delays. This he explained was either upfront or during the construction period which results in huge cost escalations.

Capital FM highlighted that the *Deloitte Construction 2017* report revealed that where projects are contracted irregularly, procurement challenges can be a major factor leading to project delays and cost overruns. "Approximately only 20 per cent of projects (from inception) in Africa reach financial closure and are able to move to execution," Laubschagne told Capital FM. He explained that governments have a major role to play through project management, oversight, use of independent engineers, cost and delivery assurance, in addition to the use of technology to monitor delivery of projects.

Despite the problems faced, the number of projects in Africa rose by 5.9 per cent in 2017 to 303. The report found that East Africa experienced the highest rise in the number of projects in 2017, defying a general downward trend across most African economies. East Africa, which includes Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Seychelles, Somalia, Tanzania and Uganda had 71 projects, a 65 percent jump. Southern Africa saw a nine per cent growth while North, Central and West Africa declined by 48 per cent, 17 per cent and 14 per cent respectively. East Africa projects represented 23.4 per cent of the total projects in the continent. Kenya had 23 projects followed by Ethiopia at 20, but projects in Ethiopia had almost twice that of the value of projects in Kenya. "East Africa continues to stand out; both as a growth region and as one focused on creating a more conducive environment through infrastructure investment - enabling investment and business," he added.

DRIVING INDUSTRIALISATION IN TANZANIA

Helium gas is expected to be an important factor in driving industrialisation in Tanzania, according to mineral exploration company, Helium One. The firm recently organised a one-day workshop at UDSM to build local capacity and awareness on the origin, exploration and development of helium in Tanzania. It said it will sponsor two UDSM students for MSc Programme at Oxford University. The workshop's main objective was to bring together. Helium One's chief executive officer, Thomas Abraham-James said, "Helium One believes there is an opportunity through helium exploration and development to develop world-class technical skills and scientific expertise locally in Tanzania. We continue to build on our partnership with UDSM through knowledge-sharing, training for students and Ministry of Minerals' staff, and development of a scholarship programme."

SIEMENS SIGNS SUDAN POWER PLANT DEAL

Siemens has expressed interest to support Sudan on the field of electrification, automation and digitalisation, aiming to build energy infrastructure and skills development initiatives in the country.

One of the members of the managing board of Siemens AG, Janina Kugel, together with regional and pan-African executive management held a strategic partnership discussion with the Sudanese Vice President Bakri Hassan Salih Khairi.

"The focus on infrastructure investments and partnerships between public and private sectors remain a major priority for us to realise the ambitions we have for the country. Together with Sudan, we have strategically identified electrification as a catalyst to stimulate socio-economic growth. Electricity will grow existing industries as well as create new ones. It also enables the advancement of social investments into priorities such as healthcare," said Kugel.

Siemens has signed an operation and maintenance (O&M) contract with the Sudanese Thermal Power Generating Company (STPGC) which covers aspects and activities necessary for the running of the Garri Power Station in the North of the Khartoum and the Port Sudan on the country's Red Sea coast.

Sabine Dall'Omo, chief executive of Siemens Southern and Eastern Africa, said that the O&M agreement is set to minimise the operational risks and maximise plant availability. As the original manufacturer of the turbines, we are best positioned to partner with STPGC. This agreement is also tangible evidence of our mutual long term relationship with the country." Dall'Omo added, "On a full time basis, the O&M contract offers the full benefits that digitalisation brings to the energy sector, such as remote monitoring and preventative maintenance."

BRIEFS


Image Credit: © VioNet

The solar energy fund will support universal energy access in Uganda.

UK to support solar energy in Uganda

The Department for International Development (DFID) and the UN Capital Development Fund have joined forces to enhance Uganda's solar energy industry. The deal aims to support universal energy access across the country together with the Uganda Solar Energy Association. Head of DFID Uganda, Jennie Barugh said: "Combined with other initiatives of the 'On and Off-Grid Small Scale Renewable Energy in Uganda' project, this work will contribute to improved clean energy access for over 200,000 households and businesses."

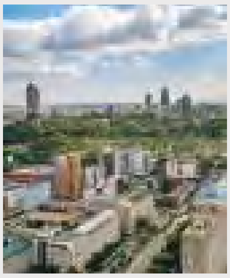
Image Credit: © dvrcan

The $85.1mn fund will support construction of the country's first public sewerage network.

Rwanda receives funding for sewarage network

The European Investment Bank has announced it has invested $85.1mn of new infrastrucutre and private sector investment in Rwanda. This includes the first public sewage system in the country. "The European Investment Bank is a key international financing partner for our country and I welcome new EIB support for public and private investment across Rwanda to be confirmed during their visit to Kigali, said Claver Gatete, Rwandan minister of finance and Economic Planning.

Isuzu mu-X destined for sub-Saharan Africa

Image Credit: IMSA

IMSA will be entering the Sports Utility Vehicle market.

Isuzu Motors South Africa (IMSA) has announced that it will be entering the Sports Utility Vehicle (SUV) segment with the introduction of the popular Isuzu mu-X into the sub-Saharan Africa market in the second half of this year.

It follows the arrival of the Japanese car maker in Port Elizabeth in February, after taking over General Motors SA's (GMSA) facilities in South Africa, as well as more than 1,000 of its former employees.

It is Isuzu's first commercial vehicle manufacturing operation outside of Japan in which it holds a 100 per cent stake. South Africa's Trade Minister Rob Davies joined Japan's ambassador to the country Shigeyuki Hiroki for the official launch party.

The mu-X will be a new entry in the SUV segment for Isuzu in Africa, since the introduction of the Trooper and Frontier in 1992 and 1998, according to Dominic Rimmer, executive technical services at the car maker. "This great product – which has been favourable with customers around the world – will extend the Isuzu product range offering customers an option to choose between the rugged and capable Isuzu pick-up and a sophisticated Isuzu SUV for both work and leisure, ensuring they are catered for in the Isuzu family."

The robust Isuzu mu-X SUV has a long history of performance behind it following its first introduction in the Thailand market five years ago.

As well as Thailand, it is sold in other countries including Australia and Philippines, where it is the market leader. "We are excited about the addition of the mu-X into the Isuzu portfolio, offering customers a SUV originating from a strong brand that is trusted and known for reliability by South Africans," said Rimmer.

The mu-X is powered by Isuzu's 3-litre engine, supported by a 5-link rear suspension and packed with active safety features for driving off road. The model line-up, specification and pricing is still to be announced. Masanori Katayama, the president of Isuzu Motors of Japan, said the high profile arrival in South Africa reflected the group's firm belief in the market.

MOZAMBIQUE PORT TRAFFIC ON THE UP

The volume of cargo handled by the Port of Maputo increased sharply last year, despite a fall in the number of vessels calling. The port said that volumes had grown 22 per cent in 2017, with 18.2 million tonnes of cargo handled last year against 14.9 million tonnes in 2016.

It comes despite a dip in the number of ships: in 2016 the port received 955 vessel calls and in 2017 it received 896, which equates to 59 less ships but 3.3 million tonnes more cargo.

The result was positively affected by the dredging of the access channel to the port, completed in early 2017, according to the port's chief executive Osório Lucas.

Before dredging, the maximum sailing draft of vessels in Maputo and Matola was, on average, 12.20 metres and the parcel size varied between 50,000 and 55,000 tonnes. "The dredging resulted in an increase of 40 per cent to the average parcel size for Maputo Main Port," said Lucas.

PRESIDENT DELIVERS POSITIVE NEWS FOR SMES

Small and medium-sized enterprises (SME) in South Africa are taking inspiration from the upbeat tone of President Cyril Ramaphosa's first state of the nation address, according to Pieter Bensch, executive vice president, Africa & Middle East at technology giant Sage.

Ramaphosa was appointed South Africa's president on February 15, following the departure of his predecessor Jacob Zuma.

The early signs for SMEs are promising, according to industry commentators. Bensch highlighted the new president's positive outlook on how smaller businesses can play a major role in spurring economic growth and addressing the challenge of unemployment.

"We are pleased to hear the new president of South Africa acknowledge that the growth of our economy will be sustained by small businesses," said Bensch. "It is heartening to hear that he is committed to building a small business ecosystem that assists, nourishes and promotes entrepreneurs."

He added: "Entrepreneurship doesn't happen in a vacuum – it is the result of collaboration between big business, government, business builders, universities and other stakeholders to build the skills, infrastructure and support systems entrepreneurs need to succeed."

Bensch highlighted the CEO Small Business Fund, worth R1.5bn, as an example of how government and big business can work together to nurture entrepreneurship. "I was excited to hear that the government is finalising a small business and innovation fund targeted at start-ups and that it also has plans to reduce the regulatory barriers for small businesses," added Bensch. "These sorts of interventions could help us to dramatically improve the success and survival rate of South Africa's small and start-up businesses."

BRIEFS

Coega nets aquaculture zone approval

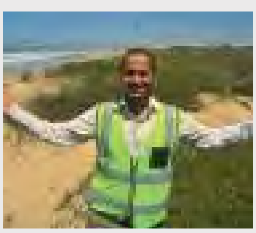

Image Credit: niruttt/adobe stock

CDC receives EIA approval for an Aquaculture Development Zone.

The Coega Development Corporation (CDC) has been given the go ahead for a land-based Aquaculture Development Zone (ADZ) and desalination plant, following an Environmental Impact Assessment (EIA). "The approval of the EIA is a leap towards fulfilling the Coega Special Economic Zone's (SEZ) vision," said Dr Keith Du Plessis.

Drought undermining crop production

Image Credit: Adobe Stock

Drought affects agricultural production in southern Africa.

Prolonged dry spells, erratic rainfall, high temperatures and the presence of the voracious fall armyworm have dampened southern Africa's current agricultural season's cereal production, the Food & Agricultural Organisation (FAO) has warned. "Crop production is likely to be negatively affected," it said.

GE and Marinus Energy to build waste gas-to-power plant in Ghana

GE Power and Marinus Energy have jointly announced a 25MW pilot project to capture Isopentane gas and use it as a fuel source for generating electricity in sub-Saharan Africa.

As developing countries embrace innovation to meet to energy challenges quickly, the Atuabo Waste to Power Independent Power Project will be the first TM2500 power plant in sub-Saharan Africa to use Isopentane gas as a fuel source and will run on GE's TM2500 gas turbines.

Image Credit: Adobe Stock

GE's TM2500 mobile power plant will generate enough electricity for more than 100,000 Ghanaian households.

In the first phase, Atuabo will convert the Isopentane fuel into up to 25MW of power, generating enough electricity to supply power for more than 100,000 Ghanaian households. As additional gas is brought onshore, the plant is expected to add on additional gas generating units up to a capacity of 100MW.

Additional Isopentane fuel will eventually be stripped off an offshore gas supply and processed at Atuabo by the Ghana National Gas Company. The gas turbine will start on lean gas and transfer to the Isopentane mix over time, and the power plant is intended to operate at base load throughout its life.

"The TM2500 unit will provide speed to deployment and flexibility to support the immediate needs of our customer, Marinus Energy, and then seamlessly transition to deliver capacity over the long term as they expand their operations," said Leslie Nelson, CEO of GE's gas power systems in sub-Saharan Africa.

"The Atuabo project will add yet another TM2500 gas turbine to the existing fleet of ten units in the country earlier deployed in 2016."

With more than 200 units deployed and five million operating hours of experience, GE's TM2500 aims to bridge the power gap for short- and long-term energy planning, stabilise the grid or reach and power remote locations.

"The TM2500 mobile power plant can be relocated to other power plants during operation and maintenance outages or to remote areas. The TM2500 can also achieve full power approximately within 10 minutes making it ideal for providing a base-load bridge to permanent power installations or generating backup power for factories and industries," the company explained.

IBN CHAMBAS CONCLUDES VISIT TO THE GAMBIA

The Special Representative of the Secretary-General and Head of the United Nations Office for West Africa and the Sahel (UNOWAS), Mohamed Ibn Chambas, conducted a three-day visit to The Gambia in February.

The objective of the visit was to renew the UN's engagement to support the authorities of The Gambia in their efforts towards the implementation of new and vital reforms.

During his visit, Ibn Chambas met with members of the government, the United Nations Country Team, the diplomatic corps, development partners, the Independent Electoral Commission, representatives of the Inter Party Committee and civil society organizations. He also met with His Excellency President Barrow and Vice-President Fatoumata Jallow-Tambanjang. Ibn Chambas commended the Gambian authorities for the launch of the National Development Plan (NDP) on February 6 and its implementation.

"TIME IS RIGHT TO TRANSFORM ECONOMY"

Mitsuhiro Furusawa, deputy managing director of the International Monetary Fund (IMF), thanked the Mauritania Prime Minister Yahya Ould Hademine and Minister of Economy and Finance El Moktar Ould Djay for their warm welcome during a -day visit.

He said, "I would also like to thank the other authorities, civil society and private sector representatives for very constructive meetings. We discussed recent economic developments in Mauritania, which have been positive, and the favorable international environment. We agreed that the time is right given the global recovery and sustained metal price to undertake broad-based structural reforms to accelerate inclusive growth, transform the Mauritanian economy, and create the jobs needed to durably lift living standards and generate a more prosperous future.

The visit followed the approval by IMF to deliver a three-year arrangement under the Extended Credit Facility (ECF) for US$163.9 million on December 6, 2017.

Furusawa said, "The Extended Credit Facility (ECF) approved by the IMF last December, for US$163.9mn over three years, will support the inclusive growth strategy and encourage continued reform efforts.

"We discussed the authorities' new growth strategy based on the three pillars of inclusive economic growth, human capital development, and improving governance.

"I emphasised the need to develop a prudent, disciplined investment strategy to increase infrastructure and create jobs while preserving public debt sustainability. Given the significant financing needs and already high debt, non-concessional loans must be avoided and debt management improved.

"I underscored the importance of strengthening the fight against corruption and improving the business environment to promote private sector development."

BRIEFS

Yemi Osinbajo urges multinationals to set up factories in Nigeria

Image Credit: GovernmentZA/Flickr

Yemi Osinbajo at the 48th World Economic Forum annual meeting for 2018.

Yemi Osinbajo, vice-president of Nigeria, has emphasised the country as an attractive business hub and urged the multinational companies to invest in Nigeria for the growth of its business environment Osinbajo spoke this at the commissioning of the New Nestlé Milo Ready-To-Drink Factory in Agbara, Ogun State, Nigeria, on 8 February.

Nigeria aims to implement the Economic Recovery and Growth Plan to keep the economy on track.

Muna consolidates position in Cameroon

Image Credit: NOW Movement

Akere Muna meets Cameroonians from all walks of life.

Akere Muna, chairman of the International Anti-Corruption Conference Council, spent a week in February meeting with the NOW movement's leaders across Cameroon.

NOW is a citizen movement rallying for change that brings together Cameroonians from all walks of life.

Muna held meetings with major political actors to advance his political position. The tour reached its high point in Maroua.

Upcoming Events Calendar 2018

MARCH

7 - 9
WEST AFRICA POWER SUMMIT
Dakar, Senegal
www.wafpower.com

13 - 16
BAUMA CONEXPO AFRICA
Johannesburg, South Africa
www.bcafrica.com

19 - 21
SOMALIA OIL, GAS & MINING
Nairobi, Kenya
www.somaliasummit.com

20 - 21
SECUREX WEST AFRICA 2018
Lagos, Nigeria
www.securexwestafrica.com

20 - 21
AFRICA ISLAMIC FINANCE FORUM
Lagos, Nigeria
www.africa-if.com

27 - 28
POWER & ELECTRICITY WORLD AFRICA
Johannesburg, South Africa
www.terrapinn.com

27 - 29
AGROFOOD NIGERIA 2018
Lagos, Nigeria
www.agrofood-nigeria.com

28 - 29
EAST AFRICA OIL & GAS SUMMIT
Nairobi, Kenya
www.eastafricaogs.com

APRIL

23 - 28
INTERMAT
Paris, France
https://paris-en.intermatconstruction.com

25 - 26
MOZAMBIQUE MINING, OIL & GAS (MMEC 2018)
Maputo, Mozambique
www.ametrade.org/mozmec

MAY

15 - 17
CONMIN WEST AFRICA
Abuja, Nigeria
www.conminwestafrica.com

15 - 17
AFRICAN UTILITY WEEK
Cape Town, South Africa
www.african-utility-week.com

16 - 17
AFRICAN CONSTRUCTION EXPO
Johannesburg, South Africa
www.totallyconcrete.co.za

29 - 31
POWER & ENERGY AFRICA 2018
Nairobi. Kenya
www.expogr.com

"Facility of direct flights from Dubai has encouraged the residents and expats to opt for Zanzibar as a preferred holiday destination. Zanzibar has seen a rise in tourist numbers steadily over the past seven years and has a projected increase of 26 per cent for 2018."

SALEH SAID

Managing Director of Pennyroyal Ltd.

"I'm happy to join the Trend Micro ecosystem that is vibrant, and focused in protecting its customers, while helping to drive innovation, forge transformational alliances, and develop regional talent. Our channel community is the backbone to our continued success, and finding new ways to further strengthen our mutual businesses is also an emphasis for 2018, and beyond."

DR BIN ALI

Vice President for Trend Micro Middle East and Africa region. Trend Micro is a global leader in cybersecurity solutions.

"We are honoured to receive this facility from the European Investment Bank, which affirms our position as a development partner of choice for the SME and Corporate sector aimed at facilitating the country's economic growth."

KIHARA MAINA

CEO I&M Bank Kenya on the EIB extending the US$40mn financing facility.

"I welcome the African Union's historic adoption of a Protocol that deals specifically with the rights of people with disabilities. The hard work and leadership of people with disabilities across Africa had made the milestone possible after nearly 20 years of preparation. This positive development should lead to considerable improvements in the lives of African people with disabilities. The Protocol addresses some of the urgent issues that have the most disproportionate impact on people with disabilities, such as poverty, systemic discrimination and harmful practices."

CATALINA DEVANDAS

Special rapporteur on the rights of persons with disabilities on the newly adopted Protocol to the African Charter on Human and People's Rights.

"Cape Verde achieved an impressive fiscal consolidation in recent years but reducing public debt has proven difficult, owing in part to the depreciation of the escudo vis-à-vis the US dollar but also reflecting the need to support loss-making state-owned enterprises (SOEs)."

MAX ALIER

Led the International Monetary Fund (IMF) to Praia from January 15-26.

"The Africa Business and Investment Forum demonstrated a real commitment by our African leaders that they are focussed on paving the way for private investors in the US and the rest of the international community, to invest in Africa."

VERA SONGWE

Executive Secretary of the UN Economic Commission on Africa.

"2018 is going to be the year that our vision starts to become a reality. Our site in Lagos Nigeria is being constructed and will open for business in August this year. Our other seven sites are existing hotels which we are in the process of purchasing and they will then go through a complete renovation to bring them up to the Ugwunwa Hotel five star standard."

QUEEN CATHERINE AJIKE

The Nigerian royal from Ohafia unveiled plans for an international hotel group.

BEAMING START TO THE YEAR

Image Credit: BBOXX

BBOXX provides affordable off-grid energy solutions.

A pioneering platform that aims to revolutionise access to energy for millions in sub-Saharan Africa and Asia was launched last month. The BEAM platform – the first of its kind – is set to initially deploy USD$50mn in equity for distributed energy service companies (DESCOs) and will unlock further debt capital. It is the brainchild of Bamboo Capital Partners, the pioneering private equity firm delivering positive social and financial value, and BBOXX, a next-generation utility.

FDI FLOWS WERE GROWING IN THE CONTINENT

Africa is working tirelessly to get policy and legislative conditions right to ease the business environment and attract more foreign direct investment, said Ethiopian Prime Minister Hailemariam Desalegn. Speaking at the Africa Business and Investment Forum that was organised by the Economic Commission for Africa (ECA) and the Corporate Council on Africa (CCA), Desalegn said as a result, foreign direct investment flows to the continent were growing with a number of African economies now showing resilience to various internal and external shocks."Africa has been on the investment radar of many multinationals for decades now as witnessed by increased investment in infrastructure, agriculture, mining, manufacturing and tourism. Still Africa's market and resource potential remains untapped," he said, adding the business environment in Ethiopia had improved remarkably in recent years.

AFRICAN RISK CAPACITY AND UNITED NATIONS PARTNER TO INCREASE INSURANCE COVERAGE

Image Credit: World Bank Collection/Flickr

Africa's resource potential remains untouched, says Ethiopian Prime Minister Hailemariam Desalegn.

The African Risk Capacity (ARC), an agency of the African Union, and the United Nations Economic Commission for Africa (ECA), has announced a new partnership which will see the two organisations work together to increase insurance coverage against climate risks for African states.The multilateral deal was announced at the African Union's Annual Summit in Addis Ababa, and commits ARC and ECA to build the capacity of their 33 common member states by embedding risk management investments into government planning through policy development.

Looking after the smallest part prevents the biggest hold-ups

The care and control of small parts can have a major impact on company success.

Every major mining operation in Africa relies on replacement and maintenance components being available on site, in good condition, and as soon as they are needed.

The effect of production hold-ups, broken down trucks, unusable excavators, stationary loaders and other lengthy delays can make a significant difference to achieving performance targets.

The key to satisfying this requirement is to have a suitably laid out and equipped storage facility containing all the essential replacement components at the point of use.

Stodec Trading Ltd has been providing design and installations for effective storage throughout the world, and particularly for the oil, gas and mining industries in Africa for many years.

Recent Stodec installations for mining companies have included tailor made warehouse facilities for Kinross Tasiast mine in Mauritania, Dundee Precious Metals, Tsumeb in Namibia, Kinross Chirano in Ghana, Perseus Mining in Ghana and Côte d'Ivoire, Newcrest in Côte d'Ivoire, Golden Star in Ghana, Toro Gold in Senegal and many other facilities in Ethiopia, Algeria, Kenya, Uganda, Tanzania and Libya.

Stodec has installed tailor made warehouse facilities for various mining companies in Africa.

Stodec Trading Ltd are able to supply the full Dexion range of products to achieve maximum capacity and operational efficiency.

For palletised goods, this can be standard pallet racking, push-back, drive-in, double deep, or shuttle storage for small parts, as well as tools and components for steel shelving, long span racks, or mobile units with compartments and various-sized bins.

Mezzanine floors supplied in readiness to install kit form from the UK are often used to provide one, two or three extra storage levels to extend or build new buildings.

For more information visit www.stodec.co.uk

Making banking easier for people

Diamond Bank has become the first Nigerian company to join the World Economic Forum as an adviser. CEO Uzoma Dozie talks to *African Review* about how he will use the prestigious platform to campaign for financial inclusion.

Diamond Bank has become the fastest growing retail bank in Nigeria and its success is down to its partnerships, says CEO Uzoma Dozie.

"We don't see ourselves as one bank," he said. "It's that notion of collaboration with partners such as MTN and Women's World Banking that gives us expertise in understanding a customer's journey and what services to provide them with, as well as to encourage inclusiveness."

This approach seems to be working. Since its partnership with MTN, from 2014-2017, Diamond Bank has doubled the number of its customers through its Diamond Y'ello banking account, with more than 8.6 million users on its books. The account has become a market leader in the Nigerian financial inclusion space.

"It is a full service banking account on a MTN sim, which allows our customers to open up an account immediately and use it as a platform to fulfil their day-to-day needs," Dozie said.

"Our strategy is to invest in mobiles. To come up with a mobile banking application, which goes beyond banking and not just to provide transfer services. It is enabling customers to do everything that they could do in a branch via a mobile. We market that aggressively in our banking network, making sure customers adopt mobile banking services that align with their lifestyle. We have seen an explosion in accounts opening and have created 2,000 new jobs."

In January, Diamond Bank became a forum member adviser to the World Economic Forum to push the financial inclusion agenda, particularly with women, and bring them into the formal economy.

Uzoma Dozie, CEO of Diamond Bank, regularly holds talks with entrepreneurs in Nigeria.

> "Diamond Y'ello allows customers to use it as a platform to fulfil their day-to-day needs"
>
> **UZOMA DOZIE, CEO DIAMOND BANK**

In Nigeria, out of 180 million people, nearly half do not have a bank account.

"It's a great platform to communicate to people what we are doing and also to bring more people back into that inclusion space so that the cost of increasing the number of people who are banked is reduced. These kinds of things promote trust. When you have most of the banking industry focusing on inclusiveness and gender parity, it creates momentum, making sure we use technology for the greater good and that people don't fall back into poverty. It is exciting to be part of that mission."

He described the appointment "as testament to the bank's status as one of Nigeria's leading innovators".

"Five years ago, we looked at where the economy was and where it was going and what our future was going to be. We realised that it wasn't going to be in the corporate or public sector. It had to be small businesses with 18 million unbanked customers. You could use technology to acquire new customers in a cost-effective manner. So, we decided to restructure our organisation and take advantage of our network, people and technology.

Dozie himself regularly holds Tech Turks shows where he talks with entrepreneurs that use technology to provide services to small to medium-sized businesses in the sphere of health, education, food and agriculture.

"Fintechs are not what they used to be 10 years ago where solutions were provided by international organisations. Now there are home-bred payment solutions, provided by people under the age of 35. There are lots of applications of technology in different types of businesses to reduce costs and access markets that they would never have reached with traditional non-technological infrastructure.

"I interviewed a man recently who came up with a dry cleaning platform, allowing businesses to access customers which would have been difficult before without an app based platform."

When asked whether Dozie sees Nigeria as a leader for other African countries to follow, he said, "That is the frustration. We are focusing on the challenges that we have in Nigeria. We don't talk enough about accessing technology to change businesses. We need to communicate better about the solutions we have in Nigeria; what we have achieved and how we can scale it. In April, we will be holding a Tech Fest event where all our global partners such as IBM and Microsoft will be coming together alongside our fintech and small businesses to create awareness about the solutions available and to encourage more businesses to come on board." ■

www.diamondbank.com


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Mobile money uptake is far and wide

Barry Mansfield examines the latest developments in mobile money systems across Africa.

Mobile money has proven to be a highly compelling alternative to cash for African consumers. In fact, Africa has emerged as an international leader in this area, with more than 100 million people operating mobile money accounts by 2016. A 2017 Bloomberg report revealed that Kenyans alone had moved a record US$38bn via mobile money platforms over the course of the previous year. The surge in transactions has even forced Telkom Kenya to wind down its main mobile money service in favour of more sophisticated, customer-friendly technology.

Meanwhile, MTN has revealed a plan to increase its African mobile money userbase from the current 21 million to 60 million over the next three or four years. Rob Shutter, the group's chief executive officer, unveiled its blueprint for growth at January's Deloitte Africa in 2018 Outlook conference in South Africa. He said the firm is encouraged by the uptake of its mobile money offering in territories outside the RSA. Shutter describes mobile money as a "core digital service" aimed at leveraging the strength of the brand and distribution.

That is mostly down to MTN's development of a massive informal distribution network for prepaid airtime to bring customers into a transactional banking system. Shutter pointed out that MTN has deployed mobile money across 14 markets and "if we look at our 30-day active users, which is the most important metric, we are growing by half a million customers a month. I think that's pretty cool and today we are sitting at 21 million subscribers. We are a new age transactional banking provider and it's a very big imperative for us, and the key thing we want to do is to scale it rapidly."

Last December saw an announcement from Huawei and Xpress Money, the money transfer brand, that the two companies would be partnering to push mobile money services to Africa's remaining unbanked. The app's main purpose will be to deliver basic banking transactions on smartphones and basic handsets, enabling consumers to make online and offline payments, pay for essential services such as utilities and school fees, and manage financial services, such as loan applications, insurance and banking.

Telkom Kenya says an approval from the Central Bank of Kenya (CBK) is the only hurdle left in its bid to launch its newly-designed mobile money facility. CEO Aldo Mareuse said the company finished trialling its service last December and is now awaiting the CBK nod before launching it. Before it was decommissioned, the Orange Money service had the lowest customer numbers among the three mobile operators, but the plan is to eventually join a scheme where the main telecom firms will pilot interoperability.

Zimbabwe is close to a cashless economy now. The banking sector plans to import another 50,000 point-of-sale machines by April, and NetOne has launched a major campaign to break Econet's near monopoly on mobile money. Other improvements in the pipeline include changes to transaction costs, taxes and finalising the seamless integration of all digital money systems. Solar lamps, which also have the slot for a charging cord, are now also almost ubiquitous – meaning that recharging phone batteries is not a major problem.

In 2017, three of Zambia's major banks launched mobile banking applications to allow their clients 24 hour access to cashless money transfer services. In total, 12 out of 19 commercial banks have fully functional mobile banking applications. Zamtel joined the mobile money bandwagon last year with its Zamtel Kwacha service. Next in line was Zambia Postal Services Corporation (Zampost) and its payment system, Swift cash, which targeted clients in unbanked remote parts of the country and endeavoured to help reduce the risk of shifting large sums of money.

> "We are a new age transactional banking provider"
>
> **ROB SHUTTER, CEO OF MTN**

However, the real game changer in Zambia arrived in 2009 with a tiny startup called Zoona, which targeted adults with limited or no access to formal financial services. The founders created a simple but highly efficient business model which only requires a customer's national identification card, mobile number and a security pin which they personally send to the beneficiary. Within a few minutes, the transaction is complete, and the beneficiary can collect their money from any Zoona booth. The sender pays a small commission ranging from K5 to K250 or more.

A ZICTA survey reveals a spectacular increase in the country's mobile phone subscriber base from 2.6 million in 2007 to 10.9 million in 2015 – mostly due to increased investment in the sub-sector by mobile service providers. These are all potential clients with mobile Internet access. Zoona addresses the stumbling block that not all of them are literate enough to easily handle a sophisticated mobile banking app, or to spend time filling forms and attaching the mandatory compliance documents. The aim is to help customers who urgently need to send money to a parent, child, friend, employee or supplier.

By the end of 2016, around one million customers were using Zoona every 60 days – with more than 1,600 Zoona outlets spread across Zambia and Malawi. Zoona reports that more than US$2 bn worth of mobile money transactions have been processed so far. This intuitive service is notable by its huge social impact; physical bank branches are less packed, and Zoona's clientele is wide-ranging, from upper, middle class urban citizens to the part-time employed, and low income earners. Last May, the company slashed charges by up to 85 per cent, which helped to increase uptake even further. ■

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

ALSF LAUNCHES WORKSHOPS FOR GOVT OFFICIALS

Muhammadu Buhari, President of Nigeria.

The African Legal Support Facility (ALSF) has launched a suite of capacity-building workshops which aim to strengthen the capacity of Nigerian government officials in public-private partnerships, particularly as they relate to infrastructure development.
Organised on the basis of a cost-sharing grant provided by the ALSF to the government of Nigeria, the first training event was designed to demystify the process of identifying and structuring public-private partnership infrastructure projects.
It was co-hosted with the Nigerian Federal Ministry of Finance.
More than 51 government representatives participated in the workshop.

AFRICAN UTILITY WEEK TO FOCUS ON MEETING WATER DEMAND

African Utility Week is going to be held in Cape Town from 15-17 May focusing on partnerships, financial models and latest technological advances that are making major impact in Africa's water demand.

The 18th annual conference is expected to attract more than 7000 decision makers from about 80 countries to discuss the challenges, solutions and successes in the power, energy and water sectors on the continent. “We want utilities to start thinking out of the box on water solutions, capabilities and solutions,” said Gerardt P Viljoen, managing director of Sensus SA.

African Utility Week will attract more than 7,000 decision makers.

THE BIG 5 EXTENDS REACH INTO SOUTH AFRICA

More than 2,500 companies exhibit their construction products and solutions.

The Big 5 has extended its reach into South Africa with the acquisition of four of the country's leading construction exhibitions.
The exhibitions to be acquired include African Construction Expo and Totally Concrete Expo: 16-17 May 2018, Cape Construction Expo: 12-13 September 2018 and KZN Construction Expo: 20-21 February 2019.

The seeds of success in Africa

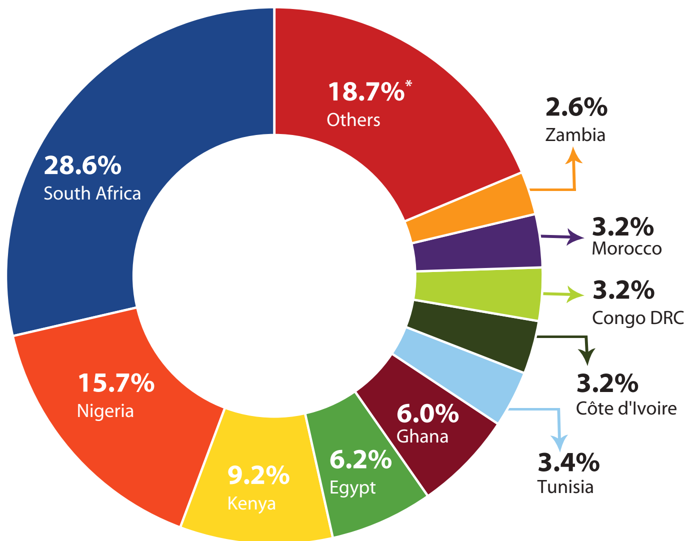
Economist Moin Siddiqi examines the best strategies and challenges private equity investors have to navigate to achieve good returns in Africa.

Private equity (PE) represents a source of working capital, complementing more traditional bank debt and project finance. PE investors offer more than just funds. By injecting risk-capital, they become partners in a firm's growth. It helps unlisted dynamic companies to expand, create jobs and ultimately facilitate growth in their economies. Therefore, PE is a perfect fit for developing Africa.

PE business can be divided into distinct regions: South Africa (the most developed market), North Africa, centred around Egypt, Morocco, and Tunisia; the west African market pivots around Nigeria and Ghana, while the east African market is led by Kenya, but also includes Ethiopia and Tanzania. A Francophone market is steadily developing in Cameroon, Côte d'Ivoire and Senegal. Regional or country-specific PE funds have emerged as a growing asset class driven by economic liberalisation, demographic dynamics and urbanisation coupled with increasing technology-driven productivity, especially in the information and communication technologies (ICT) and banking sectors.

In 2016, a survey of Limited Partners by Emerging Market Private Equity Association (EMPEA) ranked sub-Saharan Africa (SSA) as the fourth most attractive emerging market behind India, Southeast Asia, and South America (excluding Brazil). The African Private Equity and Venture Capital Association (AVCA) reported that PE funds invested US$21.6bn in 833 deals during 2010-15 – targeting mostly fast moving consumer goods (FMCG), banking/finance, industrial and telecoms sectors. The total value of African-PE fundraising between 2010 and first-half 2017 was US$20.5bn. West and South Africa received the largest share of PE deals. East Africa is also gaining ground; it attracted a third of the total deals during January-end June 2017. Both fundraising and investment totals for SSA fell, year-on-year, in 2017, decreasing 25 per cent and 40 per cent, respectively, according to EMPEA – impacted by regional economic slowdown. Kenya replaced Nigeria and South Africa as the number one destination for investment, receiving 21 deals. The most active sectors by volume were consumer staples and financials, while telecoms and materials ranked largest sectors by value during the first half of 2017.

Top 10 African countries by deal volume (per cent) - 2012-2016



***Include mainly Ethiopia, Tanzania, Uganda and Mauritius.**
Source: Emerging Markets Private Equity Association (EMPEA).

PE majors

The arrival of global funds shows investor's appetite for pan-African companies, seeking both scale and diversification of country-risk.
PE funds under management have exceeded US$30bn, according to Boston Consulting Group (BCG). Among some prominent groups are:

- London-based Helios Investment Partners, which operates a diversified portfolio in 25 countries worth US$3bn. It also manages the US$110mn Modern Africa Fund on behalf of foreign entities, including US Government's Overseas Private Investment Corporation. This year, Helios supported by GE Ventures has led the largest venture capital raising (US55mn) to provide off-grid power in West Africa.
- Carlyle Sub-Sahran African Fund raised US$698mn for strategic minority investments, of which
two-thirds were invested across nine deals. Operating from offices in Johannesburg and Lagos, Carlyle targets FMCG, financials, ITC, agribusinesses and energy deals in South Africa, Nigeria, Kenya, Tanzania, Ghana, Mozambique, Botswana, Zambia and Uganda. It recently invested US$100mn in CMC Networks, a pan-African network connectivity provider and completed leveraged buyout (LBO) of Royal Dutch Shell onshore assets in Gabon.
- Helios Towers Africa – supported by George Soros Fund Management – is a private-held firm operating in the wireless communications industry. In January 2015, it raised the largest ever equity fund (US$1bn) to buy regional telecoms providers. The UK-based company is engaged in buying telecommunication towers held by single operators and leasing them back to the seller and multiple other operators simultaneously. Its main focus is Ghana, Congo (DRC), Tanzania and Nigeria.
- Black Rhino (owned by US Blackstone Group) focuses on the development and acquisitions of infrastructure projects across Africa. It has invested more than US$2bn mostly in Nigeria, Ethiopia, Mozambique and Togo. Dangote Industries and Black Rhino have agreed to jointly invest US$5bn over the medium-term across SSA with a particular emphasis on power, transmission and pipeline projects.
- Emerging Capital Partners (ECP) is a Pan-African PE-firm with a portfolio of 60-plus investments (worth US$2.7bn) across 40 countries and has realised nearly 40 full exits. It specialises in seed, start-up, venture, growth capital, development, bridge financings, buyout and recapitalisation in mid-cap markets. The firm

also makes mezzanine investments (subordinated debt).

- Actis Capital (UK), founded in 2004, has invested over US$5.5bn in 70 African companies, of which 50 have been exited. Its third Africa Real Estate Fund-3 (2015) still remains SSA's biggest fundraising that targets prime retail, office and industrial developments in eight countries (excluding South Africa).
- The Dubai-based Abraaj Group with reported investment of US$3.2bn in more than 80 mid-cap companies over the last two decades.

Best strategies

PE flows raise business standards and create a pool for talent as more investment banks and institutional investors establish a local presence. Investors usually have a long-term perspective aimed at 'value-creation' by driving operational advances, providing technical know-how and networks. Fund managers include Africa as part of a risk-diversification strategy. To succeed, PE managers require local insight and strong-sector knowledge.

"The key to success in the African market is execution. Investing at the right price is important, but what also matters is having the right management team on the ground. Discipline and following a strategy is vital. Getting the exit right, including the timing, is also essential," said Runa Alam, chief executive DPI.

To generate higher returns, funds should pursue more flexible investment strategies and new types of corporate targets, advised BCG in its 2016 report 'Why Africa Remains Ripe for Private Equity'. Most funds adopt a similar type of deal structure – investing only in minority stakes with a view to better managing their risks by leveraging strong local partners. Furthermore, they overwhelmingly target businesses with an annual turnover of US$100mn plus and proven track records. BCG recommends PE investors to consider other approaches such as majority stakes and strategic partnerships as well as investing in new vibrant smaller companies.

Building local capabilities that add value to companies can over time generate healthy profits. According to AVCA, most PE managers reported returns of 2.5 to three times on their investments in Africa. This is comparable to returns prevailing in Asian markets but exceeds the average 1.9 in Europe and US. However, with increasing volumes chasing limited opportunities, entry values for larger attractive assets have increased in recent years. "As prices for stakes in large African companies rise, it will become more difficult for PE funds to deliver high returns," noted BCG.

Business strategies of African-focused PE funds are distinct from other parts of the world. Most hold investments for longer than in developed markets and using less debt, while some invest in small-medium sized enterprises to nurture them to a size viable for large trade buyers.

Operational challenges

Overall, there are obstacles to private investments in Africa: political, currency, commodity prices, capital assess and execution risks. According to AVCA, 60 per cent of Limited Partners cite currency risk as the biggest challenge when investing in African PE.

Complex and fragmented regulation constitutes as a barrier for businesses looking for an exit by way of a public offering (IPO). With the exception of South Africa, Nigeria and Kenya, underdeveloped and illiquid capital markets characterize SSA. However, a nascent (but growing) secondary PE market has facilitated some trade sales in recent years. ■

Peugeot Automobile Nigeria is back in the game

After suffering losses during the 1970s and 1980s, Peugeot Automobile Nigeria, (PAN), is returning to its leadership role in providing Nigerians with reliable cars. Iliya Kure reports.

There was excitement at the event centre Lagos in January when Peugeot Automobile Nigeria (PAN) Ltd unveiled one of its latest models, the 3008 Sport Utility Vehicle (SUV) into the Nigerian market.

The excitement may not be unconnected with the fact that PAN, a leading manufacturer of cars in the country is gradually regaining its strength, having suffered losses, it had in the 1970s and 1980s flooded the Nigerian market with its brands including 304, 404, 504 and 505. In the 1990s and 2000s the company produced and supplied among others 206, 207, 406 and 605 models.

The company is currently producing and supplying the brands of 301, 508, 4008, and 3008 among others.

Presenting the new Peugeot 3008, the chief executive officer of PAN, Ibrahim Boyi said the car has already won 35 global awards, including the prestigious European Car of the Year Award 2017.

"In the UK alone, it has won an impressive array of automotive accolades, including those for Auto Express magazine and, most recently, Best SUV 2018 in the Carbuyer Car of the Year Awards. The 3008 SUV has impressed many awards panels around the world thanks to its dynamic qualities, stylish exterior, equipment, interior design and its innovative Peugeot i-Cockpit®."

Image Credit: Peugeot

Ibrahim Boyi, chief executive officer of PAN, said the new Peugeot 3008 has already won 35 global awards.

In December, the Peugeot 301 Model had retained its position as 2017 Nigerian Car of the Year, awarded by Nigeria Auto Journalists Association (NAJA), beating Nissan Almera and Kia Rio.

NAJA also named PAN's plant as 2017 Car Plant of the year.

Unveiling the 3008 Model, chairman board of directors of PAN, Munir Ja'afaru, expressed delight that the company is returning to its leadership role of providing Nigerians with durable cars.

"The vehicle is lighter, yet more agile and responsive than previous generation models. This further disproves the common notion that higher displaced engines are more suitable for SUVs.

Boasting about the 3008 model, he said, "Its sleek exterior, futuristic cabin and several unorthodox features take it on a journey to explore unchartered territories of the Sport Utility Vehicle (SUV) segment.

"Combining style, athleticism, and efficiency, the Peugeot 3008 SUV fits the exacting needs of the premium segment in the country, providing the best of all worlds to both drivers and passengers alike.

Emerging through turbulent waters

PAN was founded in 1972. Its assembly plant and headquarters are

> "By 2050 Nigeria will be producing four million cars annually"
>
> **BENJAMIN MAIGARI, LOCAL**

located in Kaduna, northern Nigeria.

At its peak, the company produced 90,000 vehicles annually, exporting to markets in West and Central Africa. More than 4,000 workers were directly employed. Sixty per cent of raw materials were derived from Nigeria, empowering more than 7,000 people.

The company got caught up in the web of government policies. It was privatised in 2016 and handed over to one of its leading dealers, ASD Motors, who paid US$32mn.

The company suffered losses, its revenues declined from N30bn in 2007 (about US$200mn) to less than N2bn (about US$12.5mn) in 2013, while sales declined from 12,000 vehicles in 2007 to less than 1,000 vehicles in 2013. Production fell to 200 vehicles per annum.

Worried by the development, Nigerian government in 2012, through the Asset Management Company of Nigeria (AMCON) took over 80 per cent shares of the company.

Image Credit: Peugeot

Peugeot Automobile Nigeria is regaining its strength after suffering losses.

PAN was revived through the 2013 auto policy, which discourages vehicle importation, but tasks companies with establishing assembly and manufacturing plants in Nigeria.

Waxing stronger

Despite the economic downtown in Nigeria, declining value of the naira, difficult access to forex and erosion of infrastructure, the company's record shows it is currently operating at a profit level.

In 2017 alone, its revenue grew by 65 per cent from N3bn (about US$8.33mn) to N5.3bn (about US$14.7 mn), operating profit by 78 per cent, i.e. from N408mn (US$1.13 mn) to N 719mn (about US$2 mn), making it one of the most turnaround firms in Nigeria.

Its market share rose from 2 per cent in 2013 to 12 per cent by 2017 – production increased from 200 cars to 800 within the same period.

Head, corporate communications, Haroun Malami, told African Review that "the company has also revived and expanded its network of dealers from nine in 2007 to its current network of 21 dealers across the country.

He remained optimistic that the local content will improve and the company will go into full scale production, with high input from the local content.

Malami said PAN is partnering with some organisations through a social responsibility programme "to close the existing skills gap in the automobile industry in Nigeria, where PAN will provide a formalised operating structure for the fragmented auto mechanics across the country through training and seed capital.

"The aim is to upgrade the standards of practice to primary automobile service centres, as well as provide job opportunities for economic empowerment."

According to Malami, the company has through its World Class Learning Centre trained more than 1,000 youth, including more than 200 women.

"We have a dynamic leadership, our MD/CEO, Ibrahim Boyi won the Automobile CEO of the year in recognition of his outstanding performance of turning around the fortune of PAN Nigeria Limited," he said.

Nigerians like Benjamin Maigari believe that the ongoing development at PAN will turn around the fortunes of the company and Nigeria as a whole.

"If PAN comes back to its feet again, a lot of Nigerians will benefit. In the past, chairs used by Peugeot were completely produced in this country. The glasses were made in Nigeria, the bumpers were also made here. Isn't this what we call job creation?" he said.

"What government needs to do is to ensure the full implementation of the Auto policy to stop the importation of used cars. Only this can make us progress.

"A projection by PricewaterhouseCoopers (PwC) reveals that if we continue well, by 2050 Nigeria will be producing four million cars annually – that means we should be exporting vehicles to neighbouring countries," he said.

Promising future

In 2016, Nigeria's parliament ordered 360 Peugeot vehicles for its members, in a stand against the practice of importing cars. Chairman of the House Committee on Media and Public Affairs, Abdulrazak Namdas, said, "Peugeot is a local vehicle assembly plant. By patronising them, it is the decision of the House that we will be generating employment and promoting made in Nigeria products. That is the difference.

"Each unit is N10mn (about US$28,000) which is, again, far cheaper compared to when we have to import the cars.

AMCON, the government organ controlling the 80 per cent shares of the company has also gone into campaign for patronage of the company's brands.

Speaking at the 2018 Dealers Convention of the company in Kaduna, head of subsidiaries at AMCON, Ben Daminabo said, "This is the best time for PAN Nigeria Limited to restrategise and move ahead like all other automobile manufactures across the globe. It is our wish that Peugeot will reclaim its pride of place in Nigeria by producing those vehicles that made the brand very popular in those days. We believe the brand has all it takes to dominate the marketplace because the new generation of Peugeot cars are fuel efficient, durable; rugged and built for Nigerian roads.

Aside from these attributes, Peugeot creates thousands of jobs for our teaming population, which is why we all need to support the brand because it is our own." ■

Hansa Heavy Lift transports huge shiploader from Belgium to Angola

Hansa Heavy Lift has transported a huge shiploader, with the largest unit weighing 513 metric tonnes and measuring a total of 65,480 cbm, from Belgium's Antwerp to Angola's Namibe port.

The shiploader was transported aboard HHL Valparaiso alongside other equipment including a reclaimer, an elevator and a tripper car, as well as other accessories, with all cargo being discharged at the port.

"This was a challenging operation that required strong engineering expertise and close cooperation with the customer through all stages of the project, from planning to discharge, in order to ensure a smooth and flawless operation," said Bozidar Ukas, head of offshore, engineering department at Hansa Heavy Lift.

Image Credit: Hansa Heavy Lift

The shiploader aims to execute all operations to perfection.

"Due to the equipment's overall dimensions, with the shiploader measuring 63.5m in length and the reclaimer measuring 57m in length, lifting operations had to be managed meticulously and attention to detail was a must," said the company.

"We used the vessel's cranes to add the shiploader's counterweights for lifting operations and to remove them for the voyage to ensure safe lifting and sailing conditions," the company added.

Hansa Heavy Lift secured the cargo with extra lashing for the long-sea passage due to the potentially adverse weather conditions, and also made sure that ship movement alongside the quay was minimised.

Mobility and power checks were also carried out due to the length of time the equipment spent in storage.

"The Hansa Heavy Lift team handled this project efficiently and with a high degree of professionalism, keeping us involved and informed at every stage of the process," said Luc Rom, Manora Logistics.

IVECO WORKS FOR COMMUNITIES ALL OVER AFRICA

Its presence in IVORY COAST broadens with a record contract for 105 all-range waste collection vehicles.

IVECO

Your partner for sustainable transport

Unstoppable force

Continued investment in developing local assembly capabilities and strengthening distribution networks are testament to Iveco's commitment to bringing an extensive product offering to Africa.

Image Credit: Iveco Bus

In the heavy line, Iveco offers on- and off-road ranges for a variety of missions.

Following the good news of Iveco signing an agreement with its partner, the Moroccan Premium Group, to provide 105 waste management vehicles in the Côte d'Ivoire, Sylvain Blaise from Iveco Bus, catches up with Pierre Lahutte, Brand President Iveco about the company's plans for the region and developments in 2018.

How do you see the market situation in Africa?

PL: 2016 and 2017 have been critical years, mostly due to oil prices and inflation, which have put on hold imports in major markets, such as Algeria, Nigeria and Angola. Other major markets have slowed down because of the ongoing conflicts, which are draining currency away from industrial and construction activities. That said, the market has never really stopped, and countries such as Morocco and Tunisia have continued to grow. In the last months of 2017, with the increase in the price of oil, we have begun to see the first positive signs and we can expect a better trend in 2018.

What are the main values of Iveco in Africa?

PL: First of all, we have the widest offer in the market, which ranges from light commercial vehicles to heavy trucks and personalised solutions. We are able to meet the specific requirements of transport operators in a wide variety of industries.

Even better, we have multi-award winning products in every single segment of our offering, and this is an invaluable guarantee of performance and quality for our customers.

In the Light Commercial Vehicle segment we offer the Daily, which has been recently been crowned International Van of the Year 2018 – and this is just the latest in a long string of awards won by this product family.

In the medium range, the Eurocargo, which won the title of Truck of the Year 2016, is known as the truck the city likes and the ideal partner in urban missions, thanks to the advanced features that optimise efficiency, manoeuvrability and sustainability.

In the heavy line, we offer both on- and off-road ranges covering a wide variety of missions: the Stralis, which includes models designed for missions ranging from regional to international long-haul transport; the Trakker range for the quarry and construction industries, and the Astra HD9 covering the heavy off-road missions in caves and mining.

Iveco has deep roots that date back to more than 150 years ago and bring together some of the most important brands that have made the history of transport in Europe. These brands include Fiat (Italy), UNIC (France), Magirus (Germany) and Pegaso (Spain) – brands which have a strong reputation in Africa, where they have built a

Pierre Lahutte, Brand President Iveco.

well-established presence over the years, giving Iveco a unique heritage across the continent. Our long-term commitment to Africa, which dates back to the beginning of industrialisation in the region, has enabled us to create the widespread network of professional dealers we have today to support our customers in most African countries.

However, we are constantly working on further strengthening our network and ensuring we have the facilities we need to match the evolving requirements of the

markets. Most recently, we established a new partnership with the Moroccan Premium Group to serve the West African markets, and we appointed a new dealer in Kenya. We are also installing assembly plants in several parts of the continent to be closer to our customers. We assemble right-hand drive vehicles and buses with our South African joint venture to serve the sub-Saharan countries that require this type of vehicle. Last year we opened new plants with local partners in Tunisia, Algeria and Kenya, and this year we will start an assembly plant in Ethiopia with our joint venture partner.

What are the most significant moments for Iveco in 2018?

PL: In 2018 we will launch the Stralis X-WAY. It is a truck that combines the on-road excellence of the Stralis together with the legendary off-road robustness of the Trakker. This will be the key moment of the year combined with widespread local action at the start of a local assembly plant in Ethiopia and an extension of a Eurocargo assembly plant in Algeria.

Can you give us further examples of your commitment to the region?

PL: Our continued investments in developing our local assembly capabilities and, very importantly, in strengthening our distribution network are testament to our commitment to the region. They enable us to bring customers across Africa all the benefits of our extensive product offering, together with the effective support we provide in partnership with our dealer network. And the markets recognize our commitment and the quality of our offer, as shown by the important contracts we close in the region.

The most recent contracts are the two major supply agreements in Côte d'Ivoire. The first one is to provide 105 units consisting of 30 light duty Daily vehicles, 21 medium duty Eurocargo trucks and 54 heavy-duty Trakker trucks. The vehicles, which will be supported by our partner Premium Group, are destined for waste management operations in the city of Abidjan and surrounding areas, serving a population of some 1.7 million.

The second supply agreement is for the delivery of 450 Iveco buses to the public transport provider for the city of Abidjan. Iveco Bus will provide 400 Crossway Low Entry buses and 50 Crealis city buses powered by Compressed Natural Gas (CNG) engines.

Designed for heavy traffic routes, the High Quality Mass Transit Bus System that Crealis provides improved service and comfort to passengers in a modern and welcoming interior. The main objective of this transport system is to encourage mobility and modal shift, while optimising costs. A Crealis line is less expensive than a tram line with equal passenger capacity, because it is faster to implement. Furthermore, this transport system is subject to an easy deployment and progressive development regarding budget and project phases. In addition, Crealis has been developed with accessibility for everyone in mind, with one-step access and an all-flat floor that facilitates a better flow of passengers entering and exiting the vehicle and improves accessibility for persons with reduced mobility.

This second agreement is also testament to Iveco's commitment to sustainability, and in particular to supporting the transition to natural gas as an alternative fuel in transport. In fact, Iveco was the first manufacturer in the industry to understand the potential of natural gas as a sustainable fuel and we have pioneered this technology for more than 20 years. We believe that the transport industry has a role to play in the fight against climate change and greenhouse gas emissions. Natural gas has proven to be a mature solution that is available today at mass-market level, providing a bridge to zero-emission mobility, and we are at the forefront of this alternative traction technology. In fact, Iveco is the first to offer a full range of natural gas models, from light vehicles to heavy vehicles and buses, ready to support transport operators and municipalities as their partner for sustainable transport.

Africa has large natural gas resources that can be harnessed to develop sustainable transport systems, bringing all the benefits of this technology to its cities and transport operators. Compressed Natural Gas offers an immediate solution to reduce the environmental impact of their activities in countries where emission standards are much less stringent than in regions such as Europe. In fact, the quality of diesel in many African countries hinders the use of engine technologies in categories above Euro 3, with a consequent impact on the environment. This issue does not apply to CNG technology, because the quality of natural gas is similar in all African countries, so all countries can enjoy the full benefits of this solution: low noise levels, high efficiency and low CO_2 emissions. In fact, CNG is generally methane, which produces more energy than other hydrocarbon fuels due to its relatively high hydrogen content and lower CO_2 emissions because of its low carbon content. These are the benefits that Abidjan will enjoy with the Iveco Bus CNG-powered Crealis. ■

Iveco signs an agreement with partner, Moroccan Premium Group, to supply 105 waste management vehicles.

Image Credit: Iveco Bus

E-commerce fuels logistics innovation

Nairobi's state-of-the-art logistics centre draws new e-commerce operator.

Image Credit: ALP

Copia is impressed with ALP's new warehousing complex in Nairobi.

Fast-growing Kenya-based e-commerce retailer Copia has been won over by new state-of-the-art logistics facilities in Nairobi. The company has just signed a long-term lease for nearly 4,500 sq m space at Africa Logistics Properties (ALP) North Logistics Warehousing Complex.

The e-commerce retailer specialises in supplying consumers in rural and peri-urban Kenya but hopes to expand its offering across the wider region. Copia's chief executive Tim Steel said the company's business entails "a complex and challenging" supply chain, hence its move into the new warehousing site.

"The facility is ideally located for us and our suppliers and perfectly suited for us to reliably meet the daily delivery needs of our customers. It'll allow us to continue our rapid growth in using e-commerce to supply previously underserved communities."

It is also a big vote of confidence for the new ultra modern warehousing complex scheme, promoted by developer ALP.

The company is building Kenya's first international standard grade-A logistics warehousing on two separate sites around the nation's capital.

ALP North is a 50,000 sq m logistics and distribution hub at Tatu Industrial Park in northern Nairobi due for completion in September.

A second project, ALP West, is also now in development, with the building of the road infrastructure on its 49-acre site on the A104 highway to Limuru. Here, there are plans for a 100,000 sq m logistics and distribution warehousing complex.

Copia's ALP North lease will enable it to operate from ALP's 12m high warehousing and to benefit from the highest pallet densities in the market and therefore the lowest pallet storage costs per square metre.

It means running thousands of deliveries a day from the e-commerce company's new central distribution hub to its agent network across the regions. ALP has already leased 14,000 sqm of its Phase 1 warehousing to freight forwarders.

Its chief executive, Toby Selman, said the new service was 'disrupting' the traditional local warehousing market. ■

GE lands Afam power services contract

GE's Power Services division has signed a multi-year service agreement with oil giant Shell Petroleum Development Company (SPDC) for its 650MW Afam VI combined cycle power plant, located in south-eastern Nigeria.

SPDC and its partners in the joint venture, built the Afam plant to help meet Nigeria's electricity needs. The plant provides enough electricity to power more than three million Nigerian homes at peak performance.

GE said with the new service agreement, it will improve power availability, reliability and output at the site, while decreasing its operational costs.

"At optimal performance, the Afam VI plant can provide up to 15 per cent of the total national grid-connected electricity – this agreement will ensure we reach this performance objective and deliver much needed power to the national grid," said Dr Philip Mshelbila, SPDC's general manager, gas. "Since its commissioning in 2008, the Afam VI Power Plant has delivered more than 25.97 million megawatt-hour (MWh) of electricity into the Nigerian market and won an award by the United Nations for reducing carbon emissions through environment-friendly operations," he added.

The agreement will cover planned maintenance for the three existing GE GT13E2 gas turbines as well as one GE steam turbine. In addition, the order includes GE's MXL2 upgrades to help increase the plant capacity by up to 30MW while increasing its efficiency.

"We have a long history of collaboration with Shell Petroleum, which has the largest footprint of all the international oil and gas companies operating in Nigeria, having supported the plant operations on power generation since its inception in 2008," said Elisee Sezan, general manager of GE's Power Services business for sub-Saharan Africa. "With this latest agreement, we are working to bring improved performance and enhanced efficiency to their operations."

In addition to increasing power output by up to 30MW, upgrades on the turbines are expected to deliver a combined-cycle efficiency increase, resulting in significant fuel savings and reduced CO_2 emissions. GE's solutions will also extend inspection intervals for the gas turbines reducing maintenance and repair expenses, which, in turn, will reduce overall plant costs and result in improving profitability.

SPDC is a joint venture between Shell and the government-owned Nigerian National Petroleum Corporation (NNPC), alongside other international oil companies Total and ENI.

Image Credit: GE

The Afam plant will help meet Nigeria's electricity needs.

MOZAMBIQUE PRE-PAID SOLAR MINI-GRID MOU

Germany's CRONIMET Mining Power Solutions GmbH and local partner MOSTE have signed a Memorandum of Understanding (MoU) with FUNAE, a public institution in Mozambique promoting rural energy access, to develop the country's largest pre-paid solar mini-grid on Chiloane Island in Sofala Province.

The solar mini-grid will be the country's first privately developed and financed mini-grid, and is expected to generate up to 200kWp of solar power that will electrify the island's households, public institutions, commercial enterprises and water pumps.

"We're excited to implement this electrification project on Chiloane Island," said David Robinson, head of business development for CRONIMET. "It will provide reliable, 24-hour clean energy access to the community. This mini-grid will be transformative for the island's residents and will serve as a scalable rural electrification model for Mozambique, where more than 18 million people have no access to electricity."

Robinson recently visited Chiloane Island with Joaquim Macanguisse, head of FUNAE's Beira office, to conduct a preliminary demand assessment and to meet local community members.

The island is located in the East Indian Ocean approximately one kilometre from mainland Mozambique and has an estimated population of 3,000 inhabitants. Having no access to energy so far, residents rely primarily on car batteries to meet energy requirements. The lack of electricity means local fishermen cannot produce their own ice to cool their catch sufficiently to be able to bring it to the point of sale.

With the solar mini-grid, island residents will be able to produce their own ice.

UGANDA SOLAR ENERGY PARTNERSHIP

The UK's Department for International Development and the United Nations Capital Development Fund in Uganda have teamed up for a new solar power initiative.

The partnership will provided assistance to the Uganda Solar Energy Association (USEA).

"A well-functioning USEA will lead to an increase in the number, performance and investment in solar home system companies," said Jennie Barugh, head of DFID Uganda. "Combined with other initiatives of the 'On and Off-Grid Small Scale Renewable Energy in Uganda' project, this work will contribute to improved clean energy access for more than 200,000 households and businesses."

Baudouin celebrates 100-year anniversary

Baudouin factory as it is today.

Image Credit: Moteurs Baudouin

In 2018, Moteurs Baudouin is celebrating a very special milestone: its 100-year anniversary.

From humble beginnings making petrol engines for fishing boats, it has grown into a leading force in the marine industry, globally recognised for its reliable and efficient engine and power generation products, with a strong footprint in Africa.

In 1918, Charles Baudouin set to work creating his first 5hp engine, constructed just a few metres from the Mediterranean Sea, in a small metal foundry in Marseille, France.

And in the 10 decades since, the engines have become cutting edge, and the customer base has grown to include a variety of applications both at sea and on land. But one thing remains: marine is in Baudouin's DNA.

This marine heritage lies at the heart of Baudouin's success. When used in power generation applications, customers are assured that every Baudouin product is crafted to the same exacting standards demanded of the harsh ocean-going environment: durable, robust, and built to last.

This is evident in the company's comprehensive range of engines and generators. This includes the tough M26.2 series, and the latest M26.3 common rail engine range which extended marine power to 1650hp while offering unmatched continuous power to weight ratio and noise reduction technology.

In 2017, Baudouin launched their innovative PowerKit range of engines for power generation applications. Using the same design philosophy of the marine engines, every PowerKit product includes the engine, cooling system and air cleaner, with a choice of outputs spanning 15 to 2000 kVA for both 50 and 60 Hz applications.

In addition to high-end components and engineering excellence, every PowerKit product is backed by one of the best warranty programs on the market: two years and unlimited hours for prime power applications, and four years for standby power applications.

Baudouin also delivers some of the longest intervals between servicing and overhauls in the industry. This, combined with excellent fuel economy, gives their engines one of the best and most competitive 'total cost of ownership'. Yet another reason clients all over the world trust Baudouin to stay up and running, whatever their power needs.

"As we enter a new century in Baudouin's history, durability, reliability and clean power remain our key focus areas," said Fabrizio Mozzi, the company's President and managing director.

"Our completely new and extended product range meets the most stringent customer requirements, allowing us to access the majority of global markets and applications. We have never been better equipped to power our clients' success, as we look to the next 100 years of excellence in the engine industry."

A nuclear future for Africa

South Africa remains the only country in Africa generating nuclear power. That nuclear solitude is set to change, as more than 10 other African nations develop what are already well-advanced nuclear ambitions.

The Koeberg plant continues to produce the continent's only nuclear-generated power.

Image Credit: Eskom

The only country in Africa with a commercial nuclear plant is South Africa, and its output delivers some five per cent of the nation's power. The country's active nuclear power programme sees a variety of endemic and foreign stakeholders all vying for position on ambitions aimed at having more plants running by 2030. At the same time, other countries such as Nigeria are potential collaborators with Rosatom, while the likes of Algeria, Egypt, Ghana, Kenya, Libya, Morocco, Namibia, Nigeria, Senegal, Sudan, Tunisia are considering nuclear to produce their power needs with a range of potential collaborators and ways forward on the cards.

> "Koeberg is the company's most reliable power station"
>
> **ESKOM**

South Africa leads the way

In October last year, it was announced that South Africa power generation giant, Eskom, had been granted environmental approval by the Department of Environmental Affairs (DEA) to develop a new nuclear plant at Duynefontein – the Nuclear-1 Power Station and associated infrastructure – adjacent to its existing Koeberg power station in the Western Cape.

Dave Nicolls, Eskom's chief nuclear officer, said that the authorisation by the DEA on the Final Environmental Impact Report for the Nuclear-1 Power Station and associated infrastructure had been welcomed as an important milestone in the development process of South Africa's ongoing nuclear programme. These sentiments were echoed by the managing director for the Nuclear Industry Association of South Africa (NIASA), who said that the approval was an important step in the right direction for the future of nuclear power in South Africa.

The Duynefontein site was selected over four other potential sites.

Meanwhile, Eskom's Koeberg plant in the Western Cape continues to produce the continent's only nuclear-generated power. Building Koeberg at Duynefontein began in 1976 and output began in 1984, with full production by mid-1985. The plant is situated on a 3,000 ha nature reserve owned by Eskom, (one that contains more than 150 different species of birds and half a dozen small mammal species), and is located 30 km north of Cape Town near Melkbosstrand on the west coast. The plant's two pressurised water reactors form the cornerstone of the country's nuclear programme. The reactors, designed by Framatome in France, supply the national grid allowing any over-capacity to be redistributed to other regions in the country as and when needed.

The plant is a 1,860MW-rated facility with two large 970MW turbine generators, and its reactors use enriched uranium dioxide pellets containing gadolinium as fuel stock. Koeberg's average annual power output is 13,668GWh. The earthquake-resistant plant is the only provider of grid power to Cape

Town and was designed to eliminate the need for existing smaller fossil-fuel stations to continue operating. The reactors are cooled by cold water from the Atlantic Ocean and the plant's low and intermediate-level waste is disposed of at a rural disposal site in the Kalahari Desert at Vaalputs, 600 km away. High-level spent fuel is stored on site in special pools equipped with high-density racking.

The station operates on three separate water, or coolant, systems as opposed to other types of nuclear reactors where gas is used as the coolant. Using three separate systems is important as it ensures the water in the reactor, which is radioactive but is in a closed system, does not come into contact with the other two systems, thereby avoiding contamination. Eskom says that Koeberg ranks among the safest of the world's top ranking pressurised water reactors of its vintage and is the company's most reliable power station.

The company sees nuclear power as the vital to delivering reliable baseload supplies across South Africa in the future. These must be increased over the coming 20-30 years to meet demands and with gas and hydro options not viable and coal now environmentally on the back burner, the 'cleanness' of nuclear and its relative cost effectiveness make it the prime contender in Eskom's view to supply future needs.

The Koeberg plant's two pressurised water reactors form the cornerstone of the country's nuclear programme.

Image Credit: Eskom

Elsewhere in Africa

As South Africa moves onwards with its nuclear programme, elsewhere in Africa, embryonic and not-so-embryonic nuclear ambitions are gathering steam. In Nigeria, Russia's Rosatom has signed a deal to build two nuclear power plants, with the Nigerian Government hoping it will mark the beginning of the end of its painful years of power crises. The two parties have been in discussions since 2009. One of the facilities will be built in the south and the other in the country's central region. Construction is expected to begin before 2020. Rosatom is understood to have been in discussions in Ghana and also South Africa on involvement in respective nuclear plants though an agreement in 2016 to build a plant in South Africa was, at that time, ruled unlawful by the government.

As for other countries, the World Nuclear Association has said that 12 nations (including Nigeria) have been seriously considering nuclear as a way forward in recent years. Algeria, Egypt, Ghana, Kenya, Libya, Morocco, Namibia, Nigeria, Senegal, Sudan, Tunisia, and Uganda have all developed and discussed plans, with some already moving ahead, while others have stalled.

Footnote to a nuclear future

With widespread inability to generate enough electricity to meet the needs of its people, the drive for Africa and various nations towards nuclear as a way out, though contentious, makes much sense. And while the word 'renewables' will no doubt be on the tips of many people's tongues as the more responsible and sustainable way forward, whatever the solution, bringing reliable electricity to some 600 million people currently without it across the continent will no doubt be welcomed, no matter how it is generated. ■

By Tim Guest

OPIC VP says financial commitment will continue

The ContourGlobal power plant in Togo.

In the last 15 years, OPIC's long standing commitment in Africa has grown from US$2bn to US$7bn.

David Bohigian, the executive vice president of Overseas Private Investment Corporation (OPIC), the US government's development finance institution, said the continent remained a place of investment and opportunity for the Trump administration and business leaders from the both the US and across the world.

Speaking at a press conference on 30 January following a visit to sub-Saharan Africa, where he saw firsthand how OPIC-supported projects in the health, energy and housing sector were impacting societies.

He said, "I work with OPIC, which has been helping emerging markets in developing countries around the world for almost 50 years so that they can have a stability at the societal level, country level and family level.

"We have a long-standing commitment to Africa and its people. OPIC works across political risk insurance, private equity, project finance and has a global portfolio worth US$23bn. About US$7bn of which is in Africa and over US$5bn over the last 15 years.

"We look to operate in markets to help those countries to develop by investing in these markets. We are encouraged by the potential Africa has shown: strong economic growth, amazing demographics, and the reforms being adopted to improve the business climate are helping innovation throughout the continent."

Bohigian led a OPIC delegation to visit an affordable housing project in Ghana, an innovative eye care clinic in Cameroon, which aims to perform 18,000 cataracts to help cure blindness, and a thermal power plant in Togo.

> "This power plant has tripled the amount of power available in Togo"
>
> **DAVID BOHIGIAN, EXECUTIVE VICE PRESIDENT OF OPIC**

He said, "We met the prime minister of Togo, Komi Sélom Klassou, and the OPIC-supported power plant. The ContourGlobal power plant has tripled the amount of power available in Togo. OPIC supported that through financing and offering political risk insurance. The plant has reduced blackouts and has had a multiplier affect across the economy."

When African Review asked in what way was OPIC going to provide significant investment in Africa's electricity sector to secure the region's economic development over the coming years, he said, "OPIC has a long-standing commitment in Africa. Our portfolio has grown from US$US2bn to US$7bn in the last 15 years. In 2017 alone, OPIC committed more than US$600mn to Africa across more than 20 projects and supports multiple initiatives from Feed The Future to Power Africa.

"Power Africa is something that we will continue to build on which has been designed to double the access to electricity in SSA. We are looking across a range of all power types including full spectrum energy. As a participant in the president's advisory council of doing business in Africa, this administration and business leaders are also seeing opportunities there. I think OPIC's signal is important that Africa is a place for investment and opportunity, and as people look to growth opportunities in the 21st century, the countries that I visited such as Ghana, Togo and Cameroon represent that."

David Bohigian was appointed by President Donald Trump as the executive vice president of OPIC and joined the agency in August 2017. Prior to joining OPIC, he served as the managing director of Pluribus Ventures where he advised financial services firms and growth companies. ■

M&C Zambia offers in-house 12-ton dynamic balancing service

The largest balancing machine in Zambia was successfully commissioned at Marthinusen & Coutts' Zambian operation in Kitwe. The fully upgraded 12 ton Schenck machine is capable of balancing rotors up to 12 tons at operating speeds up to 3300 r/min, 5.5 metre in length and with diameters of up to 2.2 metres.

Careful planning and execution by Marthinusen & Coutts, a division of ACTOM, ensured that the machine was successfully installed, calibrated and commissioned. The local M&C team received training to ensure optimum operation of the machine.

The largest balancing machine in Zambia was successfully commissioned at Marthinusen & Coutts' Zambian operation in Kitwe.

The in-house ability to precision balance rotors to very high accuracy is a valuable service to customers in the region, and it will no longer be necessary to transport large components across border to South Africa for this work to be done. This local dynamic balancing service also expedites the repair process, reducing delivery time, and avoiding the risks associated with long distance transportation. All this translates into a bottom line cost reduction for customers because of the quicker turnaround times.

The service will prove to be invaluable to customers and OEM's operating in the Copperbelt region, and underpins Marthinusen & Coutts Zambia's position as the leading electro-mechanical repair facility in the region.

Over a period of four years Marthinusen & Coutts Zambia has successfully upgraded its test facilities which can now accommodate AC and DC motors. The facility boasts a temperature-controlled burnout oven, curing ovens and vacuum pressure impregnation (VPI) tank. Furthermore, winding verification ensures that stators and rotors are wound to international and OEM specifications. Further upgrades have also been implemented to the mechanical repair shop, which also offers machining, milling and submerged arc welding. ■

Diehl Metering's IoT Solutions: Smart cities and industries

Developing a future-proof industrial model, accompanying the sustainable cities of tomorrow, digitising network management processes: these are just some of the new challenges taken up by Diehl Metering.

Access the Internet of Things with Diehl Metering

As a provider of smart solutions, Diehl Metering accompanies water and energy providers, local authorities and industry in the management of their natural resources. Thanks to its IZAR radio technology developed over twenty years ago, connecting metering equipment and consumption management devices is nothing new for the Diehl Metering group. The Internet of Things (IoT) – a smart network of devices – is currently playing its part in the digitisation of infrastructures to the full. With more than 35 million active connection points (hubs) throughout the world, and thanks to its constant innovation, Diehl Metering can provide complete IoT solutions for smart metering «IoT4metering».

Diehl Metering accompanies water and energy providers, local authorities and industry in the management of their natural resources.

Smart metering for smart cities and industries

In addition to smart park assist, waste collection and public lighting systems, smart metering is a part of the smart city equipment and plays a major role in the digitisation of smart industry processes. Diehl Metering system solutions use the independent and interoperable Open Metering System (OMS) communication protocol. This makes it possible to digitise resource management processes for all types of application. A complete IoT infrastructure including analytics software, in particular with IZAR@NET 2 and IZAR PLUS PORTAL, ensures optimum network performance.

For more information visit www.diehl.com/metering or info-dmfr@diehl.com

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Lekki deep sea port construction gets underway

Image Credit: donvictori0/Adobe Stock

The US$1.bn port will have the capacity to serve large container vessels.

Building work on Nigeria's keenly awaited Lekki Deep Sea Port has finally commenced with the construction of the main breakwater at the port, located at the Lagos Free Trade Zone (LFTZ).
It is hoped that the Gulf of Guinea port, which will cost around US$1.5bn, will eventually serve as a regional gateway for containerised, dry and liquid bulk cargo vessels.

China Harbour Engineering Company Limited (CHEC) – the engineering and construction arm of China Construction and Communication Company (CCCC) – is the engineering, procurement and construction (EPC) contractor for the project, through local affiliate, China Harbour Engineering LFTZ Enterprise.

Louis Berger Group, USA, one of the world's largest multi-disciplinary infrastructure consulting firms, is the project management consultant in charge of supervising the construction of the project.

According to senior management at promoter Lekki Port LFTZ Enterprise (LPLE), which is fronted by Singaporean logistics experts, the Tolaram Group, the breakwater construction is one of the largest components of the overall port development.

"The responsibilities of CHEC includes the overall design of Lekki Port, construction of the marine and landside infrastructure for the terminals and utilities, and dredging of access channel and port basin, while Louis Berger is responsible for contract management, design review and supervision of the construction work," said Steven Heukelom, general manager, projects, of LPLE.

The construction of Lekki port is one of Nigeria's flagship new infrastructure projects, and is being financed by a variety of sponsors including the African Development Bank.

Upon completion, the port will be one of the deepest in West Africa, with 16.5-metre water depth, and one of the most modern, efficient ports on the continent. It is hoped that the capacity to berth larger vessels will position Lagos as a trans-shipment hub for the whole region.

When completed, the 90-hectare port will boast a 1,500-metre breakwater and quayside, complete with cargo-handling cranes and other equipment, as well as a 6 km long approach channel.

Lekki will have the capacity to serve container vessels of up to 8,000 twenty-foot equivalent units (TEUs) .

LAGOS WOODEN TOWER INSPIRES INNOVATION

Hermann Kamte, young Cameroonian architect and the founder of company Hermann Kamte & Associates (HKA), is the driving force behind the famous sketch of Lagos Wooden Tower.

Originally designed as a submission for Metsä Wood's City Above the City competition, Kamte's design looks to tackle the problem of poorly planned construction in many African cities by pushing the boundaries of contemporary architecture.

In the City Above the City competition, participants were invited to suggest solutions for new housing on top of existing urban buildings, using Metsä Wood's Kerto laminated veneer lumber as the material.

Kamte's design used Kerto LVL to construct an 87-metre high tower on top of an existing concrete building in the heart of Lagos. Mixed residential spaces, separated by open floors featuring sky gardens and amenities, are shaded and ventilated by a stylised wooden envelope using symbols that reflect Nigerian Yoruba heritage.

According to Metsä Wood, a Finnish based wood products groups, the Lagos design project highlighted the potential of wood construction in Africa.

"Seeing wood as a valuable and sustainable resource could benefit African society at large, but right now, for African designers and builders, concrete and bricks are far easier to obtain and a lot cheaper than wooden construction products," it said, according to a statement.

"However, there is still potential for this to change. As we raise the profile of timber-based architecture, the demand will grow and wooden building solutions will become cheaper and more accessible."

It said that engineered wood products such as Kerto LVL create new possibilities for fast, light and green construction.
"We need to build efficiently," it added.

BRIEFS

Air Liquide launched production at the world's largest oxygen production unit for Sasol.

Secunda oxygen plant completed

Air Liquide launched production at the world's largest oxygen production unit for energy and chemicals producer Sasol in South Africa.
The industrial gases company invested around €200mn in the construction of the Air Separation Unit in Secunda, with a total capacity of 5,000 tonnes of oxygen per day.
The new facility was completed in less than three years from design to commissioning.

Image Credit: niroworld/Adobe Stock

Discussions were on railways, ports, roads and mining infrastructure.

Ghana infrastructure visit

Fifteen of the UK's top infrastructure companies took part in a forum in Ghana during February to sharpen proposals on how they can deliver flagship projects, visiting sites in Takoradi, Tarkwa, and Tema.
Central to the discussions were railways, ports, roads and mining infrastructure. Ghana's economy has received a massive windfall in recent years following the start up of oil and gas production offshore, and with more to come.

Construction and mining show time

The industry's finest will gather at the bauma Conexpo Africa trade event this month, a showcase for all the latest technology and equipment.

Africa's construction elite and visitors from around the world are expected to descend on Johannesburg for the bauma Conexpo Africa trade event.

The show gives exhibitors and guests the chance to understand the trends and forces shaping today's industry and to learn about new opportunities.

It offers a showcase of the very latest industry technologies in construction machinery, building material machines, mining machines and construction vehicles.

bauma Conexpo Africa displays the very latest industry technologies in construction machinery.

Despite difficult prevailing economic conditions facing South Africa right now, interest in Africa's long-term growth potential bodes well for construction sector prospects overall.

It explains the high level of energy and enthusiasm the industry will bring to Johannesburg's expo centre from March 13 to 15.

Southern Africa's largest construction equipment manufacturer, Bell Equipment will mark the 2018 event by presenting its new range of Kobelco Excavators and introducing the Dakar Rally winning KAMAZ range of heavy duty tipper trucks.

Mark Hughes, sales and marketing director of Bell Equipment Sales South Africa, said he expects both ranges to generate considerable interest at the show.

"They bring quality and competitive machine solutions to our local market, and all backed by the most extensive support network in southern Africa."

The Kobelco range of excavators, from 5,5t to 85t, was added to the Bell stable in mid-2017.

"Through this partnership we are able to offer competitively priced and perfectly matched loading tools for our range of articulated dump trucks in the construction, quarrying, mining and forestry industries," said Hughes.

Additionally, the introduction of the KAMAZ trucks at the end of 2017 has given Bell a presence in the southern Africa tipper truck market for the first time, to further expand the company's one-stop shop offering to customers in the region.

Although new to southern Africa, KAMAZ has been around a long time, established in 1969. Manufacturing out of Naberezhnye Chelny in Russia, today it accounts for half the trucks sold in that country, as well as being represented in 80 countries around the world.

Other major players heading to Johannesburg include The Wirtgen Group South Africa.

It will also use the trade show to display a range of its solutions for all areas of road construction as well as mining and minerals processing.

The company will be promoting major brands such as Wirtgen, Vögele, Hamm, Kleemann, Benninghoven and Ciber.

JCB and other construction brands will use bauma Conexpo Africa as an opportunity to showcase their latest products.

Waylon Kukard, sales manager, said the company sees the March trade show as an important platform to showcase its class leading technologies to local customers.

However, he also noted the current challenging operating conditions facing the market, with a decline in total equipment numbers sold during the past few years, due largely to the tough economic conditions.

For example, compaction roller sales in 2017 were down 15-20 per cent year-on-year in the different ranges in South Africa, with 350-400 units being sold per year for the past three years.

Roller sales are linked to infrastructure development and government expenditure has been very limited in the past few years and in some provinces non-existent.

"The sector is currently under pressure and declining with no real growth potential in sight," he said.

According to Kukard, it is during such times that industry should be prepared to engage with original equipment manufacturers (OEMs) on a consultative basis to see how best to apply existing and new technologies developed by OEMs to keep operational and capital costs down.

For example, one of The Wirtgen Group South Africa's main focus areas at the upcoming show is sustainability and recycling of scarce natural resources, which has been the foundation of its product development in recent years.

"Resources such as bitumen, road stone, layer works, among others, can be reused rather than being discarded and replaced," he said.

The upcoming trade show in Johannesburg will provide a platform for such innovative technologies.

And, in the face of domestic economic challenges, it means competitive pressures are all the greater – pushing industry rivals to go that extra mile to secure new business.

Stephen Jones, Bell Equipment's group marketing director, reckons this means events like bauma Conexpo Africa are all the more worthwhile.

"For users of equipment, the southern African market is very competitive with good equipment choices significantly affecting the chance of success," he said.

"With a large number of brands competing, there is value for users of equipment to be able to visit one location and be able to closely interact with manufacturers and distributors to help guide those critical buying decisions." ■

> "There is value for users of equipment to be able to visit one location"
>
> **STEPHEN JONES, BELL EQUIPMENT'S GROUP MARKETING DIRECTOR**

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Contractors get busy building new infrastructure

Martin Clark provides an overview of the construction trends across sub-Saharan Africa.

Two thirds of construction projects fall within the US$50mn-US$500mn according to Deloitte's latest Africa Construction Trends Report .

Image Credit: Adobe Stock

Construction activity is picking up across Africa as governments and the private sector look to roll out more projects from the oil and gas and mining industries, through to infrastructure and commercial real estate developments.

Intriguingly, this has seen a rise in the number of smaller value projects in recent times.

Deloitte's latest Africa Construction Trends Report shows that almost two thirds of projects tracked currently fall within the US$50m-US$500m range.

It said this could point to an "unblocking of projects" amid better economic conditions or a realisation that true mega projects (those above US$1bn) are slow to implement, as well as complex to construct and to commission.

There are still a number of 'biggies' underway, however, with 66 projects (around one in five Deloitte projects tracked) valued above US$1bn – including 13 projects over US$5bn.

Oil and gas projects account for four of the five projects valued at over US$10bn.

Spending at the moment is heavily concentrated in three core sectors: oil and gas, transportation and energy and power.

As a region, Southern Africa boasts the largest number of projects tracked (with 93 projects), while West Africa holds the largest share in terms of value (US$98bn).

South Africa is also the country with the most projects (44 projects) while Nigeria has the most by value (US$69bn).

A predicted uptick in the region's economic growth during 2018 – and its resultant impact on confidence – could further bode well both for builders and financiers.

Africa's huge need for infrastructure remains, of course.

In sub-Saharan Africa – especially in fast-growing states like Nigeria – the long-term potential is enormous for further infrastructural development.

But this will require time, co-ordination and plenty of money.

However, as global interest in the region intensifies, then Africa's construction outlook overall remains as bright as ever.

North

The comparatively well-developed North African market has seen a steady flow of real estate projects come to fruition in recent times, predominantly in Egypt.

It seems the country is now firmly on the road to recovery in the wake of its political crisis a few years

Image Credit: NASA's Marshall Flight Center/Flickr

The Bechar Basin of northwestern Algeria reaches depths of 8,000 metres, and is a producing hydrocarbon region.

earlier. The revival of the nation's gas sector has also aided the recovery.

North Africa's real estate sector activity is dominated by commercial real estate (rather than industrial real estate) in terms of both US dollar value and the number of projects, with a number of renowned hotel chains prioritising the market.

While Egypt has accounted for the lion's share of projects in the past year or so, Morocco has also attracted notable investment in this area.

A number of large transportation projects are also underway, again providing good opportunities for contractors.

Here, private domestic construction firms play a more prominent too, alongside a diverse range of international partners, with a limited role only for Chinese contractors in contrast to other parts of the continent.

Renewed life for Egypt's gas industry following a succession of huge offshore finds in the Nile Delta has resulted in a flood of new money and development projects.

Indeed, the whole region boasts a strong oil and gas export industry, which continues to provide a solid platform of work for the construction sector.

North Africa's single two largest projects have been the multi-billion dollar developments of Egypt's revitalised gas sector – the Shorouk concession and the West Nile Delta Deep project.

Other major energy initiatives include Egypt's Mostorod refinery upgrade, the Reggane North development and various gas power projects in Algeria, plus the Safi super critical coal-fired power plant in Morocco.

On the transportation side, major projects underway include the Hauts-Plateux motorway in Algeria, the Tangier-Casablanca railway in Morocco and Tunisia's Reseau Ferroviaire Rapide project.

Value of projects by region (valued at US$50mn+) (%)

East Africa	10.6%
Southern Africa	29.2%
Central Africa	3.2%
West Africa	32%
North Africa	25.1%

Source: Deloitte analysis, 2017

Number of projects by region (valued at US$50mn+) (%)

East Africa	23.4%
Southern Africa	30.7%
Central Africa	6.6%
West Africa	26.1%
North Africa	13.2%

Source: Deloitte analysis, 2017

> "Major energy initiatives include Egypt's Mostorod refinery upgrade and various gas power projects in Algeria"

West

Home to the continent's most populous state, Nigeria, hydrocarbon-rich West Africa is a market with enduring long-term appeal – and one seemingly poised for rapid growth.

Nigeria's population is projected to jump from 186 million now to more than 500 million by 2100, placing enormous demand on an already over burdened and ageing infrastructure.

Indeed, lawmakers last year called on the government to declare a "state of emergency" for the country's crumbling roads network and tackle decades of infrastructural decay that has thwarted growth.

If Abuja is to achieve its objectives and diversify away from crude oil, which has propped up the economy for decades, then it must get to grips with building new roads and other major infrastructure.

As a whole, the region is already seeing the highest level of spending in terms of overall construction activity – however, much of this is still targeting the oil and gas industry. This now drives massive investment in emerging producers, such as Ghana as well as traditional players, such as Nigeria and Angola.

Nigeria's US$15bn Egina gas field is the standout project in the region currently, and is expected on stream later this year.

Major transport and infrastructure projects are underway as well in Nigeria, notably in the ports sector. These include the US$12bn Olokola deep sea port project, the Lagos free trade zone port, and the Onne port complex.

Other major transport ventures include the Lagos-Kano rail project and the Lagos Light Mass Rail Transit, while the Calabar-Katsina-Ala super highway roads project has an estimated value of US$3bn.

Elsewhere, Ghana's oil and gas boom has likewise triggered investment in related areas, especially in the power sector. Flagship developments now underway include the US$4bn Ada Estuary tidal power plant.

On the real estate side there is also plenty of activity in this emerging regional market. In Nigeria, this includes the ambitious Eko Atlantic real estate project, valued at around US$6bn.

Across the region, Chinese contractors play a prominent role in delivering new projects, alongside private domestic firms.

West Africa is also a market showing signs of increasing maturity, with new real estate and services developments cropping up in some of the region's older oil economies.

Work recently commenced on Cameroon's first destination

retail mall, Douala Grand Mall & Business Park, which will comprise 18,000 square metres of retail and leisure space.

The project is being developed by leading growth markets investor Actis and local partner Craft Development, and built by South African contractor, Raubex. A formal ground-breaking ceremony will take place in mid-2018.

East

According to Deloitte, East Africa continues to stand out, both as a growth region and as one focused on creating a more conducive environment for business and development through new infrastructure creation. This has driven construction activity, enabling investment and business to drive forward new projects.

The region typifies the pattern of a shift toward smaller (though still significant) projects.

East Africa accounts for almost a quarter of all projects on the continent tracked by Deloitte, though it represents just a little more than 10.6 per cent in terms of US dollar value.

Indeed, the total number of projects in East Africa jumped by a substantial 65 per cent between 2016 and 2017, the consultancy says, underlining its dynamism.

Although Kenya has the largest number of projects (23 versus Ethiopia's 20), the total value of projects in Ethiopia is almost twice that of the value of projects in Kenya. Ethiopia overtook Kenya as the largest economy in East Africa in 2016.

The Grand Ethiopian Renaissance Dam, worth US$4.1bn, remains the most valuable project in the region.

A tangible illustration of the region's ambition is also highlighted by the construction of Kenya's 70-floor Pinnacle Towers – complete with helipad at over 800 feet – which will become Africa's tallest building once complete. The US$195m project is due to be completed at the end of 2019.

The transport sector dominates activity, however, with 27 major road and bridge projects underway accounting for almost half of all activity, highlighting the trend towards intra-regional infrastructure connections. Energy and power projects are also significant, accounting for nearly a quarter of all projects across East Africa.

More than 90 per cent of projects are government-owned, highlighting the limited impact of the private sector within these core industries, although financing comes from a variety of other sources. Development finance institutions remain important, while China also has an essential role in bankrolling many of the big construction projects.

China is also the most visible builder, playing a major part in constructing many projects.

Major cross-border initiatives include the construction of the 1,672km standard gauge railway linking Rwanda, Burundi and Tanzania.

The completed project, valued at US$7.6bn (although construction has not yet started on all sections), will provide freight and passenger services between Dar es Salaam and Kigali.

The LAPSSET (Lamu Port, South Sudan, Ethiopia Transport) Corridor, which includes port projects, highways, railways, an oil pipeline and airport projects, is also expected to drive both intra-regional and international trade.

The second largest project in 2016, the Mombasa-Nairobi railway, was opened in May 2017 and the Tatu City project, 2016's fourth largest project, is currently between phases and so not undergoing construction.

This is a region working hard to push energy links too through the East African Power Pool with projects under construction to feed into this network.

In Kenya, the Lake Turkana wind power project – the single largest private sector investment in the nation's history – is also set to go live this year.

Ethiopia's Koysha hydroelectric dam is also the region's second largest project by value, worth an estimated US$2.8bn.

South

Southern Africa continues to generate strong work opportunities for contractors, with the largest slice of project activity. These projects are concentrated in three major areas: real estate, transport and energy and power.

The US$16bn development of the Kaombo project in Angola's offshore Block 32 by French oil giant Total is head and shoulders above any other in terms of value. The project will deliver an extra 230,000 barrels of oil a day when it reaches peak production.

The emergence of Mozambique as a major energy exporter is also having an impact, with the construction of the Coral South floating liquefied natural gas project, worth US$4.5bn.

South Africa's continuing overhaul of its power sector also provides a huge spending boost to local contractors. That includes the Kusile coal-fired power plant (US$7.9bn) and the Medupi power station (US$7bn).

Other major power projects across the region include Kafue Gorge Lower in Zambia (US$2bn)

The Grand Ethiopian Renaissance Dam is the most valuable project in the country.

Image Credit: Salini Impregilo

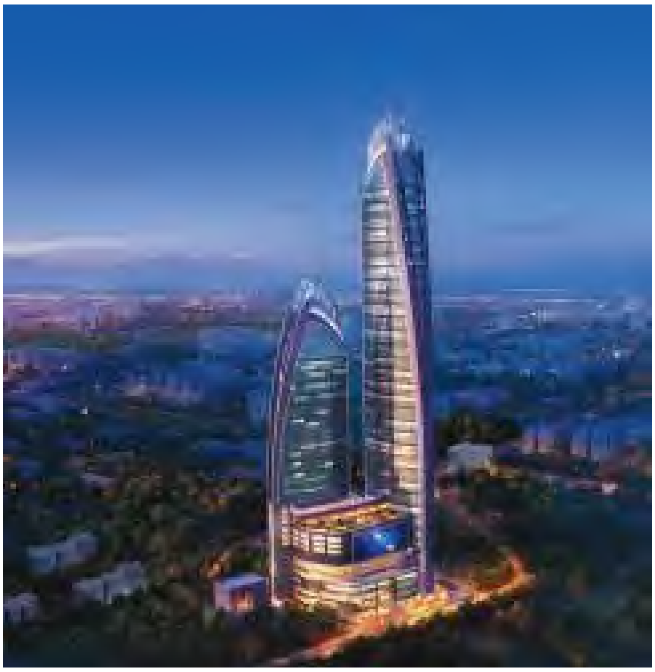


Image Credit: White Lotus Group

Kenya's Pinnacle Towers will become Africa's tallest building once completed in 2019.

and the Lauca hydropower plant in Angola (US$4.3bn).

And new projects are being booked all the time, including a raft of new solar and renewable energy initiatives, as well as traditional energy infrastructure.

Fluor Corporation recently landed the engineering, procurement and construction management contract for the Vopak fuel storage terminal in Durban (Vopak Growth 4 Project). Designed to facilitate increased demand for fuel with cleaner specifications across Southern Africa, it will be one of Vopak's largest storage facility projects in South Africa and the largest storage project undertaken by Fluor in Africa.

Botswana has kicked off a major 400KV electricity transmission project as it seeks to bolster its energy supply. It is hoped the twin-phased North West Transmission Grid Connection, worth almost US$500mn, and hooking up the Morupule B plant, will help lower the country's dependence on electricity imports from Zambia, Zimbabwe and Namibia.

The high level of activity paints a positive picture as the industry prepares to meet at bauma Conexpo Africa in Johannesburg, from March 13-16.

This is expected to highlight a shift to higher quality construction services as well within the region. "Construction companies are no longer simply looking to find the supplier with the lowest price, but want to ensure top quality through best practices," said Gan Luckun from formwork and scaffolding manufacturer Doka South Africa.

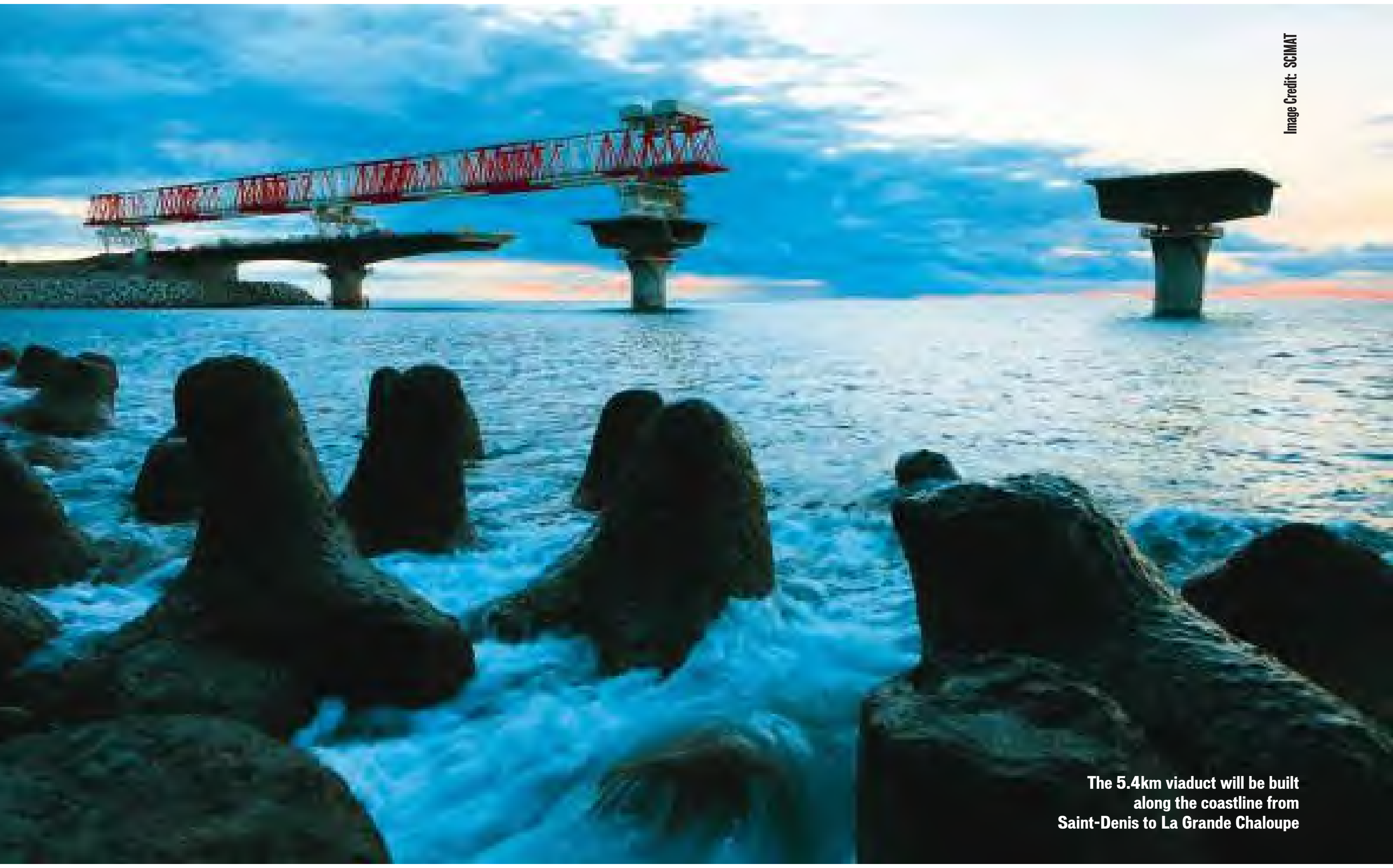
And, despite the number of prominent big budget construction projects underway, the rise in smaller value developments is also no surprise, according to John Sheath, head of the non-profit Concrete Society of Southern Africa (CSSA).

"Government programmes have recently been encouraging investments to be made in smaller projects," he notes. This is having an effect on demand with contractors moving to some extent from large, expensive machines and systems to smaller, less expensive units. "In order for us to achieve success in the market, these systems will also need to be easier to operate than their big brothers as they will be used by less-skilled workers." ■

by Martin Clark

Making waves on Reunion Island

After 20 years in the making, the New Coastal Road (NCR) on Reunion Island is nearing completion with the first section due to open later this year. Samantha Payne reports.



The 5.4km viaduct will be built along the coastline from Saint-Denis to La Grande Chaloupe

The New Coastal Road (NCR) on Reunion Island will be a welcome relief to thousands of local motorists who, for years, have had to endure the threat of falling rocks and multiple closures due to severe weather – the old road is impassable on average around 40 times a year.

The new road will be situated at a distance from the volcanic isle on huge columns rising out of the Indian Ocean, which will avoid dangerous rock falls. The €1.6bn project has been billed as the most expensive road (per kilometre) in the world.

It was back in 2013, when the Regional Council started construction on the 12.5km road after 20 years of public debates, studies, enquiries around the need for a new infrastructure. Pressure mounted substantially on the authorities to take action after a major rock fall cost the lives of two Reunion Island road users in 24 March, 2006.

The road, which will provide a safer link between St Denis, the largest city and La Possession; the island's other big city, and the main port, Port des Galets. It is being built by a consortium of French companies including Vinci Construction Grands Projets, Bouygues Travaux Publics, Dodin Campenon Bernard and Demathieu Bard Construction. The first section will be opening this year with the remaining section planned for completion in 2020.

> "Manitowoc has provided exceptional crane solutions to manage this project"
>
> CHRISTOPHE SIMONCELLI, MANITOWOC VICE PRESIDENT OF SALES FOR FRANCOPHONE AFRICA

New viaduct

The most eye-catching part of the project is the 5.4km viaduct built along the coastline from Saint-Denis to La Grande Chaloupe. It will be able to withstand 90mph hurricane winds and waves of up to 10 metres.

Image Credit: SCIMAT

The 6015B hydraulic shovel pictured arriving at Cat dealer SCIMAT on the Reunion Island.

The major difference with the new road compared with the current coastal route (RN1) is that it will have three lanes in either direction including two integrated bus lanes and provision for cyclists and pedestrians. It is expected to play a major role in the economic revival of the island, especially the tourism and construction industries.

Building the viaduct

The viaduct will have 48 bridge piers and a supporting structure comprising 1,386 precast segments. The bridge piers, weighing 4,800 tons, are prefabricated at the first production site at Port Est and then transported and installed on-site using the world's largest offshore overhead travel crane, manufactured by Enerpac, that is mounted on 'Zourite' – a 107-metre long and 44-metre wide barge. The barge is being powered by four Cat 3508 marine engines and is equipped with a concrete mixer, built specifically for the project.

The second production site is in the Rear Port Zone for the prefabrication of the voussoirs – the arch-shaped sections used in the building of a viaduct – for the deck.

The prefabrication method of construction for the structure ensures a maximum amount of work is carried out in optimal conditions of work and safety and "minimises operations at sea, which can be very constraining, notably with respect to meteorological conditions. The possibility of working or not depends on predetermined criteria such as wave height, wind speed, type of activity and equipment used", stated the report *Laying the Coastal Viaduct Bridge Piers at Sea.*

> "With a project as important as this one on Reunion Island, everyone wants to know it has been built with quality"
>
> **NEAL MARKHAM, CATERPILLAR STRATEGY MANAGER**

Manitowoc

Grues Levages Investissements (GLI) is Manitowoc's official French dealer for Reunion Island, and has invested heavily in supplying top quality cranes for this project. These include two Potain MD 485B M20s, two MDT 368 As, one MD 560 B, a Potain K5-50C, a Manitowoc 12000E-1 crawler crane, seven Grove all-terrain cranes and two Grove rough terrain cranes.

The major project has faced many challenges as the structure is being built on a maritime site, explains Christophe Simoncelli, Manitowoc vice president of sales for Western Europe and French speaking Africa.

"Manitowoc has provided exceptional crane solutions as well as a proactive approach to managing this project," he said. "Potain was selected because it is the world's leading tower crane brand with a long track record of success. The compact Grove cranes were chosen for their excellent on-site flexibility while the Manitowoc 12000E-1 crawler crane provides outstanding manoeuverability as it can be extended and retracted as well as its ease of use and low maintenance requirements. In addition, GLI has provided the highest quality cranes coupled with outstanding service and has been a major factor to the success of this project."

Other cranes are supplied by contractors Vinci Construction Grands Projets and Bouygues TP.

The road will be completed by 2020.

Image Credit: SCIMAT

Caterpillar

Cat dealer SCIMAT supplied equipment and services for the whole length of the 12.5km project.

The 6015B is a 140 tonnes hydraulic shovel, more commonly found in mining applications has been working under the water line, laying material. Its boom/stick is 34 m long and this machine can only be shipped in parts. his model was launched at bauma Conexpo Africa 2016.

The Cat 336F excavator, the 740 articulated truck, the D8 dozer and the 988H wheel loader have been involved with the earthmoving part of the project.

The two 390F excavators have been digging up to 25 metres under the sea, creating a solid foundation to place the viaduct supports.

Neal Markham, strategy manager at Caterpillar, "With a project as important as this one on Reunion Island it is certain that the contractors involved, and everyone who uses the new road thereafter, want to know that it has been built with quality. Quality to withstand the frequent rain storms and sea activity, quality to last and quality to make sure that safety remains paramount. The provision of Cat machines and our dealer SCIMAT's vast experience shows that quality is certainly a major focus of this project.

"In difficult construction scenarios such as digging underwater (where one cannot see the bucket), or loading heaving materials into sensitive areas, one needs a machine which can perform, is reliable and efficient. Caterpillar engineers have invested significant time and money into R&D to make sure we can offer machines to match such construction activities. We are proud to be a part of this iconic project and continue to support both the dealer and customer in making sure they are going to meet their overall deadlines."

Update on works

The Grande Chaloupe Viaduct was delivered and inaugurated on 6 September, 2017. Sea and land works are continuing on the Viaduct du Littoral. The voussoirs for the decks, weighing up to 670 tons are being transported by high-capacity multi-wheeled trolleys, known as fardiers and put in place by Zourite the mega-barge, while other elements are transported to the launcher station, which is a large beam at Port Est. ■

Timeline for New Coastal Road on Reunion Island

2012 :	Signature of the Public Interest Project decree
2013 :	Start of construction of the New Coastal Road
2014 :	Construction work begins on La Possession dyke supporting the junction of the RD41 road) and viaduct of Grande Chaloupe
2015 :	Start of construction of large scale marine structures (dikes/ viaducts), after a preparatory period of approximately one year for mobilisation of equipment, such as offshore platforms that will be necessary
2018 :	Public opening of the first section
2020 :	Public opening of the second section

Source: www.nouvelleroutedulittoral.re

CONSTRUCTION WORKS PLANNED IN 2018

- The construction of the upper part of the Saint-Denis dyke continues and the lower part of the south dyke section from the Grande Chaloupe will be completed
- The continuation of the construction of the supports and the deck of the Viaduc du Littoral
- The continuation of the upper dykes D1 and D3; and the start of the lower dykes D4 and D5
- The contract award for paving at the end of 2018
- The contract award to build the Saint-Denis interchange in February 2018 and to start work in the second half of 2018
- Construction of the dykes continues: completion of the construction of the lower part and upper part of the Saint-Denis dyke and completion of the lower part of the south dyke section from the Grande Chaloupe

SMT Africa strengthens position in Africa

SMT Africa signed a dealership agreement with Sennebogen to cover Northern, Western and Central Africa.

The deal, signed at the end of 2017, sees SMT Africa supply Sennebogen Green Line material handling equipment for applications including port, recycling and mining.

Sennebogen, one of the world's leading material handling equipment manufacturers, has been convinced by the professionalism and the quality of services provided by SMT to build strong relationships in these important African markets. For SMT, the new agreement broadens its product range and strengthen its premium position in the heavy equipment market, as Sennebogen Green Line equipment uses state-of-the-art technology based on precision and innovation.

Image Credit: SMT Africa

SMT Africa has signed a dealership agreement with Sennebogen to supply material handling equipment.

As SMT has been a partner of Sennebogen in Europe for more than 20 years, SMT Africa will capitalise on this experience to distribute Sennebogen Green Line's industry-leading products and services via its network of local offices and workshops.

Christophe Blazère, CEO of SMT Africa adds: "We are delighted to take on this new challenge that strengthens our position in Africa. SMT Africa is committed to take the Sennebogen business to the next level, delivering the highest service standards for the benefit of our African customers." ■

Celebrating the best in construction solutions

Intermat Innovation Awards 2018 attracted 90 entries from exhibitors, all of whom will be at Intermat from 23 to 28 April, 2018. The 37 nominated applications from manufacturers and suppliers came from 16 countries.

The winners of the Intermat Innovation Awards 2018 were announced at a special pre-Intermat ceremony in Paris on 16 January. The Innovation Awards pays tribute to the most innovative equipment presented by exhibitors who will be at Intermat from 23 to 28 April. This year, the competition was divided into the exhibition's four hubs of expertise: earthmoving and demolition, minerals and foundations, lifting, handling and transportation and building and concrete sector.

Equipment and Machinery Award: Volvo CE - EX2

In the earthmoving and demolition category, Volvo CE wowed judges with its EX2 prototype – the world's first fully electric compact excavator which delivers zero emissions, with 10 times higher efficiency and 10 times lower noise levels.

Energy Transition Award: Mecalac – Mecalac e12

Mecalac won the Energy Transition Award for the Mecalac e12 – the world's first compact wheeled excavator run only by electricity. It meets the three major requirements for the urban building sites of today and tomorrow: range, performance and compactness. The internal combustion engine in the electric version of the 12 MTX now houses LiFePO4 battery technology – lithium iron phosphate for three times as many charge cycles – that combine a service life, comfortably better than classic batteries, with complete safety: no risk of fires and no risk of battery fluid leaks.

Components and Accessories Award: 360SmartConnect – Connected Concrete

360 SmartConnect won in the components and accessories category, in the buildings and concrete sector, for its revolutionary solution; Connected Concrete. The concrete is transformed into an interface of data and services associated with the structure, that any smartphone can access.

Equipment and Machinery Award: Fayat – TRX

Fayat won the Equipment and Machinery Award in the roads, minerals and foundation category, for its TRX solution. The first mobile continuous asphalt plant in the world that can recycle up to 100 per cent of asphalt aggregates. It is able to run on a range of 150 to 430t/h. ■

There were 13 winners in total. Earthmoving and Demolition: Volvo CE – EX2 (Equipment and Machinery Award) DMIC – Ubiwan Smart (Components and Accessories Award); Roads, Minerals and Foundations: Fayat - TRX (Equipment and Machinery Award), RB3D – Exo Push (Components and Accessories Award); Lifting, Handling and Transportation: Hinowa S.pa. tracked aerial platform Lightlift 33.17, performance IIIS, (Equipment and Machinery Award) Manitou Group – machine stablisation recognition system (Components and Accessories Award); Buildings and Concrete Sector: ALPHI – MaxUpDown (Equipment and Machinery Award), 360SmartConnect – connected concrete (Components and Accessories Award). Special awards: Digital transition award: EFA France – EVAS; Energy Transition Award: Mecalac - Mecalac e12; Start-up Award by Eurovia: Matos – Matos-Connect; World of Concrete Europe Award: Sika France – concrete 3D printing; Safety Award: Sima – handsafe wood cutting saw.

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New tech for concrete pipes in Zimbabwe

Acsend Concrete Ltd in Harare, Zimbabwe, is a provider of pre-cast concrete solutions and manufactures pre-cast concrete pipes with their own fleet of trucks to deliver products to site.

Image Credit: HawkeyePedershaab

VIHY Multicast SCV 120 is a versatile vibration machine for production of manholes and short pipes up to 1,200mm diameter.

In keeping with technological market trends and demand, Acsend Concrete in 2012 decided to expand their production capacity and improve productivity with the strategic intent of exceeding customer expectations.

In a bid to explore different production technologies and to get inspiration from other concrete producers, managing director and owner Antony Benesi toured concrete pipe factories in Scandinavia. Based on the outcome and experience from this tour, he decided to invest in a VIHY Multicast SCV 120 production plant from HawkeyePedershaab.

Since installation, the new machine has significantly enhanced product quality and consistency to product specification, which has ensured Acsend Concrete's customers reliable and high quality products. In

> "The co-operation with HawkeyePedershaab has given me a state-of-the-art production plant"
>
> ANTONY BENESI, MANAGING DIRECTOR, ACSEND CONCRETE

> “I had no doubt they could supply the equipment I needed”
>
> **ANTONY BENESI, MANAGING DIRECTOR, ACSEND CONCRETE**

addition to this, the VIHY Multicast SCV 120 with the unique vertical vibration system gives Acsend Concrete high flexibiltiy and versatility, enabling them to introduce new products to the market – products which Benesi had seen on his trip to Scandinavia and which he had no doubt would bring great value to the Zimbabwean market.

The plant was commissioned in 2014-2015 and Acsend Concrete now supplies concrete products of the highest quality to their markets.

Joint project development

Acsend Concrete and HawkeyePedershaab worked closely together throughout the whole project. Benesi explains, “I knew HawkeyePedershaab and their machines from previous experience, so I had no doubt they could supply the equipment I needed. But equally important they were a very valuable partner and an incredible source of information in the design phase of the whole plant. They assisted in the design of the batching plant, the design of the building, the logistics inside the building as well as the outside logistics around incoming materials and outgoing products.

“The cooperation with HawkeyePedershaab has given me a state-of-the-art production plant where we not only are able to supply today’s products, but also the products of the future. A dependable precast product has its roots deeply embedded in an equally reliable production plant.”

Acsend Concrete managing director, Antony Benesi

Image Credit: HawkeyePedershaab

Fact box

Plant description

- VIHY Multicast SCV 120 pipe machine
- Mould equipment for 450-1,200mm pipes, L=1,25m
- Mould equipment for 900-1,050mm manhole rings
- Automatic concrete batching and mixing plant
- Concrete laboratory equipment ■

Dressta improves presence in African markets

Howard Dale, chairman of LiuGong Dressta Machinery, shares with *African Review* his business insights in 2018 and how the recent investment in Poland, is supporting the company's global operations.

Image Credit: Dressta

Dressta SB-85, an important participator on a pipeline project in Algeria.

How has the working relationship between LiuGong and Dressta developed since the acquisition in 2012?

The business relationship between LiuGong and Dressta has developed incredibly well on a number of levels. First of all, we've had progressive investment in the Dressta business in Poland. Last year, we invested in a new parts distribution centre in Stalowa Wola to support the global operations of the Dressta business. Also, in the area of financing, by having a large Chinese multinational company behind us, we have a much better standing with the equipment finances around the world.

Is Africa still the largest market for Dressta?

As far back as 2016, Africa and Middle East were the largest contributor to Dressta sales. But in 2017, the market for the whole of Africa for crawler dozers actually dropped by 19 per cent, while Russia and Central Asia came back fast and became our number one contributor to overall sales revenue.

What products do well in Africa and what are your most recent high profile projects?

Dressta is a brand that offers a full line of crawler dozers from 94 hp rating to 536 hp. We have a wide range of products to suit various applications; from oil and gas, roads and highways and mining to forestry and landfill. But the core product that is particularly suited to Africa and the Middle East is the TD-25 crawler dozer; a 330 hp machine, with an operating weight of 42,670kg. This machine is typically suited to road and highway construction projects as well as in quarrying and mining operations. It has proved itself very well in the diamond mines of Sierra Leone. It's the real workhorse of Dressta in the African markets. In Algeria, we've had great success with TD-25s and our pipe layers with ENAGEO, one of the country's largest oil exploration companies. We've also enjoyed strong sales in Ethiopia and our dozers have been supporting the major land preparation project for sugar cane plantation. The landfill sector is also one of our major target segments for development across Africa and the Middle East in the coming years.

What new trends in growth are shaping Africa at the moment?

In 2016 and early 2017, demand has been dropping progressively in Africa and the Middle East. However, from November last year we started to feel the resurgence of the market, partly by the recovery of commodity prices, with coal and iron ore, and are definitely seeing an uptick in coal mining. Aside from mineral extraction, roads and highways as well as oil and gas pipelines are also good segments that are seeing growth across the region at the moment.

> "We are bringing on board new dealers in Tunisia, Kenya and Tanzania"
>
> **HOWARD DALE, CHAIRMAN OF DRESSTA**

In which African countries are you seeing the most business at the moment?
Ethiopia, Egypt, Algeria and Sierra Leone.

How has Dressta benefited in Africa from the access to the LiuGong network?
First and foremost, it has been the way in which we conduct our business. Thanks to our ownership structure with LiuGong, we now placed staff in LiuGong facilities in Jebel Ali, Dubai. It is a large operation, which includes a 5,000 m2 parts distribution centre and enables our people to be closer to the market and the customers that they serve out there. But in terms of synergy of actual distribution, in Iran, for example, we work very closely with the LiuGong dealer. As LiuGong and Dressta are in growth mode in Asia-Pacific, we've been looking at dealers that better serve specific market segments of the brand. At Dressta we are looking more towards mining and quarrying, road and highway while LiuGong is looking at construction and general infrastructure.

How is Dressta continuing to differentiate its product from the competition?
If we look at our global product offering, we offer two levels of product in terms of the engine tier rating. For Africa and Middle East, there are Tier 3 engine solutions, which allows for generous type of fuel conditions. We also have a range of products suitable for working in very arid and hot conditions. Our machines are available with a relatively less sophisticated engine and powertrain system. So, they are more durable, dependable and easier to maintain. Not only are they very suited to the tougher climatic conditions across Africa, they are able to work in very remote locations. The emphasis is based on reliability and durability.

What are your targets for 2018?
Our target this year is to bring on board new dealers in Tunisia, Kenya and Tanzania. So, our focus is distribution development, building the support network within Africa and the Middle East to reach our growth objectives.

Should we expect new product launches in 2018?
We are in the midst of refreshing our range of pipe layers which will be available towards the end of the year. We have launched a new range of compact machines, primarily for the north American market. Across Africa and Middle East, we've been able to partner with Trimble to provide 3D systems which helps ease of operation and improves working efficiencies. We're also working on a very exciting project to launch a new cab, which will give Dressta operators unrivalled comfort. Our new modified cab design, which is applicable to Africa, will be available in the second half of this year. We've redefined the air conditioning system and have paid a lot of attention to operator comfort and ease of control of the machine.

Howard Dale, chairman of LiuGong Dressta Machinery.

Is the recent investment into facilities in Poland relevant for development in Africa?
It is relevant in terms of our manufacturing capabilities here in Poland where we have put in new assembly lines, new machinery and further improved processes and quality standards. The products are built to world class manufacturing standards and supplied directly from Europe into Africa.

Is there anything else you would like to tell our readers?
For the African markets where accessibility and availability is crucial, I'd say what makes us unique is the connectivity of our new global parts distribution centre here in Poland with the parts warehouse in Dubai that serves all our customers in the Africa and Middle East region. We can now process parts orders almost simultaneously through our advanced warehousing management solutions. Through our wide network coverage in Africa, now our customers have direct connectivity with our parts distribution centre, which has made it more efficient and time-effective in getting parts rapidly: whatever they need and wherever they are. ■

Image Credit: Dressta

A Dressta TD25 crawler dozer assists with levelling for geo-seismic survey work in the Sahara

Asphalt plant technology and effects on production costs

Image Credit: Ciber

Application engineers from CIBER share the results of their study with some hot mix asphalt concrete producers in Brazil to look at the costs involved in making good quality asphalt mix.

Asphalt plants should be considered as industrial units capable of producing full-scale asphalt.

The main functions of the plant are: accurately dose the aggregates and asphalt cement to ensure the proportion established in the design; completely dry and heat the aggregates, regardless of their nature and characteristics, in order to obtain prefect adhesiveness with the asphalt binder; filter the gases from the combustion of the drying system and return to the mixer the fine aggregates that were naturally transported by the gas current; mix the aggregates from the dryer and the fine aggregates from the bag filter with heated asphalt in the tank according to its viscosity and occasionally add additives to the mix; and transport it to a storage silo for subsequent unloading into the truck and transport to the road paver finisher. These processes can be carried out in various ways, depending on the technology of each plant and will have an impact on final product quality and production costs.

One of the goals of asphalt concrete producers is to fabricate the asphalt mix with the same quality as the mix produced in laboratories, where the conditions are controlled and the production rate is much lower. The other goal is to produce it at the lowest possible cost. The technologies primarily used for dosing the materials and drying the aggregates significantly impact the achievement of quality goals and production costs.

In terms of costs, a study conducted by application engineers from Ciber with some hot mix asphalt concrete producers in Brazil showed that more than 75 per cent of the total costs involved are related to direct materials (aggregates and asphalt cement). According to the same study, the fuel used in the plant's dryer and the fuel for heating the asphalt in the tank represent the third highest cost element, corresponding to almost 12 per cent. The other costs combined (maintenance, freight and installation, infrastructure, electricity, wheel loader purchase and manpower) represent less than 10 per cent of total costs. The investment in the asphalt plant has a less than two per cent impact on costs (based on average market price in Brazil and calculating interest and depreciation on the equipment according to market conditions in 2017). The preparation of this study was based on an annual mean production of 100,000 tons and repeatability for five years, under the same conditions. The cost of purchasing the inputs was according to the current situation in Brazil. Maintenance costs were determined according to the cost of the wear parts and the wear time of these parts. Infrastructure costs included the price of a piece of land in a rural zone with the area needed to install the machinery and build the necessary infrastructure for the operation. Electricity costs were based on the estimated energy demand of the equipment and local price was set by the electric utility companies. The wheel loader is based on market price with interest and depreciation calculated under the same conditions established for the plant. Manpower was estimated according to need during the operation of the plant, management and administrative needs.

Opportunities for savings in asphalt plants

The opportunities to reduce production costs are concentrated in the dosing and drying systems through accurate dosing of the aggregates and especially the asphalt, and in achieving perfect combustion and maximum heat exchange between the combustion gases and aggregates, resulting in lower fuel consumption.

The dosage variation of the asphalt in relation to design content can have relevant financial impacts since the binder represents more than 50 per cent of total costs.

Asphalt plants must have technologies that ensure accuracy in the dosing of materials. According to Marcelo Zubaran, application engineer and expert in products from Ciber Equipamentos Rodoviários, a company from the Wirtgen group, "technologies currently applied in continuous plants, such as pick-up systems to read the real speed of the dosing belts and digital data transmission systems, ensure accuracy in the dosing of aggregates. Since in continuous flow plants the dosage of the asphalt depends on the real weight of the aggregates, guaranteeing the accuracy of the aggregates dosage ensures accuracy in the asphalt dosage." However, external factors beyond the control of the equipment, such as correct measurement of the aggregates or contamination between silos, can lead to dosing errors. According to Marcelo Zubaran, "if the plant regularly receives information on the humidity of the aggregates and if aggregates are not contaminated between silos, the mix will come out perfect, since the plant will certainly have done its part."

Fuel, especially for drying aggregates, has a major impact on production costs. New technologies applied in the iNOVA 2000 plant model from Ciber, for example, ensure perfect heat exchange between the aggregates and combustion gases, which can reduce fuel consumption by up to one litre per ton produced. ■

Reclaiming the future

Africa's highways upgrade is driving demand for innovative reclaimed asphalting technology and advanced construction equipment, Martin Clark reports.

Africa's growth continues to fuel demand for more and better roads. This brings with it improved asphalt and construction technologies, as well as waste management and other related building services.

And leading international construction equipment firms have become major players in this vast infrastructure upgrade.

Germany's Wirtgen, for instance, has been a partner on many of the continent's most prominent highway construction projects. That includes the use of innovative cold recycling technologies for reclaimed asphalt on a high profile stretch of road in Cape Town, South Africa's tourism hotspot. It is a solution that bodes well for further application in this area and beyond.

Most recently, Wirtgen provided support for what is now the longest uninterrupted concrete roadway in Nigeria, extending over 24km, to connect the towns of Itori und Ibese in the state of Ogun.

The contractor AG-Dangote Construction Company Limited – a joint venture between Brazilian firm Andrade Gutierrez Company and the local Dangote Group – made use of Wirtgen's SP 500 slipform paver for the project.

Processing power

The Wirtgen SP 500 machinery can pave concrete pavements in widths of up to 6.0m and thicknesses of up to 400m as standard.

Before the slipform paver was able to begin work in the town of Itori, however, the substrate had to be prepared.

The construction joint venture used compacted laterite and a 20cm layer of crushed rock.

"The SP 500 then paved the concrete quickly and cost efficiently," said Ashif Juma, managing director of AG-Dangote Construction. "At the same time, it also helps us ensure our production quality meets the specifications for surface evenness."

Cold recycling technologies for reclaimed asphalt were used along Camps Bay Drive.

The SP 500 laid down the new 7.50m-wide and 20cm-thick roadway in two separate passes.

To continuously provide the concrete paver with sufficient material, a steady convoy of up to 15 concrete-mixing trucks drove to the job site, depositing their loads directly in front of the machine.

Before concrete can be paved, however, it must first be produced. The production chain starts with limestone mining, one of the raw materials used in cement, which in turn forms the basis of concrete.

The Dangote Group extracts limestone from its open-cast mine in Ibese, where the Dangote Cement Company already operates 14 Wirtgen type 2500 SM surface miners.

During the highway construction project, the Wirtgen slipform paver processed more than 35,000 cu m of concrete.

Reclaimed asphalt

In its latest South African project, Wirtgen played an equally important role, this time with its use of cold recycling technologies.

The road scheme involved widening Camps Bay Drive, a major scenic route within Cape Town, which provides access from the city to Camps Bay and Hout Bay.

Local officials wanted the road widened to accommodate higher volumes of tourists and bus traffic, but were keen to minimise any impact on motorists.

Wirtgen's involvement meant utilising the large volumes of reclaimed asphalt stockpiled from numerous maintenance works undertaken around Cape Town.

In the past, this has generally been re-used for hard stand areas or shoulder construction, but became a base layer on Camps Bay Drive – using 100 per cent of reclaimed asphalt – as a foamed Bitumen Stabilise Base (BSM).

In order to ensure uniformity and a high quality mix, a static mobile mixing plant was specified for the production of the BSM.

Power Construction was appointed to carry out the construction of the works with Milling Techniks carrying out the production of the BSM using its Wirtgen KMA 200 mobile cold recycling mixing unit.

Cold recycling

During the project, approximately 8,150 tons of reclaimed asphalt was processed using 165 tons of bitumen and 78 tons of cement.

Since then, the reclaimed asphalt material has since performed well under early trafficking.

According to Wirtgen, using the reclaimed asphalt within the pavement structure provides a much more cost-effective and sustainable solution for the future, especially considering depleting aggregate resources.

There is a large cost saving when using the 100 per cent reclaimed asphalt, it says, which amounted to approximately 2.95 per cu m. This cost only includes the material cost saving and not additional traffic accommodation and time cost savings.

It says costs could be further reduced by producing the material closer to the site, among other measures.

Improving project economics is always fundamental to any highways development, while the focus on sustainability, reusability and recycling is another important driver.

In that sense, Africa's quest for such innovative techniques, solutions and the high tech machinery to make it happen, has only just begun. ■

Wirtgen SA to showcase brands at bauma CONEXPO


Image Credit: Wirtgen Group South Africa

The Wirtgen Group SA's focus is sustainability and recycling of natural resources. which has been the foundation of its product development over the years.

The Wirtgen Group South Africa will use the upcoming bauma Conexpo Africa 2018 to showcase its innovative solutions for road construction and rehabilitation as well as for mining and mineral processing from across its group of companies, comprising Wirtgen, Vögele, Hamm, Kleemann, Benninghoven and Ciber.

Having exhibited at the two previous editions of the show in 2013 and 2015, The Wirtgen Group South Africa rates bauma Conexpo Africa as a great platform to showcase its latest technologies.

Waylon Kukard, sales manager at The Wirtgen Group South Africa, said, "The Wirtgen Group is the market leader in our industry and we regard Bauma as an important platform to showcase our class leading technologies to our customers and to live our 'close to our customers' motto."

"We will showcase all our brands, namely Wirtgen, Vögele, Hamm, Kleemann, Benninghoven and Ciber," said Kukard, adding that the range of products from these companies are relevant to the local market. With their leading technological features, the products will help local customers maximise productivity and execute top quality jobs. "Bringing products and technologies to the local market that have been successfully applied internationally provides the local industry with an opportunity to identify projects that can benefit from the international experience," he said. But Kukard noted the current challenging operating conditions in the local market.

"The sector is currently under pressure and declining with no real growth potential in sight," he said, stressing that it is during such times that industry should be prepared to engage with original equipment manufacturers (OEMs) on a consultative basis to see how best to apply existing and new technologies developed by OEMs to keep operational and capital costs down. ■

"South Africa remains critical investment destination"

South Africa's Mineral Resources Minister, Mosenbenzi Joseph Zwane opened Mining Indaba 2018 on 5 February, asserting that the country "remained a critical investment destination".

Thousands of delegates, representing 2,100 companies, gathered for what was the biggest Mining Indaba show to date to take advantage of huge investment opportunities in Africa.

Opening the show on 5 February, minister Zwane urged investors to work with the government to turn policy directives into "mutually beneficial programmes" with no mention of the third version of the Mining Charter.

Instead, he spoke about prices for most metals increasing year on year in 2017, including zinc by about 40 per cent, copper and iron ore by 20 per cent and how the recovery was expected to continue in the short to medium term, supporting commodity prices and demand.

He said, "We can therefore confidently assert that the spring in mining is indeed blossoming into summer."

Growth in the mining sector grew at 8.2 per cent and 6.6 per cent in the second and third quarters of 2017, and 5.2 per cent year on year. The mining industry was responsible for at least 20 per cent of the growth in this period, with the greatest contributors to this growth being metals, such as copper, iron ore and PGMs.

As host of more than 80 per cent of global reserves, Minister Zwane said South Africa had taken a competitive sustainable and transformed mining industry lead in research and development for downstream beneficiation of PGMs, principally through the Hydrogen South Africa (HySA) flagship project, which is focused on developing downstream beneficiation of platinum through its use in hydrogen powered fuel cells.

"We stand ready to partner with investors in this and other priority value chains including titanium, iron ore and jewellery," he asserted.

"We have US$18.18bn of investments in the project pipeline, which includes PGMs, industrial minerals, energy and non-ferrous metals, demonstrating that SA remains a critical investment destination."

Richards Bay Minerals is a Rio Tinto project in South Africa.

Image Credit: Rio Tinto

TRIO CRUSHERS AND SCREENS ON A ROLL

In the three years since Weir Minerals Africa acquired the Trio range of crushing and screening equipment, a strong network of skills and aftermarket services has been built across Africa to support this quality brand.

According to Weir Minerals Africa Process Director JD Singleton, the support services are now in place in the organisation's 18 service centres across the continent, as well as a Trio specific stockholding worth almost R100mn.

"This investment in the region is testament to Weir Mineral's commitment to the Trio brand, and to our customers in operations large and small," said Singleton. "Perhaps the most exciting aspect of our Trio journey to date is the strong local skills base we have developed, with the expertise in our comminution team amounting to 100 years of experience in the sector combined."

ZIMBABWE IS OPEN FOR BUSINESS

Zimbabwe's mineral resources are under-explored and there are vast opportunities for investors to explore, said Winston Chitando, minister of mines and mining development in Zimbabwe, at the Mining in Zimbabwe Dialogue in Cape Town on 6 February.

According to minister Chitando, there are multiple opportunities that cabinet would like to see investors take advantage of.

He emphasised two issues that will help stimulate the mining industry, being the indigenisation threshold that is now in place for only diamonds and platinum and government's endeavour to uphold policy clarity and consistency. There are three exclusive prospecting orders in Zimbabwe and he invited more partners to unearth more of what is in the country.

"Opportunities exist among others in asbestos, coal, iron-ore, platinum, lithium and nickel," he added.

Victor Kgomoeswana, author of 'Africa is Open for Business,' who acted as moderator for the event, commented that it is the work ethic of Zimbabweans and resourcefulness, which should inspire investors to have a presence in the country.

Ashruf Kaka, national project director of African Chrome Fields (ACF) and CEO of the Moti Group, explained that the Moti Group invested in Zimbabwe in 2014, when it was considered unwise to do so.

However, according to Kaka, the company has immensely benefited by doing business in the country.

ACF commissioned German engineered chrome ore processing wash plants and support infrastructure to the value of US$220mn which is expected to produce 60,000 tonnes of chromite per month.

As CSI is a cornerstone of business in Africa, ACF has prioritised CSI in line with Zimbabwe's sustainable development policy.

BRIEFS

Image Credit: FLSmidth

The SAGwise process control system reduces energy consumption by six per cent.

FLSmidth launches process system

FLSmidth launches a sensory and process optimisation system designed to optimise the use of the three main consumables in SAG milling: power, media and liners. The SAGwise™ total process control system reduces energy consumption by up to six per cent. This is a significant reduction considering that, by far, mills are typically the single largest consumer of power within a processing plant. Other benefits include up to 45 per cent reduction of ball-on-liner impacts

Image Credit: GMSG

Ash has 20 years of experience in the mining and manufacturing sectors.

GMSG announces new chair

Barrick Gold's chief innovation officer, Michelle Ash, said she was honoured to be appointed as the new chair of the Global Mining Standards and Guidelines Group (GMSG).

For the past two years, Ash has served on the GMSG Leadership Council, volunteering her time and expertise to shape policies that will affect the future of mining.

Ash said, "The success of the mining industry is dependent on collaboration and innovation."

De Beers and Botswana's diamond affair

Bruce Cleaver, CEO of De Beers and HE Sadique Kebonang, minister of mineral resources speak about how their partnership has contributed to Botswana becoming one of the fastest economies in the world.

Image Credit: Adobe Stock

De Beers has invested in technology to detect on a 100 per cent basis whether a diamond is natural or synthetic.

Sheila Kama, lead mining specialist, energy and extractive industries, global practice World Bank led a discussion with Bruce Cleaver, CEO from De Beers and HE Sadique Kebonang, minister of minerals resources, green tech and energy sector at Mining Indaba in Cape Town, last month, on 'Creating a stable economically viable future for the diamond industry in Africa'.

Sheila Kama: How do you see the Kimberley Process contribution to responsible sourcing of gem diamonds?

HE Sadique Kebonang, minister of minerals: I think it's safe to say through the Kimberley Process we have seen the elimination of illicit diamond trading. As we stand, 99 per cent of the diamond that has been traded is free from illicit trading and we think the Kimberley Process (a government-led certification scheme which unites administrations, civil societies, and industry in reducing the flow of conflict diamonds) has helped in this process and continues to help. It is our view that once we share the same objectives, we will able to achieve much more.

Sheila Kama: What does the role of private corporations mean in improving the Kimberley Process and something about nation states are not able to address?

Bruce Cleaver: Firstly, just to add to what the minister said, we are enthusiastic supporters of the Kimberley Process. We have been involved with it in the tripartite way. Governments, industry and NGOs have been involved from the very beginning and it has evolved and served its purpose in regard to the statistic that the minister mentioned. For us though, we think that industry should go beyond the Kimberley Process, bearing in mind the consensus nature of the Kimberley Process.

In the industry and in De Beers, we've focused since the launch of the Kimberley Process on how we take on the Kimberley Process and make it even better. We are very proud of a set of standards called Best Practice Principles, which are standards which don't just require the people upstream on the mining side but also our customers in the middle and downstream end.

All our major contractors sign up and agree with ethical standards that cover not just the Kimberley Process but also the human rights, labour, environment and ethical business practices. We have made our customers and their customers to comply with this. We have improved the lives of 350,000 workers in the diamond industry in the whole value chain since the beginning of the Kimberley Process. We also have seen other industry bodies taking something of the Kimberley Process and expanding it and covering more emerging issues.

> "We have improved the lives of 350,000 workers in the diamond industry"
>
> **BRUCE CLEAVER, CEO OF DE BEERS**

Sheila Kama: Botswana is one of a handful of countries that the World Bank classifies as a middle-income country. What does sustainable mining mean for your country's economy?

HE Sadique Kebonang, minister of minerals: For us, sustainable development means that we have to take into account the interest of the current generation with the interest


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of the future generation in order to come up with a balance. Therefore, whatever we do, we have to make sure that is sustainable. It is meant not only for now and to take into account tomorrow. It means safe mining standards.

We have to make sure that we use the funding, the money from the endowment revenues, for the future and invest in development. That means we will still have money when mining is finished and we have other resources, which we have been able to get thanks to the sustainable mining activities.

Sheila Kama: Are man-made substances a threat to your industry? Can we presume that somewhere in the future that diamonds might be substituted for other substances?

Bruce Cleaver: It is possible to manufacture synthetic diamonds in a laboratory which are at least to the naked eye the same as natural diamonds despite being very different. Firstly, I think that it is important to state that this issue of synthetics is not new. It's been around in the industry for 10-15 years. There are two types of synthetic diamonds. The first one is called undisclosed where people manufacture and try distribute the diamonds without disclosing it.

At De Beers, we have invested strongly in technology which has allowed us to continue to detect on a 100 per cent basis a synthetic diamond to a natural one, so I don't think that there is any concern there. Another part of the synthetic question that you are asking is the sale of synthetics, which is disclosed and we don't think there is an issue with people selling disclosed synthetics. For us though, ultimately, there is a big difference between a synthetic and natural diamond. They don't occupy and will not occupy in the future the same space in the consumer's mind.

The natural diamond has a tremendous and emotional value. It is one of those really precious things which is given to celebrate life's great moments; an engagement, a partnership, a birth of a child, an anniversary, a great promotion etc. It is so powerful because it is so emotional and it is so emotional because it is real and rare because they are difficult to find.

De Beers is proud to have 25 cutting and polishing factories in Botswana, South Africa and Namibia.

The other side to that, is the synthetic issue, effectively you can manufacture a synthetic over six weeks. We think that consumers will find a place for synthetics which will be fashion jewellery. They are something which is fun and fashionable but something which is not at all the same as the natural. The reason for that is because it was made in six weeks. It can't be the same as a natural diamond, which is so rare and was made by the miracle of nature between one and four billion years ago.

Sheila Kama: Some people have argued, however that environmentally, synthetics may well be a better alternative to natural diamonds – what is De Beers' response to this?

Bruce Cleaver: You need to look at the unbelievably good that diamonds have done, particularly in Africa. If you look at the position of Botswana economically in 1966 when independence was gained and if you compare that with the country's position now, it is the fastest growing country. Its compounded annual GDP growth rate between 1966 and 2014 was the fastest growth of any country in the world. That is testament to the good that can be done by mining a resource, but by doing it in a responsible way, with the government leading the way. At the time of independence, Botswana had 6km of tarred roads, now it has 6,000km. These are all the amazing things that diamonds have been able to do for a country.

Sheila Kama: Can you explain why your partner countries; Botswana, South Africa, Namibia, struggle so much to achieve beneficiation of diamonds?

Bruce Cleaver: I think all producer governments have a completely legitimate interest and we support this interest, in maximising the value of the revenue of a mineral from an extractive industry where it is a finite commodity, or in the case of diamonds – a finite luxury product. We totally support the principle that as much economic value should be captured in the country. We have been at the forefront of working with our producer partner governments in creating a sustainable as possible local beneficiation industry.

It is an industry where in the country that the rough diamonds can be cut and polished and turned into polished diamonds, are ultimately sold in the international markets. It is very important that all the local beneficiation that we try to support is sustainable and creates long-term sustainable jobs. India is the biggest country in the world in terms of cutting and polishing of diamonds, 'the beneficiation of diamonds'. In certain respects, it is difficult for cutting and polishing businesses in producer countries to compete economically with India.

The cost of labour is highly-flexible and specialised, which means generally speaking that very small diamonds are not always economic to cut and polish in a producer country. But our policy when working with partner governments is to ensure all diamonds mined in a country that they are economically cut and polishable in that country are always offered for sale to be cut and polished in that country. It is important for us to create sustainable beneficiation industry and between the three countries we are heavily invested in southern Africa. We are very proud that between them there are 25 cutting and polishing factories.

Sheila Kama: What has made this partnership more successful than most? And how do you see it progressing in the future?

HE Sadique Kebonang, minister of minerals: The relationship with De Beers has been mutually beneficial in a number of ways. Without Botswana's production, De Beers' global output would be less than 20 per cent. Equally our sales account for 80 per cent of Botswana's export needs. It's the case that we need each other. We've had a relationship that has evolved over the years based on our own strategic needs. We've a joint company, Debswana, where initially the government held 25 per cent. We have now moved to 50 per cent with De Beers in that company. We also own 15 per cent of De Beers Group and so that is how the relationship has worked. ■

MB Crusher: Precious resource for mines

The range of MB Crusher products provides a practical solution to carrying out specific operations in restricted areas, which are difficult to access with large mobile plants.

Image Credit: MB Crusher

The BF150.10 can be fitted to excavators, starting from 70 tons.

The day starts very early for quarry workers. The working cycle is adapted to the length of the day, in order to make the most of daylight hours. Perfect harmony exists between man and nature, made possible thanks to the natural resources which are extracted every day.

But, nothing lasts forever, and even in quarries, resources are limited and destined to run out at some point in the future. For this reason, it is always necessary to look for new ways to profitably re-use the extracted material, even which, until recently, was considered as waste. With MB Crusher solutions, all materials can become sources of immediate income.

Characterised by the wide area they cover and the considerable variations in height, quarries put the traditional fleet of machines used on the site through their paces. The range of MB Crusher brand products provides a practical solution to the need of tough yet agile instruments, capable of reaching areas where only excavators can move.

In order to improve the synergy with the traditional equipment used in quarries, such as fixed and mobile crushers and screeners, MB Crusher has developed a range of crusher and screening buckets specially studied for extraction sites. Made entirely out of Hardox®, MB Crusher machines are available in various models and sizes according to the excavator on which they are to be fitted. MB Crusher also includes the largest crusher and screening buckets in the world: the BF150.10, which can be fitted to excavators starting from 70 tons, and the MB-S23, which has a load capacity of 4.3cu m.

MB crusher and screening buckets process all extracted material to render it re-usable directly onsite. Waste materials, which were previously destined solely for disposal, with MB can be processed in calibrated batches, and re-sold or re-used onsite, thus leaving the mineral balance of the quarry unaltered.

> "The range of MB crusher and screening buckets is suitable for operations in steep and uneven areas"

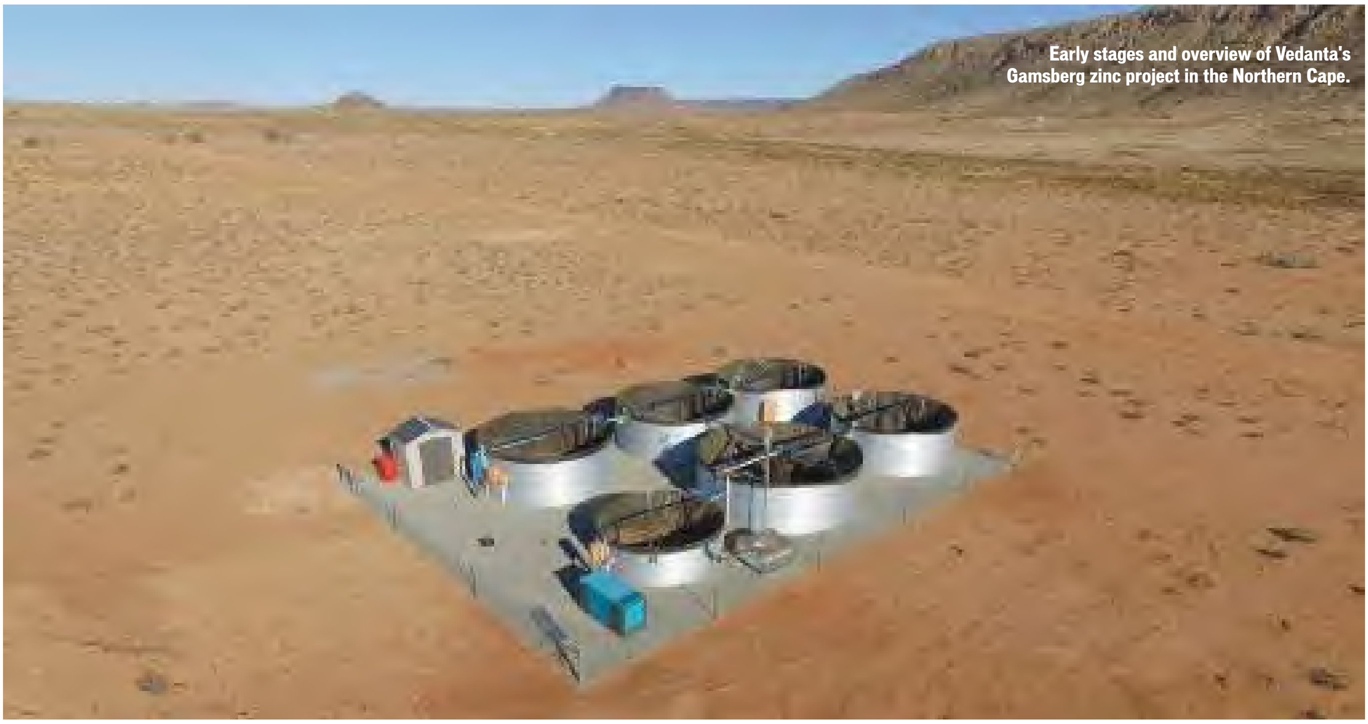
The range of MB crusher and screening buckets dedicated to quarries, is suitable for operations in steep and uneven areas, characterised by substantial changes in temperature. It requires simple and rapid maintenance, which can be carried out directly by the operators onsite.

Increasingly, important contractors are deciding to add MB crusher and screening buckets to their fleet of machines because of their flexibility and innovative abilities to carry out specific operations in restricted spaces, which are difficult to access with large mobile plants. ■

From 13 to 16 March, visit MB Crusher at Bauma Conexpo Africa – booth E39 – Hall 6.

World-class zinc project gets underway

Zest WEG Group has been chosen as the leading supplier in the Gamsberg project – South Africa's largest current greenfield mining operation.



Early stages and overview of Vedanta's Gamsberg zinc project in the Northern Cape.

Image Credit: Zest WEG Group

At Vedanta Resources' Gamsberg mine in the Northern Cape, Zest WEG Group is working closely with lead contractor ELB Engineering Services as a preferred supplier to standardise on its range of transformers and motors across a number of on-site applications.

The Gamsberg project is South Africa's largest current greenfield mining project, and will exploit one of the world's largest zinc deposits. It is being developed at a capital cost of US$400mn and is expected to produce 250,000 tonnes a year of zinc metal in concentrate.

"This is a very exciting project for South Africa, especially as we haven't seen a new mine being developed in the country for many years," said Dr Stephen Meijers, chief executive at ELB Engineering Services. "Vedanta Resources has shown real intent in terms of investment in South Africa; not only in this project but in others, and we are proud to be building Gamsberg."

ELB Engineering Services' first package of work was the provision of water from the Orange River to the process plant, through an upgraded pump station and a pipeline of about 40 km. The second package is the supply of power from the existing Eskom switching yard via overhead lines to the mine, and the third is the process plant itself covering all aspects from run-of-mine tip through to final product, including process dams and balance of plant.

"First product is expected through the plant by the middle of 2018, with the civil works being largely completed by the end of the second quarter of 2017," said Dr Meijers. "Structural and mechanical construction on the plant is now starting to become the focus of work, and the pace will continue to be intense until middle of 2018."

> "We've worked with Zest WEG Group for many years and appreciate their professionalism"
>
> **DR STEPHEN MEIJERS, CHIEF EXECUTIVE AT ELB ENGINEERING SERVICES**

Extreme temperatures on site – down to minus 10°C at night in winter and up to between 45 and 50°C in summer during the day – have affected the design and the construction methodology, he said. This has meant making optimal use of the cooler hours in summer, even pre-manufacturing as much as possible at night before placing during daylight hours.

Dr Meijers is a strong believer in partnerships, with much of the project technology being applied through exclusive partnerships with preferred suppliers.

"We've worked with Zest WEG Group for many years, and appreciate their professionalism, quality of service and reliable scheduling," he said. "We have therefore placed a number of the contracts for this important and fast track venture through Zest WEG Group companies."

As a group of specialist electrical companies, Zest WEG Group's scope of supply covers two main spheres, the water-related package which focuses on the upgrading of the municipal supply station providing water to the Gamsberg site, and the package for the mine's zinc concentration plant and related processes.

In this process, Zest WEG Group supplied a number of non-standard products, providing the mechanical and design engineering necessary to ensure that the non-standard specifications could be met, including the redundancy requirements to ensure optimal plant uptime.

"The Gamsberg plant is a showcase for WEG motors and includes four different MV motor ranges that were fit-for-purpose in their different applications," said Kirk Moss, manager, medium voltage business at Zest WEG Group company Shaw Controls. "These included our new W50 line, the HGF line, large slip-ring motors from our M line, and our W22 line of low voltage IE3 motors; meeting the range of requirements and demonstrated Zest WEG Group's versatility in terms of the multiple MV and LV motor offering."

Energy efficiency is a major driver in the project design, with high efficiency W22 WEG IE3 motors being specified across the site. To streamline and facilitate the implementation of this focus, Zest WEG Group was tasked by ELB Engineering Services to coordinate with all the original equipment manufacturers that would use motors to drive their equipment. This is to ensure that the principle of energy efficiency is applied across all aspects of the project scope.

"Importantly, we are supplying all the LV motors for the plant, ensuring the project will save considerably on its energy cost by complying with the IE3 energy efficiency standard," said Moss. "These motors are also IP66 rated with Class H insulation, which enhances the IE3 specification by providing higher ingress protection and accommodating a higher temperature rise."

According to Shaw Controls business development manager Tyrone Willemse, the MV Mill package being supplied for the plant comprise two large 6,5 MW WEG motors – MAF 11 kV slip ring units –specified for the ball and semi-autogenous (SAG) mills.

"The jaw crushers will be fitted with proven, robust 11 kV 400 kW motors from WEG's HGF line," said Willemse. "We were also requested to supply the distribution transformers on the plant.

Zest WEG Group's contribution to the upgrading of the water supply facility involved the provision of eight 3,3 kV 550 kW medium voltage (MV) motors as well as its locally designed and manufactured transformers to provide power to the pump stations.

"This included two 2,5 MVA transformers (reducing 11 kV down to 3,3 kV), as well as four 315 KVA (3,3 kV down to 400 V) units," said Willemse. "Once again, these were not standard transformer designs but were prepared specifically to suit the specifications of the client."

The package also includes the new WEG W50 motor, which features a compact size and design; through the application of the latest computational analysis techniques, the scale and the cooling efficiency have been improved – delivering optimised airflow that enhances the unit's expected lifespan.

"This means that the performance and temperature rise of these motors is not compromised in any way by its smaller dimensions," said Moss.

Connected to these motors are WEG MVW01 3,3 kV variable speed drives (VSDs), further enhancing energy efficiencies. These are also compact – just 2,315 mm high, 2,600 mm wide and 980 mm deep including the integral phase-shift transformer – together helping reduce the footprint of the substation.

> "The Gamsberg plant is a showcase for WEG motors"
>
> **KIRK MOSS, MANAGER, MEDIUM VOLTAGE BUSINESS AT ZEST WEG GROUP**

The Variable Speed Drives (VSDs) also boast a low component count – imperative in terms of reliability – of just three power arms that can be changed in two or three minutes, allowing for quick maintenance and low downtime in the case of replacement.

"Helping to meet the short lead-times demanded in this project, Zest WEG Group was able to leverage the global WEG group's multiple manufacturing facilities around the world, giving us flexibility in terms of where we build and how quickly we can source product," said Moss.

Willemse added that an important aspect of the group's added value has been its five-year guarantee covering the hundreds of LV motors on the project. ■

Advertiser's Index

Changing the future through the world of innovation

People living in the slums of Luanda have been given a new lease of life thanks to a new innovation centre.

Lighting up the lives of people in Luanda.

Positioned in the heart of the slums of Cazenga, Luanda, there is a glimmer of hope for the thousands of people living there. An old soap factory has been turned into an innovative creative space for people to transform their future.

It is the brainchild of Jean-Claude Bastos de Morais, the founder of African Innovation Foundation (AIF) and already the ripple effect of the factory's role in the community is having an impact on people's lives.

He said, "I decided to take over the old soap factory and transform it into a creative space to foster innovation and entrepreneurship in the centre of the slums in Luanda because I believe the young people who don't have anything, are very hungry to learn and to get on in life. Normally, people are very agnostic and are afraid of change and of things which have a direct connection to technology, but what we have seen at the hub is a viral effect of people experiencing opportunities for themselves that they can do something and are now telling their neighbours about it. We had a young kid passing by, and he has since learnt how to build a drum set. It is about doing something that helps them."

Around 200 people per day come to the hub in Cazenga where 23,000 people live per sq km. Since de Morais and his team have moved into the area, they have cleared vast swathes of rubbish, which had been responsible for vermin and causing sickness. As a result, people have started to take pride in their area. He said, "I chose this spot on purpose because it is at the centre of a huge amount of people who can come and talk about the problems of the community and can find a solution in the hub, such as repairing solar panels. It is an example of an innovation ecosystem."

The hub, which is run by 62 employees, has been split up into various spaces from manufacturing, arts and theatre to a co-working area for start-up businesses and small-scale entrepreneurs, who cannot register themselves as businesses because of living in the slums. They have access to office facilities, such as a desk and a computer.

"In the manufacturing space, people make textiles bags and recycle stuff," continued de Morais. "They transform materials such as plastic, iron, aluminium, and wood, into something, which is sellable and has a market. Out of the aluminium, they have created chess figures that are sold, and they have created a chess club. They have learnt how to smelt the aluminium by creating their own smelter and by burning cans on site. People have built their own furniture and have learnt how to build and dismantle a 3D printer within three weeks.

"I believe innovation is the solution. If you take a macro-view that today you have 1.1 billion people, 60 per cent of which are 19 and below, and then look at the birth rate of the whole continent in 30 years from now, 2.5 billion people, 70 to 75 per cent people being 19 and below, it can turn into a very beautiful story. If you create this innovation spirit it changes the mentality of the people and I have seen over the last seven years through the AIF how it has changed African countries for the better."

The AIF supports African innovators and focuses on five main areas, which are Manufacturing and Service Industry, Agriculture/Agri-Business, Health and Wellbeing, Information Communication Technologies (ICTS), and Environment, Energy and Water.

de Morais added, "Heads of states invite me to make sure the IPA is celebrated in their country because it has such a big positive impact for the population. If we can implant this same spirit into two million young children, imagine what can happen in the future, that they too can dream to become an innovator." ■

> "If you create this innovation spirit it changes the mentality of the people"
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> **JEAN-CLAUDE BASTOS DE MORAIS**

JEAN-CLAUDE BASTOS DE MORAIS

Jean-Claude Bastos de Morais, who is Swiss and Angolan, is the founder and chairman of investment firm, Quantum Global as well as the founder of the African Innovation Foundation.

The purpose of the African Innovation Foundation is to increase the prosperity of Africans by catalysing the innovation spirit in Africa through the areas of innovation and technology, governance and compliance and social impact development. The IPA is part of the work of the foundation and recognises the achievements of innovators across Africa. It rewards US$150,000 to winners who deliver market-oriented solutions that boost the social and economic development of a country.