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# African Review

JUNE 2017

of BUSINESS and TECHNOLOGY



P20

Andrew Alli, AFC president
"Private capital will not come to invest in African infrastructure if projects are not bankable"

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# Editor's Note

Two of the biggest trade show events on Africa are happening this month; the Africa Energy Forum on 7-9 June in Copenhagen, Denmark and ConMin West Africa on 13-15 June – the latter being the first of its kind ever to be held in West Africa. Both of these are pivotal events in bringing Africa's major construction, mining and energy decision-makers together to discuss important projects and move the sectors forward. See previews on page 33 and page 50.

Elsewhere in the issue, we look at the role of efficient road transport networks has to play in ensuring the continent realises its full potential.

But as Andrew Alli, Africa Finance Corporation president, points out at the AFC live summit on 15 May, private capital flow into African infrastructure will always be restricted unless projects prove they are sustainable and bankable.

Lastly, one of the most exciting private-public partnership projects happening in East Africa, is the Lamu Port-South Sudan-Ethiopia Transport and Development Corridor. It links up Kenya, South Sudan and Ethiopia. The opening of three of the expected 32 deep sea berths early next year at Kenya's Port Lamu means strides will be taken towards the country becoming East Africa's biggest trade gateway, larger than Mombasa port.

**Samantha Payne,** *Editor*

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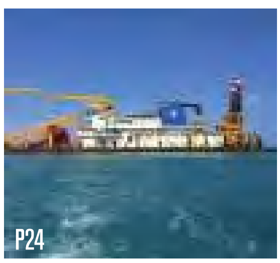
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# ITFC provides US$1bn of financing for the development of strategic commodities

The signing of these agreements contributes to the diversification of the sectors financed by the International Islamic Trade Finance Corporation (ITFC) in the member countries. (Source: ITFC)

The International Islamic Trade Finance Corporation (ITFC) has signed Murabaha agreements for developing strategic commodities in Tunisia and Mali.

The first agreement was between the ITFC and the Republic of Tunisia, which was represented by the Tunisian Electricity and Gas Company, to contribute to financing the resourcing of natural gas for an amount of US$160mn.

The second agreement was with the Tunisian Company of the Refining Industries to contribute to financing crude oil and petroleum products for an amount of US$150mn.

The agreement was signed by Eng. Hani Salem Sonbol, CEO of ITFC and HE Mohamed Fadhel Abdelkefi, Minister of Development, Investment and International Cooperation of Tunisia (Governor of Islamic Development Bank (IDB).

Another agreement was signed between ITFC and the Republic of Mali for the purchase of petroleum products and electricity. The agreement, which amounts to EUR40mn, has been signed by Eng. Hani Salem Sonbol, CEO of ITFC and H.E Dr. Boubou CISSE, the minister of economy and finance, (governor of the Islamic Development Bank).

The corporation also signed a framework agreement with the Government of The Gambia amounting to US$210mn over three years.

The agreement signed is for the import of petroleum products and fertilisers, in addition to the provision of pre-export financing for groundnuts and cashew nuts. It was signed by Eng. Hani Salem Sonbol, CEO of ITFC and HE Mr. Amadou Sanneh, Minister of Finance and Economic Affairs of The Gambia (Governor of Islamic Development Bank).

The signing of these agreements proves the diversification of the sectors financed by the International Islamic Trade Finance Corporation (ITFC) in the member countries, and enhances the role of the institution as a partner for the comprehensive development of these countries. The ITFC is a member of the IDB.

## FLSMIDTH SIGNS LARGE CEMENT PLANT CONTRACT IN NORTH AFRICA

FLSmidth has signed a contract for a state-of-the-art cement plant in North Africa valued at more than EUR100mn (US$111.35mn).

The contract includes engineering, equipment supply, construction supervision, commissioning, and training. The plant will mainly supply cement to its local market. Once completed, the cement plant will have a capacity of 12,000 tonnes per day.

"We are extremely proud to have been chosen as the preferred supplier of this cement plant," said Per Mejnert Kristensen, group executive vice president, Cement Division. "It marks the culmination of a close collaboration between the customer and FLSmidth, enabling us to deliver a cement plant based on our experience from the cement industry, our global presence, and the know-how of our 12,000 employees in delivering productivity enhancing solutions. North Africa is a very important market to FLSmidth."

## GET WIRELESS TO DEVELOP LARGE IOT NETWORK IN TUNISIA

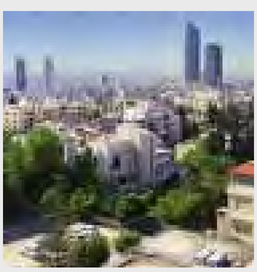
Actility, the industry leader in Low Power Wide Area Networks (LPWAN), and GET Wireless, North Africa's leading network system integrator, have announced their partnership to develop a large scale IoT communication network in Tunisia.

As a leader in integrating solutions and value added services for network operators throughout the Maghreb region, GET Wireless will be creating a platform for its customers to support applications ranging from smart grid to waste management and e-health.

"With the Tunisian IoT market now opened up for development by Mincom, the way is clear for our customers to begin to deploy services, which they want to do as swiftly and efficiently as possible to take advantage of this new market," said Malek Ben Jalel, VP Presales of Get Wireless. "We believe Actility's platform will allow us to quickly install and easily maintain a best in class product for our customers. Actility has the experience gained as a founding member of the LoRa Alliance and a veteran of many large scale network rollouts worldwide, which gives us confidence in its ability to deliver the best solutions, and the value of its insight into successful business strategies for the IoT."

"We're very excited to be working with GET Wireless to begin the deployment of a large-scale LPWA network in Tunisia," said Actility CEO Mike Mulica. "The continent is gearing up to provide smart services founded on the intelligence offered by the IoT powered by our ThingPark platform. The ability of the IoT to improve the quality of life for everyone is recognised throughout Africa, and the region is fast becoming one of the leading engines for IoT adoption and growth worldwide. We're convinced that GET Wireless, with its experience in delivering customer solutions, is well-placed to accelerate the deployment of IoT solutions in Tunisia and beyond."

# BRIEFS



Jordan's Crown Prince says the next generation is embracing new technologies. (Source: Shutterstock)

## Jordan's Crown Prince opens WEF

HRH Crown Prince Al Hussein bin Abdullah II of the Hashemite Kingdom of Jordan opened the World Economic Forum on the Middle East and North Africa on 20 May, declaring his generation's commitment to innovation and change, and can be a powerful tool in the fight against terrorism. Underlining the meeting's theme, 'Enabling a Generational Transformation', the next generation is embracing new technologies, leading to new ways to connect, learn and work, he said.

The Big 5 Construct Egypt will be happening on 15-17 September 2018. (Source: Shutterstock)

## BIG 5 Construct Egypt in 2018

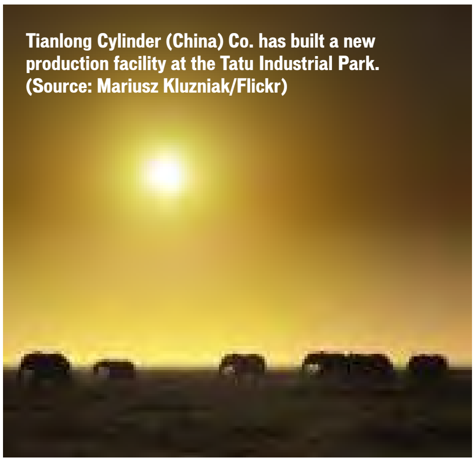
The Big 5 Construct Egypt will be taking place at the New Cairo Exhibition Centre on 15-17 September 2018.

With US$473bn worth of active projects in the entire region, the majority of them in Egypt, the Big 5 event is expected to be an indispensable initiative to add value to the country's booming construction market.

The mega event will coordinate CPD certified workshops and show the latest innovations.

# Kenya & Ethiopia target light industry sector

Kenya and Ethiopia are competing for a larger slice of the region's growing light manufacturing industry.



Tianlong Cylinder (China) Co. has built a new production facility at the Tatu Industrial Park. (Source: Mariusz Kluzniak/Flickr)

In Kenya, Tianlong Cylinder (China) Co. said in May that it is to build a new production facility at the Tatu Industrial Park in Nairobi. It marks the debut of the company in the eastern Africa market. The Tianlong facility will create up to 200 new jobs and will spread across seven acres of land.

The family-owned Chinese company is a leading producer of LPG gas cylinders, gas pipes, burners and other accessories for domestic and restaurant cooking. In 2009, it expanded its operations into Africa, with first production in Nigeria.

Its general manager, William Wang, said the investment in Tatu marks its arrival in Kenya and eastern Africa. “With this investment, we intend to grow our business and rapidly capture market share in the country,” he said.

Tianlong's annual output exceeds two million units of LPG cylinders in China, much of which is exported to Africa, as well as Europe, South America, the Middle East and south-east Asia.

Its arrival represents a vote of confidence in the Kenyan market. It also marks another important client for Tatu, a mixed-use, mixed-income satellite city, which is now a hub for light industrial activity outside Nairobi. Other occupants include global consumer group Unilever, while leading Kenyan companies such as Dormans, Kim-Fay and Maxam are in the process of rolling out new manufacturing facilities at the site.

Chris Ochieng, senior development manager at Tatu, said the arrival of Tianlong underlines the industrial park's growing appeal to business. "Tatu Industrial Park serves as a viable investment choice for companies within and outside Kenya looking to enter the domestic market.”

Ethiopia is likewise beefing up its business parks to accommodate more light industrial activity.

The government hopes to transform the sector by building more capacity as well as introducing a series of new integrated agro-industrial parks (IAIPs) around the country. These will provide industry with knowledge hubs and research facilities, plus related infrastructure.

## GE UPGRADES ETHIOPIAN PRESENCE

GE Ethiopia has moved into new offices in Addis Ababa, a move that it says represents a “tangible commitment” to its long-term future in the country.

“GE has been operating in Ethiopia for around nine years and has grown from a staff of one to over 40 local professionals today,” said Daniel Hailu, chief executive of GE in Ethiopia. The new offices can house up to 60 staff members.

In Ethiopia, GE businesses are playing a role in the implementation of the government's Second Growth and Transformation Plan (GTP), providing technology and knowledge transfer in partnership with various state owned enterprises and local private sector companies.

“We are eager to expand our participation in the GTP projects across the power, transportation and healthcare sectors,” said Hailu.

## JAMBOJET PLOTS REGIONAL EXPANSION

Kenyan budget airline Jambojet is expecting to receive government approval imminently to start flying to destinations outside the country. The airline flies to half a dozen airports within Kenya.

Jambojet is owned by the national carrier, Kenya Airways. The airline's chief executive Willem Hondius said the company could operate flights jointly with Kenya Airways or target destinations that the parent airline does not serve. “We have a long list of routes we could operate," Hondius said, cited by Reuters, adding that destinations will be selected once approval has been granted.

Hondius also said the budget carrier will lease more planes to start the flights in the next two years. Last year, Jambojet carried 600,000 passengers using a fleet of Boeing 737s and Bombardier Q-400 planes.

At the end of April, Bombardier Commercial Aircraft confirmed that a Moscow-based leasing firm, Ilyushin Finance Co. (IFC), had converted an option for a second Q400 aircraft to a firm order, which will be placed with Jambojet.

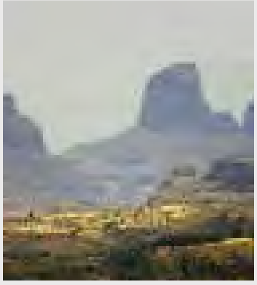
The first leased Q400 aircraft arrived in May, with the second aircraft expected later this year. It will increase the fleet of Q Series turboprops in Africa to more than 120 aircraft including around 70 Q400 aircraft. Hondius called the aircraft “the backbone of Jambojet's growth strategy”.

In January, Jambojet acquired a new 78-seater Bombardier Dash 8 Q400, leased from Abu Dhabi Aviation.

Jambojet was established in 2014 to cater to local travellers by offering low-cost fares for as little as 3,200 shillings (about US$30) one way.

Currently, Jambojet flies to Nairobi, Mombasa and Kisumu, as well as to Eldoret, and coastal routes including Ukunda (Diani), Malindi and Lamu.

## BRIEFS



ATI supported US$4bn of investments this year. (Source: Shutterstock)

### ATI's US$4bn business

The African Trade Insurance Agency (ATI) announced its annual results for 2016 in May, stating that it had supported US$4bn worth of trade and investments during the year.

ATI is a multilateral investment insurer originally formed by COMESA member countries with the support of the World Bank. Key strategic projects included supporting a US$159mn loan from the African Development Bank to support Ethiopian Airline's fleet expansion.

Efacec has won a US$10mn contract for substations in Rwanda. (Source: Gwendolyn Stansbury)

### Rwanda substations deal

Portuguese company Efacec has won a tender for the construction of three new 200kV substations in Rwanda.

The contract is worth around US$10mn, with completion set for 18 months. Efacec will work on the project on behalf of Tunisia's STEG International Services, which is part of the consortium that won a tender from the Republic of Rwanda. The new facilities will help in the distribution of electricity to rural areas.

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## KEY IRRIGATION PROJECTS IN AFRICA

- Ministry of Agriculture & Rural Development, Luanda, Republic of Angola
- Ministry of Food & Agriculture, Accra, Ghana
- Ministry of Agriculture & Hydraulics, Dakar, Republic of Senegal
- Rand Water Board, South Africa
- Ministry of Public Works, Suriname
- Guneid Sugar Factory, Sudan
- Consolidated Farming Ltd, Zambia
- Department of Water Affairs, Tanzania

# New traction transformer plant inaugurated in South Africa

**With the new factory, ABB aims to support South Africa's growing railway network. (Photo: michaeljung/Shutterstock)**

ABB has inaugurated a new traction transformer production facility adjacent to its South African headquarters in Longmeadow, Johannesburg. This unit will produce traction transformers for trains. Traction transformers feed power at safe voltages to essential train functions like traction, brakes, lighting, heating and ventilation, as well as passenger information, signalling and communication.

ABB CEO Ulrich Spiesshofer inaugurated the new factory with the director general of the Department of Trade and Industry, Lionel October.

"ABB is proud of this new traction transformer facility in South Africa, reiterating our philosophy of locating manufacturing units close to our customers," said Spiesshofer, speaking at the inauguration event. "It reinforces our Next Level strategy focus on strengthening our presence in Africa and supports our ongoing commitment to sustainable mobility."

The company has revealed that the first major order to be executed at the new facility will be the supply of traction units for 240 Bombardier electric locomotives. The local manufacturing of these traction units is expected to support the South African government's local procurement and employment requirements. The 2,450 sq m facility is expected to employ 60 people by the end of 2017.

Since 2012, South Africa has invested in the development of its rail network as an opportunity to rejuvenate the economy, create jobs and support a major shift from road to rail transport for both passenger and freight travel. The expansion of the country's rail network is also expected to contribute to its vision of becoming a key logistics center in sub-Saharan Africa.

## HELPING SOUTH AFRICAN BUSINESSES EMBRACE THE TECH REVOLUTION

African local entrepreneurs and small businesses stand to benefit from a technology driven revolution, according to Marwaan Sasman, founder and creative director of Pigeon Pie: Design Lab, a beneficiary of the Innovator Trust.

The Innovator Trust was specifically formed to grow small black-owned businesses in the information and communications technology (ICT) sector and to help develop competent SMME's through training, skills sharing and infrastructure support.

Sasman said that technology currently drives the industry and the economy and with every new software application, digital platform or piece of hardware, comes a completely new market opportunity.

"The market is changing rapidly. The small innovative companies will be able to outpace their slow and established contemporaries with their legacy systems. There is massive scope for growth," Sasman says.

Pigeon Pie aims to inspire organisations to challenge the status quo and focuses on brand development and management.

"A great brand does more than build a business. A great brand can engage an audience, start a movement or inspire a nation. We develop the brand strategies and creative communication that ensures you build a brand people fall in love with; a brand that connects," he said.

According to Sasman the key for local enterprise, will be to adopt an innovative mind-set and focus on skills development to ensure that digital transformation opportunities can be filled – and led – by South Africans themselves.

## NEWS BRIEF

### DTI launches new revitalised industrial park in Mthatha

The Department of Trade and Industry (dti) has launched the new revitalised Vulindlela Heights Industrial Park in Mthatha, Eastern Cape.

Speaking at the launch, deputy director-general (DDG) of Special Economic Zones and Economic Transformation at the DTI, Sipho Zikode, said radical economic transformation has received a boost with the revitalisation of the industrial park.

The DDG said radical economic transformation starts when government provides infrastructure that will enable business to thrive and the more than US$1.5mn revitalisation of the park speaks exactly to that.

"While government is providing the infrastructure, businesspeople must stand up, roll up their sleeves and work hard," said Zikode.

### Eskom to keep lights on this winter

The South African power utility Eskom has committed to continue keeping the lights on this winter despite the severe weather conditions that have already started to grip the country.

A company statement said, "Eskom is aware that the past few weeks not only signalled the start of winter, but also indicated the impact the weather conditions will have on the company's electricity distribution networks."

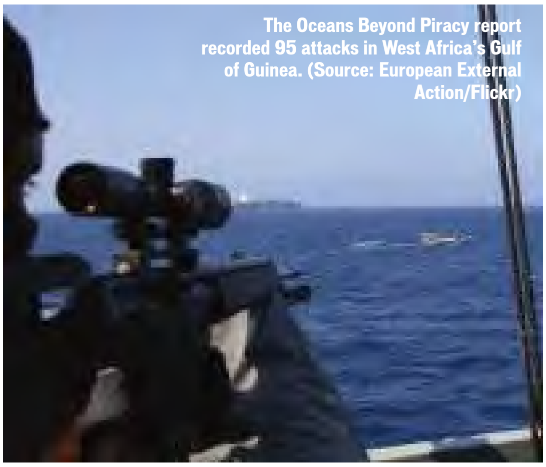
"The Eskom Distribution Customer Centric Winter Plan has already been activated so that its networks are able to cope with the extreme weather conditions, increased electricity demand as well as respond to and restore network faults timeously."

# Piracy on the rise again off West Africa

Piracy attacks off the coast of West Africa are on the rise again, a new report by Oceans Beyond Piracy (OBP) suggests.

OPB, a project of the privately funded One Earth Future Foundation that encourages cooperation across the international maritime community to tackle piracy, said that armed attacks on ships in West African waters nearly doubled last year.

It noted the trend that pirates are increasingly focused on kidnapping crew for ransom off Nigeria's coast.



The Oceans Beyond Piracy report recorded 95 attacks in West Africa's Gulf of Guinea. (Source: European External Action/Flickr)

The OBP report recorded 95 attacks in West Africa's Gulf of Guinea in 2016, up from 54 the previous year. Out of these incidents, 18 involved kidnapping for ransom, compared to 13 incidents a year earlier – with 96 seafarers taken hostage, compared to 44 in 2015.

One of the authors of the report, Dirk Siebels, said that West Africa remains a big area of concern for the maritime industry.

"In the study of West Africa, we found that almost two-thirds of all reported incidents took place off Nigeria," he said. "Most of these attacks were violent, putting seafarers at risk of being kidnapped or even killed."

Overall, the total number of incidents off West Africa affected more than 1,900 seafarers.

A rise in 'kidnap for ransom' attacks were also evident in the Sulu and Celebes Seas in south-east Asia during 2016, the OBP report noted.

Lead author of the report, Maisie Pigeon, said, "One of the reasons we are observing increased incidents of kidnap for ransom is that the model offers financial gain with less risk to the perpetrators than hijacking for cargo theft. Unfortunately, these kinds of attacks appear to have continued into 2017."

The cost of defending the shipping industry from these attacks is adding up. The OBP said the cost of contracted maritime security services in the region – such as escorts, patrols, secure zones and embarked security – was worth US$346mn in 2016. Off the Horn of Africa – once known for international piracy – activity is similarly on the rise again.

## BIOKO TERMINAL SET FOR UPGRADE

Equatorial Guinea's Bioko Oil Terminal will undergo a major facelift after receiving an investment boost from Arabian Energy DMCC.

The Saudi-based group signed an agreement on 11 May with the government of Equatorial Guinea to collaborate on the development, implementation, construction and financing of the US$500mn project.

The goal is to create West Africa's largest oil and petroleum products storage facility and transform Equatorial Guinea into a trading and services hub for the region.

With 22 storage tanks and a total capacity of 1.2 million cubic metres, Bioko Oil Terminal is expected to be built in two phases, the first consisting of refined production and the second capable of storing, handling and blending middle distillates and lights such as diesel, jet fuel, gasoline and naphtha, as well as crude oil.

The shared terminal infrastructure will be operated on a 'first come, first served' basis.

## ORANGE DIVES INTO LIBERIA

Mobile phone brand Orange has arrived in Liberia, underscoring its presence in West Africa.

It follows the acquisition of the Liberian operator Cellcom, which was finalised by Orange in April, through its subsidiary Orange Côte d'Ivoire

With more than 1.6 million customers at the end of February 2017, Orange Liberia is the leading mobile phone operator in the country in terms of customers.

Yet it sees room for growth in a country with comparatively low mobile penetration rate – about 70 per cent of the population.

"Even in 2017, an important part of the Liberian population is still waiting for basic telecom services," said Mamadou Coulibaly, Orange Liberia's chief executive.

The company has said it plans to accelerate broadband deployment and to expand 4G penetration across the country.

"We will invest significantly in network roll-out across the country, develop e-recharge to ease the constraints of scratch-cards loading, launch Orange Money, a new robust platform to boost mobile banking services in the country. We will, as well, introduce new highly competitive offers and low cost smartphones in order to boost digital inclusion."

Bruno Mettling, deputy chief executive officer of the Orange Group and chairman and chief executive of Orange Middle East and Africa, said the acquisition further extends the Orange footprint in West Africa. Orange is present in 21 countries across Africa and the Middle East, with more than 120 million customers.

"The launch of the Orange brand confirms our confidence in the country's ongoing economic recovery and our commitment to bring all the benefits of new digital services to Liberians."

## BRIEFS


ICD moves into West Africa.

### ICD launches Islamic Window in Africa

The Islamic Corporation for the Development of the Private Sector (ICD), the private sector arm of IDB Group, and Coris Bank International have entered into a joint strategic collaboration to establish four Islamic windows in Côte d'Ivoire, Mali, Senegal and Benin.

Mr. Khalid Al Aboodi, CEO of ICD, said, "We are happy to assist Coris Bank in launching new channels in our member countries in Africa."

Ghana and Cote d'Ivoire will collaborate together to boost cocoa sales.

### Ghana & Côte d'Ivoire cocoa plan

The presidents of the Côte d'Ivoire and Ghana have said their countries will work together to improve the organisation and sale of cocoa.

The West African neighbours are the world's two largest cocoa producers but plummeting global prices have hurt the economies of both. The two sides plan to improve coordination between cocoa sector regulators and to seek funding to add value to their cocoa industries.

# Upcoming Events Calendar 2017

## JUNE

**5 - 7**
### AFRICA OIL & POWER
Cape Town, South Africa
www.africaoilandpower.com

**7 - 9**
### AFRICA ENERGY FORUM
Copenhagen, Denmark
www.africa-energy-forum.com

**13 - 14**
### AFRICA RAIL 2017
Johannesburg, South Africa
www.terrapinn.com

**13 - 14**
### AVIATION FESTIVAL AFRICA
Johannesburg, South Africa
www.terrapinn.com

**13 - 15**
### CONMIN WEST AFRICA
Abuja, Nigeria
www.conminwestafrica.com

**19 - 20**
### EAST AFRICA FUTURE BANKING
Nairobi, Kenya
www.fleming.events

**20 - 21**
### ROADS & CORRIDORS EAST AFRICA
Nairobi, Kenya
www.eastafricaroads.iqpc.ae

**20 - 21**
### WEST AFRICA MODERN AIRPORTS
Accra, Ghana
www.airportswestafrica.iqpc.ae

**23 - 24**
### DRC MINING WEEK
Lubumbashi, DRC
www.drcminingweek.com

## JULY

**11 - 12**
### GSMA MOBILE 360 SERIES: AFRICA
Dar es Salaam, Tanzania
www.mobile360series.com/africa

**11 - 13**
### OIL & GAS AFRICA
Cape Town, South Africa
www.africaogp.com

**12 - 14**
### WEST AFRICA POWER SUMMIT
Dakar, Senegal
www.wafpower.com

**18 - 20**
### POWER-GEN AFRICA
Johannesburg, South Africa
www.powergenafrica.com

# Africa Rail celebrates its 20th anniversary

This year marks the 20th anniversary of Africa Rail, the continent's longest running and biggest railways showcase event.

In 2017, the conference and exhibition promises to be bigger and better than ever before, welcoming rail leaders, operators, end users and government officials from across the whole region and beyond to discuss the future of this vital and strategic industry.

Expect to find around 100 expert speakers addressing key industry challenges and opportunities, more than 150 leading rail manufacturers and suppliers showcasing the latest technologies, and a total of over 6,500 attendees.

Spread across four theatres and addressing topics covering mainline passenger and rail freight, signalling and communications, track infrastructure, asset management, rolling stock, operational efficiency, construction and development, it is an event not to be missed.

And it comes at a time when interest in the railways sector is growing fast, driven by a number of flagship projects across the region.

These include ambitious plans to connect East Africa's coast with landlocked countries in the interior, an initiative that could supercharge trade and travel within the sub-region.

Tanzania and Kenya are both looking to link their major coastal ports with the interior to drive the regional economy.

These and other initiatives are certain to come up with speaking operators at Africa Rail 2017 including Uganda Railways Corporation, Ethiopian Railways Corporation, Rift Valley Railways (Kenya), TAZARA (Tanzania) and Zambia Railways.

As well as eastern Africa, the event also brings together officials and executives from the rest of the continent as well, from Algeria in the north, right down to South Africa.

Other speaking operators will include Anesrif (Algeria), ONCF (Morocco), Nigerian Railways Corporation, OCBN Benin-Niger Railway (Benin) and Cameroon Railway.

**More than 150 leading rail manufacturers and suppliers will be showcasing their latest technologies at Africa Rail.**

The event will highlight rising international interest in Africa's rail transport sector and the investment opportunities it presents. International participants will include Indian Railways, MetroRio (Brazil) and Kolkata Metro Rail Corporation (India).

Africa Rail 2017 will also include top speakers from numerous transport ministries from across the continent including South Africa, Madagascar, Niger, Senegal, Chad, Togo and Namibia, among many others.
Africa Rail takes place on June 13-14, 2017

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## DJIBOUTI OPENS MOST ADVANCED PORT IN AFRICA

Djibouti has opened the country's latest mega project – the Doraleh Multi-Purpose Port (DMP).

The official opening ceremony was held under the auspices of Djibouti's President His Excellency Ismail Omar Guelleh, together with His Excellency Hailemariam Desalegn, prime minister of Ethiopia.

The new 690ha facility is equipped with ultra-modern facilities that can accommodate 100,000 dwt vessels. The US$590m project was started in 2015, and jointly financed by Djibouti Ports and Free Zones Authority (DPFZA) and China Merchant Holding (CMHC). The port equipment was manufactured by Chinese firm ZPMC. Vessels have begun using the facility.

**Doraleh Multi-Purpose Port is set to transform shipping in the Horn of Africa. (Source: Djibouti Ports and Free Zones Authority)**

## TULLOW AND AFRICA OIL UPBEAT ABOUT SOUTH LOKICHAR BASIN PROSPECTS

Kenya's South Lokichar basin remains one of the brightest hope for oil production in East Africa, according to senior executives from Tullow and Africa Oil.

Speaking at the Africa Independents Forum in London last month, Dr Ian Cloke, vice president, new ventures, for Tullow, said that Lokichar would be the main focus of the company's work in Kenya.

With 12 exploratory drillings, 21 appraisal wells, 11 accumulations discovered plus two tight oil finds, Dr Cloke said there is "potentially 1bn barrels in this basin," he said.

"[Also,] there are multiple basins yet to drill and exploration and appraisal is ongoing."

Discoveries have been made from the Erut-1 and Emekuya-1 wells in the northern triangle of the Lokichar basin and de-risking is the next step.

**Kenya's South Lokichar basin renews hope for oil production in East Africa. (Source: Shutterstock)**

## MOROCCO TO BUILD AFRICA'S TALLEST BUILDING IN RABAT

China Railway Construction Corp (CRCC) plans to build Africa's tallest high-rise tower in Morocco's capital Rabat.

The US$375mn building will be constructed in the Bouregreg Valley as part of the 2014-2018 Integrated Development Programme, known as 'Raba, City of Light, Moroccan Cultural Capital'.

The CRCC alongside Travaux Generaux de Construction de Casablanca won the bid to build the 45-storey tower, which will include offices, hotels and luxury apartments.

**China Railway Construction Corp (CRCC) is set to build Africa's tallest high-rise tower in Rabat, Morocco. (Source: Shutterstock)**

"Africa Day affords us an opportunity to celebrate our African identity. Our country was isolated for decades from the rest of the continent due to the evil system of apartheid colonialism. We are now a full member of the African continent, and since 1994, our continent is correctly the primary focus of our foreign policy."

**JACOB ZUMA**

**South African President, speaking at the Africa Day celebration on 25 May to mark the formation of the Organisation of African Unity 54 years ago**

"Utilities on the continent are challenged, and while much talk has been centred around where Africa is lacking in utilities, it is important to remember that although infrastructure forms a critical pillar in mobilising utilities development on the continent, the current infrastructure investment back logs of around US$90 – 100bn – remains one of the most prominent challenges for countries in Africa and will form a cornerstone to discussions at this year's event."

**DEBUYS SCOTT**

**KPMG partner**

"It will bring back and highlight the commercial position and importance of the Port of Berbera as a Red Sea gateway for the Middle East and Africa."

**AHMED MOHAMED MOHAMOUD**

**Somaliland President on the US$442 mn development of Port of Berbera as a new trading hub for East Africa**

"We are committed to bringing digital financial services and true financial inclusion to West Africa. We can now facilitate full interoperability between all e-money payment systems. This is a great leap forward for Africa."

**ALIOUNE CAMARA**

**Chief executive of Banque Régionale de Marchés on the launch of a new national digital currency**

"We remain cautiously optimistic about the macroeconomic environment in 2017. Nonetheless, our objective of delivering sustainable shareholder value remains unchanged. We will also continue to maintain our proactive and disciplined risk management practices and leadership in sustainability initiatives."

**HERBERT WIGWE**

**Access Bank, group managing director, following total revenue announcement for 2016 of N381bn ($1.20bn)**

"During the past decade, APR Energy has installed and operated power plants in 11 African countries, ranging in size from 5MW to 450MW."

**ERIC TOUMAYAN**

**APR Energy managing director of government affairs**

"The overall weak outlook partly reflects insufficient policy adjustment. The delay in implementing much-needed adjustment policies is creating uncertainty, holding back investment, and risks generating even deeper difficulties in the future."

**ABEBE AEMRO SELASSIE**

**Director of the IMF's African Department following economic growth in Sub-Saharan Africa is set to recover to 2.6 per cent in 2017, up from 1.4 per cent last year**

"Any government making its political, developmental or economic calculation without the diaspora automatically gives up 40-50 per cent of its economic strength. We are therefore determining that there will be diaspora inclusion in our development agenda, and it will be at the heart of our projects and programmes."

**MUSTAPHA ABDUL-HAMID**

**Ghana's minister for information, speaking at the launch of the Ghana Diaspora Homecoming Summit**

# AFRICAN REVIEW / ON THE WEB

A selection of product innovations and recent service developments for African business
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## KENYA TO BUILD VOLVO TRUCK MANUFACTURING PLANT WORTH US$24MN

*Volvo Trucks is looking to expand its business in East Africa. Source: Herranderssvensson/Commons*

Volvo Group, a Swedish multinational manufacturing company, will construct a truck manufacturing plant worth US$24mn at Mombasa, Kenya, with the aim to expand the company's truck manufacturing business in the East African region.

The new plant will be Volvo's third assembly plant in Africa after two other manufacturing plants in South Africa and Morocco.

Claes Nilsson, the president of Volvo Trucks, confirmed that the assembly plant is set to be launched in the first quarter of 2018. According to him, the plant is targeting an output of 500 units per year, which will bring top class modern trucks with specifications for the East African region. Nilsson explained that it becomes imperative to have a manufacturing plant in Kenya to look like a serious competitor in the entire region. This is one of the reasons of setting up the third assembly plant by the company.

"We have been in East Africa for the last three decades and believe that there is a significant potential for the premium truck business as regional economies grow, infrastructure investments expand and the business environment remains investment friendly," he added.

The regional division of Volvo Trucks in Nairobi will be responsible for expanding the brand's business in the East African region. Volvo Group, with around 15 truck manufacturing plants worldwide, has a market share of more than 20 per cent in Morocco and an 18 per cent market share in South Africa. With this new assembly plant, Volvo Trucks aims to have a 20 per cent market share in Kenya in the next three to five years.

## DEME WINS MULTIPLE AFRICAN CONTRACTS

*DEME has won contracts worth around US$140mn in Africa. Source: S.J. de Waard*

DEME has been awarded several new contracts in Africa with a total value of approximately EUR125mn (US$140mn). The contracts were awarded over the last few weeks for projects in Angola, Benin, Ghana, Ivory Coast, Liberia and Nigeria.

In Angola, a five-year maintenance dredging contract has been awarded by Angola LNG for its gas terminal in Soyo. Works will start by mid-June 2017.

In Benin, DEME was awarded a contract for coastal protection works at the Cotonou shoreline. Works will include beach nourishment with a total volume of 1.5mn sq m as well as revetment works and groyne construction.

In Ghana, DEME is participating in a contract for the Tema Port expansion project. Ghana's main seaport, operated by Meridian Port Services (MPS), is gearing up to accommodate some of the world's largest container ships and increase cargo handling services and capacity. The project includes dredging and land reclamation of three million sq m. Works are set to start by the end of May 2017.

In Côte d'Ivoire, a contract has been awarded for the maintenance dredging of the port of Abidjan. Works will be executed in May 2017. It is the third consecutive time that DEME is contracted by the Port Autonome d'Abidjan to maintain the port. DEME also returns to Liberia for maintenance dredging works in the Freeport of Liberia. The contract has been awarded by Liberia's National Ports Authority.

In Nigeria, DEME acquired a contract for the Maiyegun Waterfront development in Lagos. DEME reclaims approximately 600,000 sq m to raise the level of an existing beach. Maiyegun Waterfront will include new housing units, a commercial hub, as well as leisure facilities. The contract in Nigeria follows the recently won project for the Lagos Deep Offshore Logistics Base (LADOL), where DEME is involved in the yard and quay wall construction, as well as the dredging of the berth pocket and access channel to the quay, on behalf of Samsung Heavy Industries.

## CONSTRUCTION GROWS STRONGLY IN NORTH AFRICA COUNTRIES

*Projects worth around US$473bn are underway in North Africa. Source: Africom Mil*

The construction market in North Africa is on the rise due to several active high-value projects with approximately US$473bn investment, shows a recent market report by BNC Project Intelligence.

According to the report, Egypt accounts for a majority of 71 per cent of the total project investments in North Africa following the announcements of some major projects on urban construction and utilities sectors, which have a combined value of nearly US$300bn of all project investments in North Africa.

Some of the high-value projects in North Africa include Capital Cairo in Egypt, worth US$45bn, and the Industrial Park in Morocco, worth US$10bn, which indicate a healthy pipeline of other fresh project investments in the region.

The construction market in North Africa has been making big advances following a period of socio-economic instability in 2011. The GDP of North Africa has been growing since 2011 with a six-year estimated growth rate of approximately 20 per cent. New investment opportunities are opening up as geopolitical tensions gradually ease and governments rebuild their economies to a large scale.

Given the environment of low oil prices, governments are focusing more on different sectors such as urban construction and utilities.

Increasing populations and urbanisation are driving many of the construction projects in the region.

The demand for infrastructure and housing is growing in highly urbanised countries such as Algeria and in densely populated cities such as Cairo. This population increase drives the demand for construction activities in areas such as infrastructure, residential and commercial properties, hospitality and healthcare. Governments' investment in the utilities sector to address the pressing constraints of existing power systems such as planned outages and load shedding are set to develop the infrastructure system, thereby leading more investment in the construction market. In addition, various technological innovations such as renewable power, energy becoming more economical and widespread in the region, are contributing to the growth of North Africa's construction market.

Governments' investment in tourism and hospitality to diversify economies is also boosting construction business. Morocco is investing in the tourism sector with the aim to become a top-20 tourism destination by 2020, and Tunisia is investing in areas of medical and cultural tourism and ecosystems, thereby attracting foreign investors and private contractors in the business of the construction market in North Africa.

# Building closer Germany & Africa business ties

## Rebecca Enonchong, the founder and CEO of AppsTech, speaks passionately about how crucial technology has become for Africa and the importance of working alongside Germany. Stephen Williams reports.

Earlier this year the Germany-Africa Business Forum drew together some of Africa's sharpest minds with German companies and investors to create dialogue about commercial and political interchange between Africa – the world's fastest growing continent and Germany – the world's third largest economy, as well as a noted leader in technology and industrial expertise.

German trade with Africa stands at around $US60bn a year (compared to China's US$200bn), and around 90 per cent of Germany's FDI into Africa is focused on just three countries – South Africa, Algeria and Nigeria. Consequently, the potential for German brands, industry and capital to expand and find new markets in Africa is considered hugely positive.

There are also ample opportunities for African companies to do business in Germany, particularly in the field of technology.

Enonchong told the conference: "I have been working toward and trying to encourage technology entrepreneurship in Africa since 2000, and in the last 17 years, I can only say that I never dreamt about what I see today, it is just amazing what young people, with practically no resources, are able to do. Across the continent, Africans are developing innovative technology."

This is important because Africa needs scale. African entrepreneurs can and do develop world-class technological innovations, but it is only by getting it into developed markets such as Germany that they become truly viable commercially on a global scale.

Enonchong told *African Review* that she began her company and then in 2001 created a subsidiary called MobileApps that developed the capabilities of companies to make transactions using mobile devices. "This was traditional mobile," she points out, "pre-smart phone and primarily for enterprise applications."

Essentially, the apps that Enonchong built allowed her client companies to transact within

**Rebecca Enonchong, CEO of AppsTech**

their own finance systems using mobile applications. The apps were an internal operational tool.

Enonchong started her career in finance, in back-office finance accounting. She worked for various institutions in the finance field before moving on to consult on financial systems for large organisations like the Inter-American Development Bank in Washington DC – the largest source of development financing for Latin America and the Caribbean.

From the Inter-American Development Bank she went on to join Oracle Corporation, the California-based multinational computer technology corporation, again working with financial applications before she decided to strike out on her own to found AppsTech. She retained a working relationship with Oracle – AppsTech becoming an Oracle Platinum partner – offering a diverse range of enterprise software products.

With offices on three continents, AppsTech has done work in over 25 countries and provided support to users in more than 50.

> "African governments should not fear technology, they must learn to love it"
>
> **REBECCA ENONCHONG, CEO OF APPSTECH**

But while Enonchong is very positive regarding Africa's potential role in profiting from cutting-edge technologies, she has reservations about the way that many African governments interact with tech entrepreneurs. Instead of enabling technologies to evolve, they can cramp innovation with red tape and regulations.

"African governments should not fear technology, they must learn to love it, embrace it and recognise the power technology has in creating economic opportunities and development," said Enonchong.

She cites examples, such as the app developed for the agricultural sector that uses a sensor that can be planted into the soil to assess its composition and report to a central server on the appropriate type of fertilizer to use.

However, she is critical of the types of legislation that certain governments have introduced, such as Ghana that has imposed the equivalent of an US$8,000 license fee for operating drones.

"Drones have many useful applications," she explains. "They can be used in delivering pharmaceuticals to remote areas, mapping, providing internet access or monitoring crops. But compare the US$8,000 that the Ghanaian government requires to register drone operations to the US$5 fee that the US government imposes!"

And Enonchong has some advice for Germany as the relationship between Africa and Germany deepens in the lead up to the G20 summit in July in Hamburg, which will be hosted by Germany. Germany has already published *Africa and Europe – A New Partnership for Development, Peace, and a Better Future* that has been hailed as a 'Marshall Plan' for Africa. Germany has already confirmed that the G20 intends to discuss the opportunities and challenges posed by the spread of digital technology.

"There is a risk that Africa will not be respected as market but be viewed simply as a charity case," said Enonchong. "But Africa wants to be treated as a market, and the Germans would be well advised not to lower their standards when it comes to Africa. If they keep to those same ethical standards they will find a really able partner in Africa, and Germany will benefit from that." ■

# Building tomorrow's Africa

## In mid-May, the Africa Finance Corporation celebrated its tenth anniversary, holding a major conference in Abuja, Nigeria. Stephen Williams reports.

There was something of a shadow overhanging the Africa Finance Corporation's (AFC) 'Africa Live 2017' infrastructure summit. That shadow was the absence of Nigeria's Head of State, Muhammadu Buhari, who had travelled to London for medical treatment.

Nevertheless, the summit could look back on a decade of progress in developing African infrastructure, pioneering infrastructure investment and project development, over which it has invested approximately US$4bn across 30 African countries. They have invested in over 26 projects across 30 countries with a trio of services – project development; financial advisory; and principal investing.

The timing of the two-day summit had a certain element of serendipity about it. AFC Live 2017 opened a day after China's President Xi Jinping pledged a massive US$215bn to his country's Belt and Road initiative.

This is a global infrastructure plan that, despite the geographic challenges, includes a focus on East Africa's Indian Ocean littoral as a gateway for China to boost continental trade links.

Andrew Alli, the president and chief executive of AFC who opened the AFC Live summit, commented on the importance of project development expertise in African infrastructure investment.

Alli told the 700 assembled delegates, "The earliest stage of conception and development of any project is crucial. Private capital will not come to invest in African infrastructure if projects are not sustainable and bankable.

"By focusing on supporting project development and using our local knowledge and sector expertise to identify and mitigate risks, we can help accelerate the number of viable, bankable projects across the continent, creating the market for other forms of capital to follow, and ultimately bridge the investments divide that currently exists."

Andrew Alli, AFC president. (Source: Stephen Williams)

That investments divide the AFC president referred to is generally quantified as being around US$50bn a year. The International Monetary Fund estimates Africa requires a US$100bn investment in infrastructure each year for 10 years to keep pace with the continent's current growth, but is only able to mobilise US$50bn.

Hence, there is a distinct conundrum as the lack of reliable and sustainable infrastructure stunts Africa's economic growth, but the continent needs future prosperity, economic stability and economic growth to fund its infrastructure.

There are many types of infrastructure sectors ranging from information communication technology to power generation and transmission; roads, rail, ports and airports to water and sanitation – but they all have one thing in common in being pivotal to both economic progress and social cohesion,

At the AFC Live 2017 Forum, a recurring theme of the discussions was the nexus between the public and private sector. While infrastructure investment in Africa has the potential to be highly profitable, with returns generally significantly higher than in developed countries, there are challenges.

It may seem counter-intuitive, but one challenge is the increasing adoption of multi-party democracy by African states that leads to shifts in infrastructure policies and priorities as one government succeeds another.

That is not to say that infrastructure developers like the AFC would prefer to deal with autocrats or dictators, but political cycles are certainly a factor when long-term projects are being proposed. Furthermore, the AFC is committed to ensuring that the investments it makes are socially and environmentally sustainable; respectful of the rights of affected communities; and structured and operated in compliance with best international practice.

> "Private capital will not come to invest in African infrastructure if projects are not sustainable and bankable"

Another significant factor that confronts infrastructure developers in collaborating with the public sector – explained Oliver Andrews, the AFC's chief investment officer – is that the public sector is not a single body. Rather, infrastructure developers are obliged to reach agreements with various ministries – finance, environment, labour, power, treasury and others – who might quite possibly have differing agendas and priorities.

But since the AFC's foundation in 2007, and its first equity investment in the Main One sub-sea cable, the AFC has moved steadily forward with its mission to provide project development expertise and risk capital to fill Africa's critical infrastructure void.

The near term strategy is to become a US$5bn corporation within two years, focusing on those projects that it identifies will make the biggest contribution to driving economic and social development, and to job creation in the local communities.

With the major accountancy firm, PricewaterhouseCoopers projected Africa's infrastructure spending reaching $US180bn a year by 2025, the AFC's funding and project development experience and expertise have never been more important or needed.

As Andrew Alli, AFC's president and chief executive states, "We are demonstrating that by taking an Africa-centric approach, by innovating and remaining committed to core principles, you can invest in African infrastructure sustainably, and the AFC is focused on continuing to accelerate growth over the coming years." ■

CRM involves using technology to organise, automate and synchronise business processes. (Photo: Kentoh/Shutterstock)

# Streamlining business with IT

**Two fundamental IT solutions that complement each other's functions and help mid-to-large-sized businesses fine-tune their processes, nurture customer relationships, improve productivity and provide visibility at various stages of the supply chain are CRM and ERP solutions. Tim Guest reports.**

Any mid-sized enterprise with plans to grow will need to be thinking about introducing customer relationship management (CRM) and enterprise resource planning (ERP) solutions to streamline its processes, deliver operational visibility and boost productivity. When implemented on their own, each offers great benefits, but when integrated, the power of the solutions can deliver even greater improvements.

When considering CRM, a solution such as Microsoft Dynamics CRM, available in South Africa through leading hoster and implementer, Sandton-based Enterprisecloud, can potentially drive an organisation's business success. CRM is a widely implemented strategy for managing a company's interactions with customers and prospects, and involves using technology to organise, automate and synchronise business processes to aid sales, marketing, customer service and technical support. The overall goals are to find, attract and win new clients, as well as nurture and retain existing customers. Another major player in the CRM and business-process-IT field with branches across Africa, including in SA, is IBM. Its offerings include Sugar CRM, which delivers an open-source CRM solution from one of its IBM global alliance business partners, Sugar. IBM's Global Business Services also work with Microsoft, delivering the Microsoft Dynamics CRM solution throughout the region; the company also has other world-class partners, such as SAP, whose SAP Business All-in-One CRM system is available widely throughout Africa. As a result of such partnerships, combined with IBM's own solutions, skill sets and expertise, the company offers one of the most powerful portfolios of CRM solutions available across the continent.

Of interest to users of Maximizer CRM solutions, widely implemented across SA and distributed by partners such as Maximizer Certified Solution Provider, Camsoft, is that the new release, Maximizer CRM 2017, is now available to existing licence holders of Maximizer CRM. It is understood that users across SA and beyond can expect system updates free of charge. With offices in Cape Town, Johannesburg and Durban, Camsoft's CRM division has achieved Maximizer Software's Africa Business Partner of the Year on numerous occasions since 2004.

## Enter ERP

Handling the customer well and securing the order with the help of effective CRM is only the first step in keeping the customer satisfied. If the sale is made, but the supply chain fails, that makes the whole investment in CRM academic. This is where ERP solutions complement the other business processes, improving efficiencies in the supply chain and helping reduce costs right through the logistics cycle.

An effective ERP strategy and solution will deliver end-to-end information about orders and their status, from order receipt right through to delivery to the customer. In the past, ERP has been driven by financial and operational stakeholders, while CRM has been driven by marketing and sales; this situation has led to isolated information sets with the left hand not always knowing what the right hand is doing. So, while ERP will also deliver improved workflow and better integration of operational data and processes across a wide range of business scenarios, by bringing the two together – CRM and ERP – an even more comprehensive view of each customer, from sales, support, finance and the whole supply chain, can be produced. From order histories, product shipments and their exact progress through the supply chain, to order fulfillment and accounting; the combined functionality of the two IT solutions will deliver viewable, actionable information to help the enterprise help the customer, as and when required. And when the two systems are fully integrated, the sharing of information between them negates any need for contact centre staff to switch from one system to another to find the answer to a particular customer enquiry.

In SA, a key player in the ERP space is the Sage Group, represented by Sage ERP Africa. The company provides business software, services and support to small and medium-sized businesses, with its core solutions covering accounting, ERP, Payroll and HR, Business Intelligence, customer relationship management and retail software solutions. One of Sage ERP Africa's solutions, suitable for use across a range of industries, is the Sage ERP 300 full-service enterprise management software. The company says this solution is capable of 'meeting the most elaborate business processes, streamlining time-consuming financial and operational processes with advanced workflow, alerting and business process management technologies'. In addition, a web-based, all-in-one ERP solution, the Sage ERP X3, is also offered by the company.

An added bonus Sage ERP Africa offers to its clients is providing CRM functionality as an integrated, or standalone offering, to all its ERP customers. ■

# Driving organizations towards business excellence with the ORION ERP solution

**3i Infotech has launched its latest technology ORION ERP to help clients refine their operations.**

ORION ERP empowers senior management to analyse employee operation in all departments. (Source: Shutterstock)

Africa's small and medium-sized enterprises continue to expand across the continent and the world. This has created a greater need for organizations to have enterprise resource planning (ERP) systems in place to seamlessly manage business operations and meet legislative needs. However, the requirements from business systems have become complex and international expansions pose their own challenges in terms of financial reporting requirements, tax regulations, and more. Additionally, Africa has a regulatory and legal environment that is constantly evolving. This entails enterprises to have a flexible solution that can meet these changing needs.

There is great demand in the African market for ERP systems that can be rapidly deployed to address the challenges that enterprises face. Organizations are seeking a powerful and integrated ERP system to take over manual tasks and streamline business operations. However, enterprises often delay the deployment of an ERP system primarily due to the concerns associated with upfront costs, complexities in migration of exiting data into new ERP systems, and scarcity of industry-specific solutions.

At 3i Infotech, we focus on providing solutions for various industry verticals across geographies. We deliver specific solutions for industries including trading and distribution, retail, contracting, process manufacturing, real estate, NGOs, and healthcare. With two decades of experience in diligently developing technologies, we created ORION ERP, a multi-entity, multi-currency, and multi-user enterprise solution that is fully integrated with all the functional and administrative modules. ORION ERP is designed and built around customer-centric philosophies to help clients refine operations with deeper insights. ORION ERP empowers the senior management of an organization with complete visibility into employee operations across all departments. The digital, customized dashboard further helps conduct effective business analysis. The solution is embedded with workflow and KPI (Key Performance Indicators) functionalities to efficiently manage and determine if the client is achieving their business objectives.

> "There is great demand in the African market for ERP systems"
>
> **3I INFOTECH**

Furthermore, businesses today are interconnected and employees want to obtain the information in real time. Mobile ERP has become a need rather than an add-on system. The ORION mobile ERP system is created to address these changing market requirements, and provide access to information anytime anywhere.

3i Infotech has served clients from diverse industries, enabling them to map everything from strategy to efficient operational business models. The solution facilitates clients to nimbly adapt business processes to dynamic market requirements — giving them a winning competitive edge.

One of our clients and a popular garment retailer, Edgars Stores Limited, incorporated and domiciled in Zimbabwe offers a wide range of merchandise including clothing, footwear, textiles, cosmetics, accessories and cellular products. The client was using a legacy ERP software that had been built years ago and could not be scaled up to meet the needs of their growing business. The client noted low productivity and an increased user reluctance to engage with the tool as the conversion of data into reports was time consuming. Increasingly, data was kept offline, which led to data loss and inefficiency. The client was seeking a technologically sound ERP software that could organize the fragmented enterprise data management situation. After performing due diligence, Edgars Stores Limited chose 3i Infotech's ORION ERP solution as it served as a one-stop-shop to meet all their requirements and mainly, as it was a cost-effective solution.

The ORION team gathered a detailed understanding of the project requirements and created a comprehensive set of requirement documents. This was followed by the application development. The solution was implemented in 12 months, including the infrastructure components like Oracle. The ORION Retail Suite was implemented at the company. The project went live in October 2016 and now the solution is being used by 796 users across 52 outlets, two distribution centres and other regional offices.

The solution is packed with various modules, such as finance, fixed assets, bank reconciliation, budget, purchase, sales, inventory, credit operations, retail POS, fleet, insurance management for company assets, vendor relationship management, customer relationship management, hand held devices, document management system, and business intelligence.

Several departments benefitted from this implementation, particularly operations - retail business, credit management, call centre, distribution centre, procurement, marketing, finance, HR, payroll, MIS, administration and fleet management. The company noted numerous business benefits, such as elimination of long data entry processes, increased efficiency due to free flow of information across departments, shorter month-end financial processing and a centralized view of inventory across all stores, enabling faster procurement decisions.

Another notable implementation of the ORION ERP suite is for a prominent NGO in Africa. The NGO vertical has unique needs and requires a flexible and scalable ERP solution that can support them in achieving their goals, wherever they are - at a desk or on field. The industry requires a solution that reduces time spent on data entry tasks, helps maintain accountability, raises more funds, achieves program success and improves overall efficiency.

Population Services Kenya (PS Kenya), a Kenyan NGO that addresses health challenges affecting the poor and vulnerable communities implemented ORION ERP in January 2017. They wanted a solution that could help collect customer orders, build customer database and track all clinical data and interactions with customers. ORION 11J helped PS Kenya to meet their operational needs. The solution includes donor management controls to track donor budgets, donor reporting and exception reporting to make operations seamless and efficient. PS Kenya benefitted from accurate and reliable information for decision-making.

3i Infotech's ORION ERP system is built to fulfil the core business needs of organizations across all industries. It offers a strong foundation for growth, ensures innovation, and end-to-end business process excellence. Serving clients from various industries has fostered 3i Infotech to build a future-ready technology solution that empowers organizations to optimize business processes and make informed decisions through anytime access to dashboards and analytics. By deploying ORION ERP industry-ready solutions in organizations, clients have successfully streamlined business operations across various departments.

The latest version of ORION is cloud-enabled and built to address the changing market needs. It helps enhance agility and reduces costs. ORION 11J is packed with new functionalities that help gain maximum control over the business and increases productivity. It is a scalable solution, which makes it a perfect fit for small and medium-sized enterprises. Organizations can deploy only the necessary modules and add more business modules as they grow depending on the vertical they belong to. Consequently, investments can be spread and the ORION ERP solution will grow along with their business. ■

*For more information, visit www.3i-infotech.com/content/erp/*

**3i Infotech has served clients from diverse industries, enabling them to implement strategy and efficient operational business models. (Source: Shutterstock)**

# Lamu development to be bigger than Mombasa port

## The Lamu Port-South Sudan-Ethiopia Transport and Development Corridor is a public-private partnership (PPP) joining Kenya, South Sudan and Ethiopia. Mwangi Mumero reports.

Dredging at Lamu Port. (Source: LAPSSET headquarters)

Three of the expected 32 deep sea berths are scheduled for opening early next year at Kenya's Lamu Port, creating another avenue for cargo entry and departure for three Eastern African nations that also include South Sudan and Ethiopia.

Fully funded by the Kenyan Government at a cost of US$480mn, the three berths are being constructed by the China Road and Bridge Corporation (CRBC) which signed a deal with the Kenya Port Authority (KPA), the statutory body in charge of ports. The ongoing work has involved dredging the quayside, deepening the docking area for ships by 17.5 metres. Other works have involved the construction of a revetment, causeway, buildings and utilities, procurement of equipment and tug boats. "Lamu has a natural draft of minus 18 metres deep and the dredging will take it to 23 metres deep. It will have a capacity to handle vessels carrying between 6,000 and 13,000 TEUs," observed Catherine Mturi, KPA managing director.

Upon completion, Lamu Port is expected to handle bigger vessels than Mombasa Port – the main gateway to East Africa. Officials say that the three berths are designed to handle 30,000 Dead Weight Tonnage (DWT) and 100,000 DWT for general bulk and container cargo respectively. Construction work also involves reclaiming the sea, which will place the berths more than 700 metres into the India Ocean. The first three berths will stretch 1.2 km long with a width of 750 metres.

The remaining 29 berths will be financed by the private sector investors.

Lamu's Manda Bay is well-sheltered and has deep water of around 18 metres along the main channel and 50-60 metres in the bay, able to accommodate Panama-size vessels. In the 1500-1800s, the Arabian, Portuguese and Spanish traders used the port in the Indian Ocean to do business that took spices, slaves, ivory and other merchandise across the seas. Lamu is 242 km north of Mombasa along the Indian Ocean, close to the Somali border.

> "The port makes Lamu a strategic point within the LAPSSET Corridor"
>
> **ATKINS ACUITY CONSULTANTS**

Launched five years ago and officially known as Lamu Port-South Sudan-Ethiopia Transport and Development Corridor (LAPSSET), the project is a public-private partnership (PPP) that joins together three East African Countries – Kenya, South Sudan and Ethiopia. According to the United Nations Development Programme (UNDP), Africa has a number of successful PPP infrastructural projects. They include the Nationwide Water and Power Project in Gabon, construction of the N4 Toll Road between South Africa and Mozambique and the Urban Water Expansion project in Dakar, Senegal.

The joint Lamu Port development venture will see the opening of another transport corridor that will spur trade in the region. It will connect Lamu Port, northern Kenya and extend to southern Ethiopia and Juba, South Sudan in the west, that runs parallel with the Mombasa-Nairobi-Kampala transport corridor.

The project will also see the development of an 800 km road system, a standard gauge railway, a 1,300 km oil pipeline, an oil refinery and an airport. African Union, COMESA, East African Community (EAC), South African Development Community (SADC), African Development Bank (AfDB), the World Bank and the international Finance Corporation (IFC) are partner institutions.

According to the LAPSSET Corridor Development Authority director general Silvester Kasuku, the Lamu port development with the associated infrastructure projects, which will also include resort cities, will cost US$ 2.1tn and is expected to be completed by 2030.

"It will create easy connectivity within the country and linkages with neighbouring countries and also attract private sector investment in infrastructure development," said Kasuku.

Development of Lamu Port remains critical in the realisation of all LAPSSET projects. According to the port master plan, it will be implemented in three phases.

In the short-term, development of the three berths will be completed and will become operational in early 2018. In the medium-term, seventeen berths will be developed with the other twelve planned as part of the long-term strategy of the port's construction. The seventeen berths will comprise three bulk berths, three containers, six general cargo and one liquid bulk berth as well as one oil, one coal and two single point mooring buoys on Pate Island and off-shore.

Officials say that the port is expected to be five times bigger than Mombasa and will mainly serve the expanding import and export cargo including crude oil for the region.

Construction of port associated infrastructure, such as causeways, port access roads, railway yards, water and electricity supply, port buildings and other port related services is underway.

So far, the port's headquarters and police station, and the electricity power connection to the national grid and water reticulation network have all been completed. However, the construction of the housing scheme for the port's management is ongoing.

Investors are already putting their money into LAPSSET projects as the construction of the Lamu Port continues. The African Development Bank (AfDB) has provided a grant of US$2mn to the LAPSETT Corridor Development Authority (LCDA) for the procurement of transaction advisory services and related technical assistance.

The AfDB is the host of the new partnership for Africa's Development Infrastructure Project Preparatory Facility (NEPAD-IPPF), a multi-donor special fund with financial support from Canada, Germany, Denmark, Norway and Spain.

With the discovery of huge oil reserves around Lake Turkana in northern Kenya, Tullow Oil has announced that it is laying the groundwork for the construction of the Kenya crude oil export pipeline from Turkana to Lamu from mid-2017. The company which has been involved in oil exploration and dredging in northern Kenya is expected to start developing the Front End Engineering Design (FEED) programme – setting the stage for the actual construction of the 890 km pipeline. The pipeline is to expected to be completed in 2020, when commercial oil production commences.

Government estimates puts the cost of the pipeline at around US$2.1bn – opening up the country as an oil producer and exporter. Tullow Oil has announced that Kenya's seven oil wells can produce over 600 million barrels per day, the required threshold.

The LAPSSET project will position Lamu as an important trans-shipment hub to handle crude oil and refine oil from South Sudan.

LAPSSET has also received US$1mn to package the Lamu Port Project as an attractive investment for multinational and private equity firms.

According to LAPSSET's corporate affairs officer Benson Thuita, the transaction plan will map out all major factors to project financing options as well as the project risks. The expected return on investment rate, Thuita noted, is pegged at 23.4 per cent.

Recently, India's Deputy High Commissioner to Kenya Rajesh Swami said that Indian companies have shown interest in LAPSSET projects, adding that his country was eager to increase investment in the country. "Private companies have shown interest in infrastructure projects. A number are seeking to partner in LAPSSET," he said.

Meanwhile, late last year, a consortium of international investors led by the Development Bank of South Africa (DBSA) announced they were ready to invest US$ 1.9bn in the LAPSSET project.

Wholly owned by the South African government, the DBSA has previously arranged funding for projects in transport, energy, water and ICT sectors. At the same time, a group of rich countries and high net worth investors under the umbrella of the Organisation of Economic Cooperation and Development (OECD) have identified the Lapsset project as one of the 16 in Africa they would consider financing through a US$20bn fund.

On its part, the government of South Korea has offered scholarships for specialised training to any Kenyan officer working on the LAPSSET Corridor projects.

The two-month training programmes cover design, construction and management of high-value infrastructure projects and master planning of new cities. Already, the ongoing Lamu Port project is having a symbiotic effect on regional infrastructure development.

According to Kenya's transport permanent secretary Irungu Nyakera, the government is constructing the Lamu-Witu-Garsen road at a cost of US$100mn. The 132 km road will play an important role in the transport of goods and people between Lamu and Mombasa counties.

Another nine km road is also under construction to connect the US$2bn coal plant at Kwasasi to the Lamu Port. The coal power project will generate 1,050 MW and supply power to the port through the national grid.

While the ongoing works have created thousands of jobs, Atkins Acuity, consultants hired to develop an investment framework for the port, estimate that upon completion, the LAPSSET Corridor will create opportunities for 424,800 people.

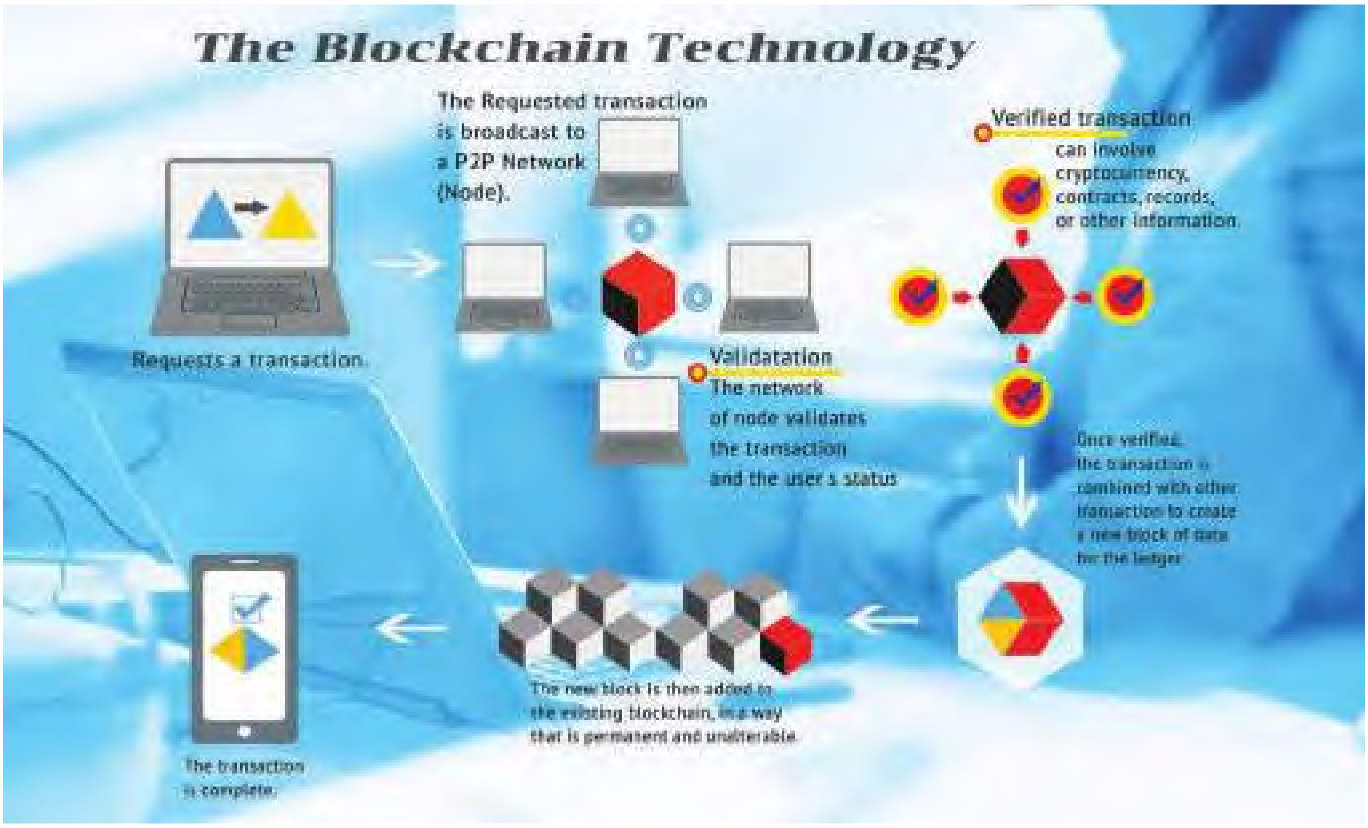
"The port makes Lamu a strategic point within the LAPSSET Corridor, serving as an entry point for goods and people as well as an ideal logistic hub and port city," Atkins Acuity reported. It is expected that the number of people employed in Lamu will rise from 177,000 as firms set up to 424,000 when the corridor is complete.

With over 90 million people, Ethiopia is the most populous landlocked country in Africa and connection to the Lamu Port will open up its export corridor to the outside world. Kenya is Ethiopia's second biggest trading partner and the rail and road link will open up trade between the two countries.

The AfDB estimates that a total of 28.5 million people from the region will benefit from LAPSSET. It noted that the project will "significantly impact on the lives of the people living in these areas which have been economically under-developed over many years." ■

# Innovation in blockchain trade finance deals

*Barclays Africa* becomes the first organisation in the world to execute a live trade transaction using Wave blockchain technology. George Wilson reports.




In a history-making move for the financial services and FinTech industry, Barclays executed the first ever live trade transaction using blockchain technology in September 2016. The pilot with start-up Wave, Barclays UK and Barclays Seychelles, marked a world first in international trade and the blockchain space – ultimately signifying the start of a new chapter in the blockchain community, where experimentation is replaced with implementation.

The underlying trade flow, originated in the UK, involved a documentary letter of credit covering the shipment of dairy products between a Barclays Seychelles client, the Seychelles Trading Company as the importer, and Barclays UK client Ornua – formerly known as the Irish Dairy Board – as the exporter. What makes the deal so groundbreaking is the fact that while the letter of credit was issued and settled the traditional way, which is lengthy as a result of having to deal with multiple parties across jurisdictions, the actual trade documentation was submitted and sent using the Wave application with the ownership of the bill of lading – a detailed receipt of a ship's cargo – on the blockchain.

> "The Wave blockchain-powered transaction only took four hours as opposed to 10 days"
>
> **GEORGE WILSON, HEAD: FINANCIAL INSTITUTIONS, NON-BANK FINANCIAL INSTITUTIONS & MULTILATERAL AGENCIES TRADE BARCLAYS AFRICA**

Wave comes with widespread advantages, perhaps the most critical of which are its simplicity, security and speed. Countless organisations have attempted to implement solutions that remove paper from the trade process. It has typically failed because digital documentation comes with the associated risk of lack of proof of origin and ownership. Multiple PDFs, for instance, can be sent across the entire value chain, making it difficult to identify the original; Wave has addressed the issue through its use of distributed ledger technology.

As a result of its incorporation of distributed ledger technology, the Wave application allows all stakeholders on the supply chain to receive, send and track a digital bill of lading as well as upload and send related documentation.

### Building efficiencies in trade finance transactions

Its use of blockchain technology makes it highly secure as it records and verifies the ownership of the documents and therefore the goods related to the trade. It also makes the transaction extremely quick. The

Wave blockchain-powered transaction only took approximately four hours, as opposed to the 10 days normally seen with structured trade transactions.

Use of the application has already had a positive impact on international trade, but it is set to continue to influence how trade finance transactions are carried out. It streamlines the supply chain process significantly and, as such, drives efficiencies in the global trade and banking industries. The deal, for example, represents a massive step forward for the banking sector, it means that risks are reduced as documents will be harder to forge and financing of trades will be processed and executed in a much shorter time frame. It will further drive savings around courier fees, handling fees and storage for all parties.

Global trade processed using Wave blockchain technology ultimately enables better data collection. As it stands, the fragmented nature of supply chains and the manually intensive process of registering trade movements make data on international commerce estimates. With better data, further efficiencies can be applied on routes, methods and trade opportunities. What is most exciting about the deal is that the Wave blockchain journey is only currently in the starting blocks, meaning that there are numerous developments still to come. Barclays Africa's strategy is to conduct multiple pilots with different banks and external parties across various regions in Africa and further afield and as a result gain adoption and uptake of the technology in a more organic manner.

In order for greater uptake to become a reality, however, the wider trade industry will need to adopt the application. This is no mean feat as there are a plethora of players and service providers in this industry that operate across the globe.

### Facilitating greater global uptake in blockchain technology

Although gaining market share in a highly competitive market is no doubt a daunting task, what sets disruptive and innovative solutions such as Wave blockchain technology apart and drives their uptake is their ability to impact positively on the bottom line. According to research carried out by the Global Alliance for Trade Facilitation, seven per cent of the global value of trade is absorbed by the cost of documents alone, making the significant cost and time savings just one of the reasons for stakeholders to adopt the solution.

What is more, there are plans to incorporate the Wave solution into the letters of credit and collections process. This will create an overall more seamless client experience as it creates greater efficiencies in the letters of credit and collections value chain, primarily because the verification and endorsement involved in the transfer of documents takes between two and five days rather than the more traditional 10 days.

> "Wave blockchain technology ultimately enables better data collection"
>
> **GEORGE WILSON, HEAD: FINANCIAL INSTITUTIONS, NON-BANK FINANCIAL INSTITUTIONS & MULTILATERAL AGENCIES TRADE BARCLAYS AFRICA**

Another compelling reason for greater uptake of the technology is the growing evidence of the ability to employ the technology in wider sectors. It can be adapted for any form of documentation that needs to track and verify ownership, which effectively opens it up to a wide variety of use cases in not only banking, but in insurance and law.

The deal is a historic moment for the bank and a prime example of how the bank is partnering and commercialising FinTech start-ups that have grown out of the Barclays accelerator programme – Wave is a blockchain-based supply chain start-up that was part of the TechStars FinTech accelerator.

Blockchain has been recognised widely for the opportunities it presents, particularly in the financial services field. The technology has the potential to transform how trade finance transactions are carried out and completed. It can help prove the authenticity and originality of documents, reduce risks, costs and the likelihood of fraud and enhances the user experience.

It is for this reason that Barclays has invested significantly in developing solutions in blockchain technology over the last few years. Barclays was, for instance, part of the original group of banks to join the R3 consortium designed to spearhead crypto-technology solutions in financial services, and was the first big bank to form a partnership with a digital currency firm, Circle, facilitating social payments on the blockchain using Circle's payments app.

The Barclays trade team is committed to providing its clients with cutting edge solutions to manage transactions and cash flows, accelerate their working capital cycles, fund growth, reduce risk and encourage global trade flows. Blockchain technology is an innovative way to not only diminish risk and speed up the processing of documentation in the trade cycle, it also leads to substantial savings, making it an effective way to manage trade finance deals. Barclays will therefore continue to develop its blockchain solutions in order to support the continued digitisation of trade and drive long-term efficiencies and savings for its clients. ■

Blockchain technology has the potential to transform how trade finance transactions are carried out. (Source: Shutterstock)

# ID Logistics to expand South Africa network

## The logistics provider plans to extend its warehousing facilities and reach into the retail sector.

France-based logistics provider ID Logistics is to bolster its presence in the South African market.

Eric Hémar, the group's chief executive, said during a recent visit to the country that his company had experienced "solid growth" in the market in 2016, after just two years of activity, and that it planned to invest in order to accelerate its business there.

He said, "We opened our network in 2014 with one customer, Danone. Now we have become the second largest provider in the chilled/perishables market, with a multi-client approach and the confidence of big branded names in South Africa."

Last year, ID Logistics extended its Danone contract until the end of 2022.

He said the group's South African subsidiary is now investing in new technology to boost productivity and raise the level of customer service in order to expand its business.

New improvements include the use of route optimising software, in-truck live navigation and delivery status, digitalisation, narrow aisle and flexi-reach trucks, as well as training personnel to handle all the new technologies.

> "We have become the second largest provider in the chilled/perishables market."
>
> **ERIC HÉMAR, GROUP CHIEF EXECUTIVE, ID LOGISTICS**

The managing director of the South African business unit, Etienne Juillard, said the challenge now is to build on the perishable platform, to extend warehousing facilities and to reach into other sectors, such as retail.

"At the same time, we are developing and growing our services in other vertical markets, namely e-commerce, cosmetics and fashion, leveraging our experience from other countries. What is also important is to upsell to our existing client portfolio and offer more value-added services."

According to Juillard, the group's global standards have had a positive impact on raising the bar in terms of skills in South Africa. "We deploy overseas resources to share and support these processes. What we really hope to achieve is a good balance of local and international skills, which ultimately benefits our clients and the industry at large," he added.

Recent highlights for the company include signing up 11 new clients in the fast-moving consumer goods perishables sector, including Henties, Mayo, BRM, Sir Fruit, Dew Crisp, O'Kin Foods, Deneys Swiss Diary, and Woody's.

The South African business forms part of a larger international contract logistics enterprise, with revenues of US$1bn, more than 275 sites in Europe, Latin America, Asia and Africa, and 18,500 employees. ■

ID Logistics wants to grow its services in other vertical markets, such as fashion and e-commerce. (Source: Shutterstock)

# Kenya's warehousing set for upgrade

New investment in Kenya's warehousing sector could begin to ease bottlenecks and capacity shortages facing the east African country.

Warehousing capacity has been squeezed as the country's economy has grown, a trend which experts expect to continue in the coming years unless more development takes place.

Fortunately, more projects are coming to fruition.

Africa Logistics Properties (ALP), a developer and manager of modern grade-A warehousing in Kenya, said in May that a group of international finance investors would commit up to US$4mn in the company, helping it to build more logistics space.

One of the largest warehousing facilities in Kenya. (Source: MTC Group/ Flickr)

The company said that it intends to use the money to build new warehousing developments in Kenya and expand its overall footprint across eastern Africa.

The funds are being provided by a consortium of investors including Dutch private equity firm, DOB Equity.

Earlier this year, CDC Group, the UK's development finance institution, and IFC, a member of the World Bank Group, announced plans to invest up to US$35mn in the company.

Brigit van Dijk-van de Reijt, chief executive at DOB Equity, explained the rationale behind the investment.

"The warehousing supply in east Africa is still fragmented, often located in congested areas, and lacking in overall industrial quality. It can be unsuitable for occupiers because of high operational and cost inefficiencies that hamper international companies looking to set up local operations, and prevent local SME's to reach scale."

The chief executive said that ALP brings an "innovative solution" to the local warehousing sector.

"ALP helps to drive logistical costs down by providing grade-A warehousing facilities, which create built-for-purpose supply chain infrastructure to drive efficiencies that should lead to lower prices for consumers. ALP helps enable

# Pallet shuttles are solution for high density storage

High density storage systems can increase capacity and improve access in new and existing warehouses.

As businesses grow, or seasonal demand fluctuates, the requirement for greater capacity and fast access within your warehouse operation becomes critical.

Most warehouse and logistics operations have palletised goods stored on standard adjustable pallet racking set out with wide aisles. This offers access to every individual pallet but can mean that 50 per cent of the warehouse space is given over to empty aisles. Space which could be used to store product if you could only gain access to it.

High density racking systems are used to increase the space available without a too great a compromise in product access.

Stodec Trading Ltd specialise in the design and installation of a range of these high density storage systems including double-deep pallet racking, push-back pallet racking, pallet-flow,

New shuttle systems have revolutionised lifting and carrying pallets. (Source: Stodec Trading Ltd)

narrow and very narrow aisle racking, drive-in or drive-through pallet racking, cantilever racking, and powered mobile pallet racking systems but one of the newest and most effective systems now is the pallet shuttle system.

Drive-in pallet racking with pallets supported on cantilever arms in dense blocks provide high capacity and is used widely where stock is slow moving. It requires fork-lift trucks to drive into the storage lanes to deposit or pick up pallets and rear pallets can only be accessed by lifting out front pallets first. New pallet shuttle systems have revolutionised the operation and value of this type of high density installation.

The shuttle unit runs on rails installed under the pallet support arms. The fork-lift truck deposits a shuttle unit into the required lane and it is instructed from the drivers radio controlled handset to automatically carry out a range of functions. These can include lifting and carrying pallets into the storage lane, or bringing them to the front or it can perform stock control functions using barcode scanning or radio frequency identification.

Several shuttles can be operating at the same time in different lanes. The fork-lift truck only deposits and collects pallets from the front lane of the storage block, it never enters the rack so no rack damage occurs and your standard warehouse fork-lift can be used throughout (there is no requirement for special narrow fork-lift trucks).

Shuttle units can deal with pallet loads up to 2,000kg, operate in -20 c to +40°c, can recognise and deal with different pallet sizes, and are driven by maintenance free battery packs.

Storage lanes can be more than 50m long and stock rotation can be Last-In-First-Out (LIFO) or First-In-First-Out (FIFO) if critical to your product.

Stodec Trading Ltd design and install storage systems across the world. Visit www.stodec.co.uk to see many examples and to download its new shuttle brochure. ■

companies to focus on their core competencies instead of having to construct, manage, and maintain warehouses on their own. For SMEs in particular, their services will create instant growth opportunities."

The lack of quality international standard warehousing space has long been seen as a constraint on business growth and economic development in Nairobi, the trading hub of east Africa.

Quality warehousing improves operational efficiencies by reducing waste from poor storage, increasing the speed of product delivery and product security.

The cost of moving goods in Africa, however, is estimated to be on average two or three times higher than in developed countries and transport costs can count for as much as 50-75 per cent of the retail price of goods.

**An official overseeing work inside Mombasa Port (Source: MEAACT Kenya/Flickr)**

ALP's initial projects are all in Nairobi. In April this year, construction work commenced on its new 50,000 square metre Northern Nairobi site, known as ALP North.

This will be Kenya's first international grade-A standard logistics and distribution park for the occupier rental market to be available for use in the fourth quarter of 2018.

And the demand is clearly there. In May, ALP agreed terms with an unnamed international occupier to lease the entire first unit of 14,000 square metres at the new park, the largest industrial lease to date in Kenya.

DOB Equity investment manager, Saskia van der Mast, said that a well-functioning logistics sector is crucial for the country's long-term economic development.

But both international and local companies are being constrained by a lack of modern, high quality and efficient warehousing across the region.

"We believe Kenya is ideally located as an entry point and hub for eastern and central Africa to benefit from the region's industrialisation, growing trade, and expanding consumer markets."

Other logistics providers are facing up to similar challenges as they seek to expand capacity in order to serve local businesses better.

Siginon Group offers warehousing across Kenya in Nairobi, Mombasa and Eldoret.

Its largest facility in Mombasa, one of the region's leading ports, is fitted with railway sidings for storage of inward and outbound cargo that goes by rail, operating round-the-clock.

Shippers are demanding more warehousing space to hold goods ahead of transit into Kenya or across the wider region, as trade in eastern Africa expands. ■

A Fireco pump room installation. (Source: Fireco)

# The need for fire protection

**Installing fire suppression and detection systems is a fundamental need across the widest range of industrial, business and manufacturing sectors, though often not given the priority it deserves by many organisations. Official bodies and specialist companies all play their part in setting standards and making sure industry end users follow best practice. Tim Guest reports.**

Across the manufacturing sector, most companies take fire protection very seriously, guided by their health and safety professionals. They install and maintain their equipment properly, often making serious initial investments in detection, suppression and fire protection systems. Some, however, often fail to recognise the need to maintain such systems regularly, waiting instead many years before addressing the issue, often forced by and overtaken by unfortunate circumstances. They need the guidance of a robust fire industry sector made up of reliable companies providing equipment and installation services, as well as reliable industry bodies who can set down guidelines, standards and regulations to which business and society at large must, for the large part, adhere.

From extinguishers up to major sprinkler and foam suppression systems, manufacturing sector companies need the right system in place to protect their particular operational environment, and for those systems and equipment to be maintained through regular operational inspections. All too often fires occur where appropriate protection is in place, but fails to work because it has not been maintained regularly.
In most countries across Africa, however, legislation of some sort is in place and industry bodies typically exist to ensure, as far as possible, that industrial fire standards are met by industry and businesses alike. They do their best to make sure companies installing and/or maintaining equipment are qualified to do so and that the equipment meets the right standards and specifications.

## Industry organisations

In South Africa, the South African Qualification & Certification Committee-Fire (SAQCC-Fire) is an industry-elected body, established to ensure that servicing and maintenance of fire protection equipment - from large systems to fire extinguishers - are conducted according to the correct specifications and standards. SAQCC also aims to ensure that technicians involved in installation and maintenance of fire protection and suppression systems and equipment have the correct training, qualifications and experience. The SAQCC-Fire works closely with the South African Bureau of Standards (SABS) and the Department of Labour (DOL) to ensure standards are met and technicians and servicing companies adhere to the law. A directive given to the SAQCC-Fire by the DOL, resulted in the creation of an additional SAQCC-Fire detection and gas suppression committee to establish and implement procedures for the qualification and certification of authorised persons in order to ensure safety, quality of work and high standards of excellence across the industry.

Another body in SA is the Fire Detection Installers Association (FDIA), which certifies companies to be qualified installation specialists. Certification is based on reference sites, with current procedures seen as a weakness in the process by some in the sector. It is because installers and suppliers of fire suppression and prevention systems and equipment have only to submit three reference sites for the FDIA to judge them on; three use cases selected entirely by the company applying for the certification. As other projects not evaluated might not meet standards required, to make sure quality and standards of workmanship are consistent at all times, some in the industry are calling for independent industry bodies to be the ones to sign off on each installation. So, whether it is the FDIA or the SAQCC, having their mandated involvement in tendering and quotations would lead to manufacturing companies and facilities sticking to critical industry regulations. This would relate not only to the equipment and installation work the companies provide to end customers, but also to the training and qualifications of their personnel, ensuring it is done to the highest standards.

In Kenya, the Association of Fire Protection Industry Stakeholders (AFPIS) is one of the country's fire protection industry 'authorities' that could step up to the plate in this regard. AFPIS brings together companies in the sector and represents member interests. Its remit covers the proper operation and regulation of the fire industry itself, but with particular emphasis on setting and maintaining standards, product quality and effective fire equipment inspection and servicing regimes across all sectors of business, industry, as well as in domestic scenarios. Once again, however, they do not have the authority to make things happen. Currently, AFPIS undertakes research and publishes findings on the state of the fire industry and disseminates this to its members, acting as official spokesperson for its members. The association also aims to advise the government and the public at large on matters relating to fire and sets standards and regulations for equipment servicing and training across the industry, as well as supply and installation.

## Leading players

Across the manufacturing industry, each sector and facility will present its own very specific set of challenges for those designing, supplying and installing fire protection systems. From fire alarm control panels, detection systems, sprinkler and deluge systems, pumps and water storage solutions, working with the right supplier who understands a specific sector well will take all necessary factors into consideration and be able to provide the right, effective solution for any given customer.
Companies like Jasco Security Solutions' Fire Solution Division and Fireco are leaders in South and southern Africa.

Fireco has its operations in Angola, Namibia, KwaZulu-Natal and South Africa, and provides full design, supply, installation and maintenance packages with a highly skilled workforce, supplying its clients with reliable, economically viable fire protection systems that are tailor-made for specific projects using the latest available technology. The company has a comprehensive product range and a commitment to service and quality that help it maintain its leading position in the industry, regionally. Its fire pumps, sprinkler and detection systems are used across a range of manufacturing businesses in the region.

Offering smart solutions for the detection and prevention of fire, including personal safety systems, fire detection and suppression and fire infrastructure of all kinds, Jasco Fire Solutions has its HQ in Gauteng and operates across SA as well as KwaZulu-Natal and Kenya. It delivers bespoke turnkey systems, including tanks and fire pumps with fire water tanks. ■

# African energy sector to take centre stage in Copenhagen

Delegates will be returning to the 19th Africa Energy Forum (AEF) on 7-9 June – the biggest energy conference on African energy in the world.

AEF 2017 will welcome more than 2,000 decision-makers in Africa's energy sector. (Source: EnergyNet)

The Africa Energy Forum (AEF), the global investment meeting for Africa's power, energy, infrastructure and industrial sectors, will be held during 7-9 June in Copenhagen.

AEF 2017 is set to welcome more than 2,000 decision-makers in Africa's energy sector.

Now in its nineteen year, AEF brings together senior-level representatives from governments, utilities, regulators, power developers, financial institutions, technology providers, consultants, law firms and large energy consumers to form partnerships, identify opportunities and collectively move the industry forward.

According to the organisers, AEF brings 75 per cent of Africa's energy ministries, utilities and regulators to Europe to meet and do business with power investors from around the world. This year, African Ministries from Democratic Republic of Congo, Botswana, Burkina Faso, Ethiopia, Gabon, Madagascar, Morocco, Rwanda and Zimbabwe have confirmed to attend the event.

Twelve African ministers of energy and infrastructure and the Danish minister for development cooperation will address the forum and discuss energy incentives and projects with investors and international partners. The ministers and government officials are to address the audience during the opening of the conference and exhibition on 6 June 2017.

The forum will also see a strong representation from African utilities with CEOs from Kenya, Ethiopia, Morocco, Mozambique, Ghana, SAPP, WAPP, APUA, Zimbabwe, Namibia and Tunisia taking the lead in targeted country sessions to explore options for energy investment and capacity building across the continent.

The organisers have also commented that the forum this year will serve as a platform for Nordic countries to showcase their expertise regarding projects, technology and regional partnerships. Several leading international development finance institutions have confirmed their support for the forum, demonstrating a united interest in Africa as a destination for long-term project investment.

AEF 2017 will also host thought-leadership seminars alongside the main sessions hosted by partners such as the World Bank Group and the European Investment Bank to address burning issues in the sector.

The previous edition of the event, AEF 2016, was hosted at the Intercontinental O2 in London and attracted 2,100 participants from 80 countries. Five major deals and mergers took place during the event, indicating the market position of AEF as a deal-making platform. ■

# Power Africa announces electricity boost to Southern Africa

Power Africa announced during African Utility Week to increase the supply of electricity in Southern Africa.

The US aid-funded Southern African Energy Program is a five-year project led by Deloitte and includes McKinsey, Another Option, CrossBoundary, and Worley Parsons.

The announcement came as representatives from Power Africa, a US government-led initiative launched by Barack Obama in 2013, and the US Mission in South Africa participated in African Utility Week and the Gas to Power World Congress in Cape Town, South Africa, last week.

**Power Africa has funded 62 projects comprising 6,692MW. (Source: Clint Mason/Flickr)**

In celebrating the launch of the programme, Andrew Herscowitz, coordinator for Power Africa, said, "The Southern African Energy Program is an exciting new way for the United States and Africa to work together to improve economic harmonisation. Power Africa is well on its way to advancing its goals of providing 30,000MW and 60 million connections by 2030."

The United States Trade and Development Agency (USTDA) also signed a grant with Pele Green Energy, for US$1,099,579 to fund a feasibility study to assess the viability of a photovoltaic solar facility in Free State, South Africa. The grant is reserved under funds from the US Africa Clean Energy Finance Initiative.

Teddy Taylor, the US Consul General to Cape Town, said, "We are excited to support the work that Pele Green Energy is doing, and hope this will be the start of a lasting relationship as we work together to achieve energy solutions in South Africa that will create greater prosperity for all."

Power Africa also launched its third and newest handbook in the "Understanding" series, called Understanding Natural Gas and LNG Options, at a reception co-hosted with the law offices of Webber Wentzel.

So far, Power Africa has helped fund 62 projects comprising 6,692MW, of which 1,531MW are operational. Power Africa has added 9.5 million connections, which means tens of millions of people now have access to power.

*For more information, visit www.usaid.gov/powerafrica*

## AE ENERGIA AND GE TEAM UP TO PROVIDE POWER IN ANGOLA

General Electric (GE) has announced an order from AE Energia for fast, digital power in Angola. The TM2500 gas turbine gensets will be installed in Namibe, Huíla and Cuando Cubango provinces and will provide the remaining 200 megawatts (MW) of power for the government to achieve a targeted one gigawatt (GW) of electricity by end of 2018.

"Our industry-leading TM2500 units deliver reliable and efficient power with speed, and with the addition of these seven units up to an additional 15 per cent of the population of Angola can gain access to electricity," said Scott Strazik, chief commercial officer of GE's Gas Power Systems business. "We are very proud to help achieve this significant milestone and look forward to continuing to support Angola's ambitious energy goals in the years to come."

The new order follows AE Energia and GE's collaboration at the Soyo 750 MW combined cycle power plant.

## "DON'T LEAVE THE METER RUNNING ON UTILITY INFRASTRUCTURE UPGRADES"

Billions of rand in debt will accumulate and become more difficult to recover from defaulting municipalities, unless they adopt smarter and more efficient technology, says Martin Kuhlmann from Siemens SA Technical Sales.

With the South African economy still coming to terms with junk status, next-generation advanced metering infrastructure (AMI) technology could rescue local government from uncollected electricity bills, making capital more available to be more efficiently spent on service delivery.

Despite Eskom making strides with smart metering technology, many municipalities are buckling under the pressure of more than 150 days of debt.

This is a major contributor to the power utility's crippling R6-bn shortfall in revenue. Punitive supply cuts to these municipalities are a necessary last resort to ensure financial stability at Eskom.

But these communities are still negatively impacted by interrupted electricity supply to their homes, businesses and hospitals. SA utilities lose up to 45 per cent of revenue to tampering and copper cable theft. AMI smart metering and tampering alerts lets them respond live to this threat.

The communication capability of AMI smart meters sends power consumption data directly to a power utility via a network of application servers, enabling it to be paid immediately.

This improves revenue collection and cash flow compared to standard meters that are limited to recorded prepayment functions.

A large municipality with 550,000 meters tested new AMI meters on 7,000 large power users, making 56 per cent of consumption. The utility was immediately able to reduce its debtor days from 155 to 15.

# BRIEFS

**More than 2,000 participants took part in AEF 2016. (Source: EnergyNet)**

### CEOs of 12 utilities at AEF

CEOs from Ethiopia, Morocco, Mozambique, Ghana, Kenya, Zimbabwe, Namibia and Tunisia will be leading country-focused sessions at Africa Energy Forum (AEF) in June.

AEF brings together senior-level representatives from governments, utilities, regulators, power developers, financial institutions, technology providers, and large energy consumers to form partnerships, identify opportunities and collectively move the industry forward.

**East Africa has the potential to generate 6,296MW of installed capacity. (Source: Shutterstock)**

### East Africa holds most hydropower potential

Eighty per cent of Africa's hydropower potential lies in East Africa, says Dan Klinck, CEO of East African Power and chairman of the Hydropower Association of Rwanda. Speaking at African Utility Week, Klinck said East Africa was leading the hydropower market by 209MW of installed capacity with a potential of 6,296MW, according to a report by power journal, ESI Africa. In second place was Central Africa with 76MW installed capacity and 328MW potential.

# FG Wilson keeps Kenya connected

James Rowe, technical sales manager, Blackwood Hodge, discusses how FG Wilson generator sets have evolved effectively to meet the demands of telecoms and internet service operators.


Blackwood Hodge have been an official distributor of FG Wilson generator sets for more than 20 years. (Source: FG Wilson)

Kenya has seen a positive economic environment in recent years, with growing investment in infrastructure, construction and telecommunications. Growth in all things digital has played a major part in this strong economic undercurrent. The communications industry in Kenya says that almost 38.5 million accounts were active towards the end of 2016. People in Kenya are regularly using mobile phones and just over 25.6 million people are online. It is a country of well-educated, tech-savvy people.

FG Wilson distributor Blackwood Hodge have been part of the Kenyan economic landscape since 1949, almost 70 years, with a pitch-side view of how the country has developed in that time. Since 1993, Blackwood Hodge have been an official distributor of FG Wilson generator sets, in a working relationship which dates back even further.

James Rowe, technical sales manager, Blackwood Hodge said, "If you go back 10 or 12 years, our customers were almost entirely buying for commercial buildings, shops, offices, hotels and hospitals, and the generator sets were running for standby power and sometimes prime."

The same customers are there today but the scope of their needs has increased. Rowe puts it down to the digital mindset which we all have today. He said, "In the past, if electric power was lost, many businesses could still function offline, at least for a short time. Now it's almost impossible. Businesses are just not prepared to take the risk of even short interruptions of electric power and that means much greater scrutiny of the generator set and how it's supported."

For telecoms and internet service operators, it is even more critical. These brands win and lose based on service uptime, and their customers demand 100 per cent. In May, Rowe was with Blackwood Hodge at East Africa Com showcasing generator sets from FG Wilson specifically developed for telecoms operators.

Speaking of the FG Wilson telecoms range, he said, "The FG Wilson design team really got to grips with what telecoms operators need in a generator set. So they focused on operating costs and have been able to achieve extended running periods of up to six months between service and fuel replenishment intervals. The generator sets have 600, 1,000 or 2,000 litre fuel tanks and an extended service interval option. Plus, they bring in market-leading control modules, including built-in mains sensing and changeover systems. The range can be tailored to meet all technical requirements, from configurable alarms and protections, to remote monitoring, control and preventative maintenance. There's also a new range of acoustic enclosures at different sound attenuation levels which means you choose the enclosure you really need."

Support comes via Blackwood Hodge's experienced service team. He added, "We have the complete backing of the FG Wilson global parts organisation and our team has all the tools to carry out on-site diagnostics and maintenance, so we make as few visits to sites as possible. And to make service simpler, we offer comprehensive service agreements which include four annual service visits, and these can be tailored for any support needs."

Blackwood Hodge are the authorised FG Wilson distributor for Kenya and Uganda, with offices in Nairobi and Kampala. ■

*To find out more about FG Wilson's range of generator sets, visit www.fgwilson.com*


# Uganda to increase electricity supply to 40 per cent of households by 2025

Umeme is investing US$1.5bn over the next ten years to boost electricity supply. Geoffrey Muleme reports.

Uganda's largest energy distributor Umeme plans to invest US$1.5bn over the next ten years to achieve the government's target of increasing electricity penetration to 40 per cent of households by 2025.

The number of Ugandans having access to electricity is still very low, especially in rural areas where less than 10 per cent of people have access to electricity compared to 15 per cent in urban areas, according to latest figures.

In the 'Umeme Limited Integrated Report 2016', it stated"continuous investment in the grid ensures its efficiency, reliability, safety and ability to distribute increased generation capacity."

One development goal is to increase effective generation capacity from 650 megawatts to over 1,600 megawatts by 2020.

The report outlined the electricity supply industry was now financially stable, with minimal government subsidies. "Over the last eleven years, Umeme has invested over US$500mn in the electricity distribution infrastructure leading to the doubling of the physical infrastructure, improved efficiencies, tripling customer connections, supply reliability and improved customer service."

"Efficiency of the electricity supply industry players is fundamental for its financial sustainability and impact of end user tariffs. A financially sustainable electricity sector fuels continuous investments of private capital. As an electricity distributor, Umeme drives attainment of efficiencies through reduction of energy losses, reduction in bad debts and optimal management of operating costs," the report added.

Umeme operates a 20-year electricity distribution concession, which became effective on 1 March 2005 following the Ugandan government's policy in 1999 to introduce electricity sector reforms, adopting a single buyer electricity sector model.

The company's managing director, Selestino Babungi, said US$93mn was invested in the networks in 2016, and key projects were completed, including the construction of a 40 MVA 33/11 Moniko substation in Lugazi and Mbalala, Namugongo integration lines, and supply lines to Bombo and to Wabigalo. Other projects include the refurbishment of lines in Kabale, Mukono and Palisa.

Babungi highlighted in the report that the establishment of the Luzira industrial zone has resulted in rapid load growth in Luzira, Kitintale and Bugolobi/Nakawa. In an effort to cater for this load growth, Umeme upgraded cables at Lugogo, split the number of feeders and upgraded underground cables and switchgears while increasing electricity supply in Port Bell from 10 to 14 mega-volt amps.

"We invested over US$3mn in the installation of distribution transformers in our network," he said. "The distribution of transformers was injected as part of our capital expenditure plan with an overall aim of improving on the quality of supply. We also invested in improvements in the state of the low voltage network, mainly by replacing rotting poles and the renewal of aged conductors."

"The current stage of the electricity sector in Uganda requires significant investments, in tandem with projected growth in generation. Our next investment cycle of 2017-2021 prioritises network growth related capital investments on the back of the expected increase in power supply and the country's industrialisation drive. The additional capital requires a new financing structure and strategy, which are a priority in 2017."

> "The current stage of the electricity sector in Uganda requires significant investments"
>
> **SELESTINO BABUNGI, UMEME MANAGING DIRECTOR**

The power utility company says during 2016, its customer base grew by 19 per cent, having connected 157,000 customers, with the total customer base closing at 950,000, of which 65 per cent are on pre-paid metering, while energy losses were 19 per cent against 19.5 per cent posted in 2015.

Umeme says it will also be focusing on preparing the distribution grid to take up the expected increase in generation capacity in Uganda following the completion of the Karuma Hydropower Project (600MW) and Isimba Hydropower Project (183MW) in the near future.

"We shall do this by building more substations and extending the network to areas with high potential of demand growth, such as industrial parks. We will also upgrade the existing backbone infrastructure to take into account the fact that our customers are now in position to demand better services in terms of quality and reliability of supply," the company added.

The government's priorities in the energy sector are to increase electricity generation capacity in the medium-term and the expansion of the transmission and distribution networks. As the country progresses from a low to middle income country by 2040, the national demand for energy is bound to continue rising. Official figures show that annual demand for electricity is currently estimated at over 10 per cent per annum. ■


# Revolutionary new power genset for African mining and construction

KOHLER-SDMO enters a new era with the launch of its KD Series, cementing its position in the power generation market.

The new KD series comprises the most fuel efficient engines on the market. (Source: KOHLER-SDMO)

Power specialist KOHLER-SDMO will unveil its latest range of large diesel industrial generators at the Africa Energy Forum this month.

The new KD line, which was launched globally at the end of last year, heralds a new dawn for the company – the generating sets are equipped for the first time with KOHLER engines.

The KD 135 and KD 175 series is the largest power range on the market from 800 kVA/kWe to 4200 kVA/4,000kWe.

"It's a very important strategy step for the company because we manufacture our own engines now," said Patrick Le Guen, Export Sales Vice President of KOHLER-SDMO. "It is the latest engine on the market, which has the most modern technology in terms of fuel consumption and fuel emission. We already have an excellent footprint compared to our main competitors."

All these new KOHLER engines, which are used in this range, have been co-developed by KOHLER and its strategic partner Liebherr. The generators are available under KOHLER and KOHLER-SDMO brands. The KOHLER brand is dedicated to providing power solutions to North America and Asia-Pacific while the KOHLER-SDMO brand offers applications to EMEA and Latin America. The targeted industries are construction, mining and IT as well as water treatment, oil and gas and telecommunications.

"The big difference is that by having our own engine we can really drive our own sales and service policies," said Le Guen. "We don't have to rely on any supplier; it is ours. During this year and next year, we are providing important service training for all of our African distributors."

> "As Africa is mainly the prime power market, we have developed a very strong engine"
>
> **PATRICK LE GUEN, EXPORT SALES, VICE PRESIDENT KOHLER-SDMO**

David Raison, regional sales director, said the company had already started to roll out training on the new engines and generators for distributors in Senegal, Côte d'Ivoire and South Africa.

He said, "One of the important differences between SDMO and our competitors is that we are connected directly to our end users through our distributors, which gives customers more confidence in our products."

The new engines are characterised by low fuel consumption, extended service intervals and compact design for a variety of stand by and prime


KD series generating sets are available with DCC power for data centres. (Source: KOHLER-SDMO)

applications worldwide. Other notable features include a KOHLER APM802 digital controller with a 12-inch touchscreen and a high-ambient cooling system.

"It is a very important investment for the company from a long-term perspective as we are able to compete with Caterpillar and Cummins, which we are very excited about," said Le Guen.

"One important thing, especially for Africa, these engines have been designed to run in harsh conditions. As Africa is mainly the prime power market, we have developed a very strong engine. For markets, such as mining, the engine fits perfectly to the customer needs as well as for big industrial applications to support dams or data centres."

### Long history with Africa

SDMO, which was bought by KOHLER Group in 2005 – making it one of the world's largest manufacturers of industrial generators, has more than 30 years experience working in Africa.

"SDMO has a very long history with Africa because this is the continent where we started our export business in the 1980s. So, it was easier for us to start doing business with the French speaking African countries first. Since that time we have continued to invest in the continent, which is second in terms of value for SDMO after Europe. Globally, we are second in the market place, which is good."

Le Guen remains confident about business opportunities across EMEA despite economic challenges in the Middle East.

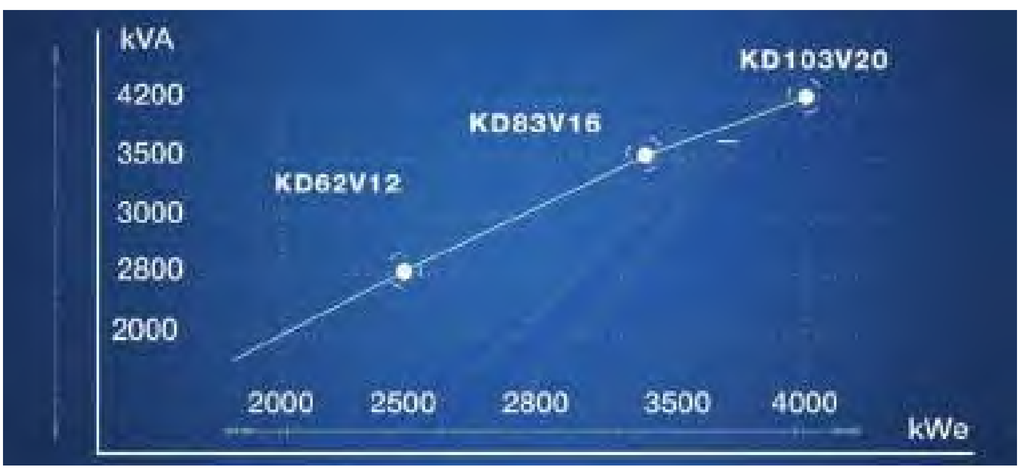
"We are quite optimistic for the Middle East business. But the issue is Saudi Arabia where the market is very weak," he explained. "It was the case last year, but despite this, we had a very good year in terms of our big projects. In the Middle East, SDMO is quite strong in the telecom business, supporting companies and banks. But for the oil and gas we are in the early stages of discussions to increase our presence in this sector. This will be helped with the launch of the new KD line. We do very well in Egypt too. In Qatar, Oman and Dubai, we offer solutions in the standby market. Similarly to Africa, we will continue to deploy the same strategy in the Middle East to be as close as we can to the end user by focusing on our distributors. We also are looking forward to taking part in the Expo 2020 in Dubai to help grow our business further."

KOHLER-SDMO will be among more than 2,000 participants at the Africa Energy Forum in Copenhagen on 7-9 June – the annual global investment meeting for Africa's power, energy, infrastructure and industrial sectors.

The KOHLER Group has been a global provider of energy solutions since 1920. ■

### KD SERIES RANGE

- Six years of research and development and hundreds of meetings
- More than 50,000 running hours of tests
- More than 200 people involved from three different countries in the world
- It represents €500mn of investment
- The turbochargers are designed for maximum power and optimal combustion




The KD Series ranges from 800 kVA to 4,200 kVA. (Source: KOHLER-SDMO)

# Highest number of renewable energy projects in South Africa

Specialist electrical contractor, Brand Engineering SA (Pty) Ltd, has carried out the highest number of utility scale solar Renewable Energy (RE) installations in the RE industry in South Africa.

It has become a major construction partner for RE developers, and is responsible for the generation of 360 MW of power for Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) projects and other related renewable energy initiatives.

Some of the projects include the 10MWp Konkoonsies and 10MWp Aries plants in Northern Cape, as well as six separate grid connection projects totalling 127MW.


Brand Engineering has been appointed to carry out three wind power projects in the Eastern Cape. (Source: Brand Engineering)

Additionally, Brand Engineering was appointed to carry out three EPC wind power projects in the Eastern Cape, which are now fully operational. These are the 63MW Grassridge wind farm, 24MW Waainek wind farm and 21MW Chaba wind farm.

**Online technology**

"Utilising online technology, we monitor environmental conditions and all procedures and progress on an ongoing basis from our Cape Town head office," said Kriel.

Brand Engineering also has started a Concentrated Solar Power (CSP) initiative. It is responsible for the electrical infrastructure, more specifically electrical cable and collector installation, for the 100 MW Ilanga CSP in the Northern Cape, which is under construction.

Established over 45 years ago, Brand Engineering, together with its two BBBEE companies, Besamandla (Western Cape) and Besamandla (Eastern Cape), operates in southern Africa and the African continent.

It has also completed thirteen solar PV commercial rooftop projects around South Africa in excess of 3400 kWp. Three of these include rooftop installations for Eskom's offices in East London, Bellville and Pietermaritzburg. "We at Brand Engineering see solar rooftop as the future of RE in South Africa," added Kriel.

**Battery storage solution**

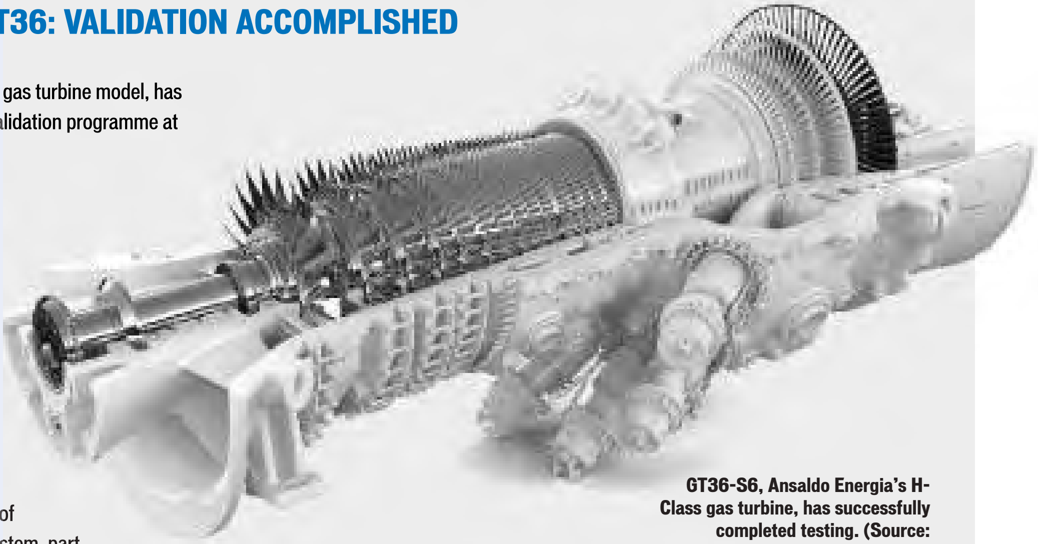
The provision of consistent solar power even in peak periods has been a challenge to the RE industry. "A solution to this challenge is storage provided by means of batteries," explains Kriel. "We are undertaking multiple battery solar storage initiatives which will store in excess of two MW hours."

## NEW ANSALDO ENERGIA GT36: VALIDATION ACCOMPLISHED

The first GT36 Unit, Ansaldo Energia's H-Class gas turbine model, has successfully completed the first phase of the validation programme at the Birr Test Power Plant in Switzerland.

The test power plant is a full-scale simple cycle power station, built in 2015/2016, that can be used for the operation and validation of the fully instrumented engine under real power plant conditions, because the power is dispatched to the Swiss Power Grid.

The tests fully confirm the high performance,
low emissions over the entire load range, and resulting very wide operation window of this engine.


GT36-S6, Ansaldo Energia's H-Class gas turbine, has successfully completed testing. (Source: Ansaldo Energia)

The test programme included stress testing of the two stages of the sequential combustion system, part and full load mapping, transient operation and performance testing. The validation engine is equipped with more than 3,000 measurement points, including a telemetry system which transfers more than 500 measurements from the rotating parts.

Full engine validation is an integral part of the development of Ansaldo Energia's new turbine. The thorough validation process includes design validation with engineering tools, component validation, full engine validation and, finally, field monitoring. The GT36's combustion system has already been tested as single component in a combustor test rig, at full size and under full mass flow, at the DLR (the German Aerospace Center) in Cologne since 2013.

The test results reported for the GT36-S6 (60Hz rating) confirmed power output above 340 MW at 41 per cent efficiency. In combined cycle this corresponds to performance exceeding 500 MW at 61.3 per cent net efficiency in ISO conditions and 720 MW at 61.5 per cent efficiency for the GT36-S5 (the 50Hz scaled version).

The unique characteristics of the GT36 provide a very useful response to power market requirements today and in the future, where combined cycle plants need to offer high efficiency coupled with high operational flexibility, because power output has to follow the fluctuating needs of the grid in order to compensate and back up generation using intermittent renewable sources.

# LIFTING SOLAR POWER CONTRACTORS UP


Johnson Crane Hire offers its expertise to handle solar panels. (Source: Johnson Crane Hire)

Johnson Crane Hire can add supporting the lifting requirements of solar power contractors to its extensive portfolio, especially in the Northern Cape area.

Peter Yaman, sales executive, said Johnson Crane Hire's ready access to a range of mobile cranes positions the company well to undertake lifting in remote regions.

"The power of dealing with the largest privately owned mobile crane rental company in Africa is that through our vast branch network, we are always able to draw additional resources from other branches, should this become necessary," said Yaman.

“Planning of lifting activities is one of our strengths and this enables us to dovetail the lifting with the individual construction programmes so as to ensure optimum productivity for the individual solar power contractors.”

Lifting the various components, including handling the imported sections which make up the composite panel structures, needs to be done with care, this is where pre-planning and the use of the company's skilled and experienced operators play a major role.

They are well-versed in the actual operation of the cranes, and are completely familiarised with the application on the solar power farms. “In addition to this, we differentiate ourselves by providing all customers throughout South Africa and neighbouring countries with a total lifting solution delivered through our ‘SMART’ – Safety, Maintenance, Availability, Reliability and Total Cost Effectiveness – brand promise,” added Yaman.

Safety underpins all Johnson Crane Hire operations, with comprehensively documented and implemented safety systems that comply with all industry safety standards and thorough risk assessments conducted before each lift.

Johnson Crane Hire also handles small lifting on a wide range of construction and utility projects.

## MT 3000-2 Offset PowerFeeder: Quality through innovation

A job site in South Africa has demonstrated the VÖGELE MT 3000-2 Offset PowerFeeder improves pavement quality.

The MT 3000-2 worked alongside a VÖGELE SUPER 1800-2 paver for the rehabilitation of a 4km-long stretch of the N14 national route near Johannesburg by South African construction company Power Construction (Pty) Ltd.

**The VÖGELE material feeder works with the SUPER 1800-2 paver. (Source: VÖGELE)**

Lorries carrying 25 tonnes of mix can be unloaded within 60 seconds allowing the paving to be completed without any interruptions.

Scientists from the University of Twente investigated whether the innovative VÖGELE material feeder improved the quality of the paved binder and surface courses by recording the temperature of the asphalt immediately after paving. This was done by using two mutually independent systems, one of which was RoadScan, the non-contacting temperature-measurement system from VÖGELE. To provide a comparison, some sections were also completed without using a material feeder.

A homogenous paving temperature is the foundation for uniform and even compaction.

The study found in the N14 project, the asphalt temperature never fell below 120ºC immediately after paving, which gave ample time for final compaction by HAMM rollers.

One of the major advantages with this PowerFeeder model, it reaches high temperatures at the start of the paving and requires no heating phase.

A VÖGELE spokesman said, “This goes to show that VÖGELE’s engineers were perfectly in tune with requirements and developed the PowerFeeder to meet the specific challenges of tough, day-to-day job site operations.”

## JCB DEVELOPS LEADING SINGLE DRUM SOIL COMPACTOR

JCB has unveiled the 116D single drum soil compactor, a high-performance roller designed for infrastructure construction and maintenance, general construction and landscaping projects. Initially available in Africa, Asia and the Middle East, the 116D delivers low fuel consumption, high compaction performance and improved operator comfort.

Key features of the JCB 116D include operating weights from 11,350kg with canopy, proven low rpm, high torque JCB DieselMax Tier 3 engine, up to 15 per cent fuel saving in competitive trials, JCB rear axle with limited slip differential for maximum tractive effort and high compaction force with 30.7kg/cm static linear load.

JCB chief innovation and growth officer Tim Burnhope said, “The new JCB 116D delivers improved compaction and reduced fuel consumption. The machine covers up to 75 per cent of the non-legislated soil compaction market and represents a major advance in JCB’s single drum roller history.”


Innovation
Innovation is our chemistry
A leader in the construction chemicals market, CHRYSO designs, manufactures and delivers products for the readymix, precast, cement, mining and construction industries. Innovation is in everything that we do:
1/3 of our turnover is generated by products that are less than 5 years old
15% of our staff work in research and development
243 registered patents
9 local laboratories
3 local manufacturing facilities equipped with state of the art technology
Contact your local sales representative for innovative solutions: 0861 CHRYSO
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# Keeping Africa moving

## Road transport continues to play a critical role in realising Africa's full potential. Moin Siddiqi reports.

Efficient transport networks enable access to goods, services and opportunities. Globally, countries invest in total between US$1.4-2.1tn annually in transport infrastructure to meet the demand for mobility and connectivity. The World Bank reported, "Africa's development is highly dependent on an adequate, reliable road system. Good-quality road connections can greatly expand access to jobs, markets, schools and hospitals. For rural communities, a road is often an essential lifeline that links isolated villages to economic opportunities."

"The problem of Africa can be summed up in one word: transport", remarked Sir Frederick Lugard, the first colonial governor-general of Nigeria, a century ago. Ironically, transportation chain (rural and urban) is still a constraint on rather than a facilitator of economic growth in sub-Saharan Africa (SSA). Road transport remains the principal mode of motorised transport, accounting for over four-fifths of freight and passenger traffic in SSA – hence reflecting low availability of railway lines within the continent (excepting South Africa).

Road density in cities is reportedly low; the road-to-population ratio for all of Africa is estimated at 26-km per 10,000 people. The bulk of road surfaces have depleted over decades, reflecting a lack of maintenance and upgrades, with only a quarter of all current roads, totalling more than 2.8mn km across the vast continent that is paved. Other problems are traffic congestion and accidents. According to the UN Economic Commission for Africa (UNECA), the highest number of road fatalities per capita is reported in SSA – estimated at 225,000 people yearly.

Travel times spent travelling across urban areas are also considerable. Africa's difficult geography presents a logistic challenge for road construction. Existing intraregional road networks are characterised by major discontinuities. Hence, SSA countries (excepting South Africa) score badly on the Global Logistics Performance Index due to poor road connectivity within sub-regions coupled with underdevelopment of systems and trade facilitation procedures.

Not surprisingly, Africa also has the globe's highest transport costs – making regional products uncompetitive on external markets. Internal transportation raises the total cost of African exports by one-third compared to below one-tenth for all developing economies, according to the UNECA. Concurrently, building new roads and increasing the share of paved roads would reduce transport costs, whilst expanding new markets within sub-regions and outside world.

> "The problem of Africa can be summed up in one word: transport"
>
> **SIR FREDERICK LUGARD, FIRST COLONIAL GOVERNOR-GENERAL OF NIGERIA**

**Table1: Road Networks Across sub-regions of SSA**

| REGION | Existing network (km) | (%) share sub-regions |
|---|---|---|
| Central Africa | 344,083 | 12.0 |
| Eastern Africa | 850,710 | 30.0 |
| Southern Africa | 998,334 | 35.0 |
| Western Africa | 638,982 | 23.0 |
| **TOTAL** | **2,832,110** | **100.0** |

***TEN-LARGEST ROAD NETWORKS IN SUB-SAHARAN AFRICA.***

*South Africa (608,000km); Kenya (197,091km); Nigeria (193,200km); Ethiopia (184,868km); Sudan (172,481km); Congo, DRC (170,593km); Angola (122,064km); Zimbabwe (88,338km); Tanzania (86,472km); and Côte d'Ivoire (81,996km).*

***Source: United Nations Economic Commission for Africa database.***

### Unexpected shocks

SSA's current roads are particularly vulnerable to extreme climatic events such as higher temperatures, increased precipitation and flooding – thus resulting in heavy connectivity losses as goods and people are prevented from moving freely. These disruptions affect supply chains, economic output and access to vital services. Rainfall varies across the continent, but even moderate climatic changes in some countries (notably Angola, Cameroon, Mozambique, Nigeria and Sudan) can start large-scale precipitation-related disruptions. Analysts estimated that transport disruptions in Mozambique (due to extreme weather) could cost the economy a whopping US$2.5bn/year over the 2010-50 period.

Only a few countries could cope with projected changes across SSA in annual temperature and frequent flooding. Soaring hot seasons can lead to the softening and rutting of asphalt roads. While for paved-gravel roads, more intense precipitation (which increases flooding frequencies) leads to reduced load-carrying capacity and road erosion, especially on unpaved roads.

Future climate change is a key issue for Africa. "Africa's major cities and the strategic regional road transport corridors are located along Africa's coastline, where floods are predicted to be more frequent and severe. Each of the affected countries and cities need to develop strategies and action plans for coping with this danger," advised Dr. George Banjo, World Bank's senior transport specialist.

### Resilient investments

Transport is crucial to economic development, thus, better road asset management, including construction, maintenance, repairs and more frequent rehabilitation should help prolong road life cycle. Efficient logistics systems are needed across SSA to make new and many existing paved roads more resilient to climate stressors (i.e. extreme temperatures/flooding), whilst upgrading maintenance standards to prevent rapid ageing of well-travelled roads.

The World Bank report, Enhancing the Climate Resilience of Africa's Infrastructure: The Roads and Bridges Sector, suggested various remedies to increase network connectivity in SSA – the home to 1 billion people. These include both engineering and non-engineering solutions, plus adopting a low-carbon urban transport system such as building walking and cycling lanes. Increasing the drainage capacity of roadways, better shielding of road networks to enable water to the sides, strengthening river banks to prevent regular flooding and using road binders specifically adapted to extreme climates.

A road binder is a heavy-duty long-term road dust suppressant and stabiliser, one treatment controls road dust for three-six months; after treatment no further watering is required. Climate resilient roads have higher construction costs, but lower annual spending on repairs offsets high up-front costs. Other measures include climate risk screening of all major road-building projects, spatial planning to avoid vulnerable flooding areas, improve design standards, as well as innovation in materials and construction methods. Building new pathways, for example, multiple ways to reach the same place can reduce heavy congestion on existing roads and make them more safer.

The World Bank also advised SSA countries to adopt non-engineering solutions. These include effective traffic control, like restricting trucking on certain roads, re-routing heavy freight and passenger traffic, and regularly clearing drains/ tunnels. Furthermore, Africa needs

**Table2: Network Detail of Ten Largest SSA Countries**

| COUNTRIES | Primary paved | unpaved | unknown | Secondary paved | unpaved | unknown | Tertiary paved | unpaved | unknown |
|---|---|---|---|---|---|---|---|---|---|
| Angola | 7,174 | 3,870 | | 6,235 | 3,461 | 41,255 | 1,019 | 427 | 58,623 |
| Côte d'Ivoire | 1,906 | 4,045 | | 4,594 | 8,747 | | | 17,286 | |
| Congo (DRC) | 2,255 | 17,173 | | | 8,851 | | | 9,314 | |
| Ethiopia | 5,039 | 364 | | 3,228 | 35,699 | | 295 | 106,566 | |
| Kenya | 4,319 | 2,235 | | 3,654 | 15,230 | | 965 | 36,888 | |
| Nigeria | 16,820 | 962 | | 6,707 | 962 | | 246 | 120 | |
| South Africa | 21,117 | | | 67,094 | 136,640 | | 66,512 | 316,620 | |
| Sudan | 2,299 | 2,333 | | 229 | 69,515 | | | 83,770 | |
| Tanzania | 5,478 | 7,308 | | 840 | 20,265 | | 774 | 51,807 | |
| Zimbabwe | 4,724 | | | 6,196 | 9,690 | | 8,284 | 59,444 | |
| SSA Total | 136,308 | 83,897 | 4,209 | 138,252 | 437,609 | 75,032 | 95,303 | 874,858 | 290,602 |

***Source: World Bank database.***

to reduce exceptionally high greenhouse gas (GHG) emissions produced by cars through price hikes for fossil fuels. Besides building road networks, 'soft' infrastructure – professional management of road systems, good contracting, periodic maintenance and inspection are equally critical in providing a reliable transportation service.

## Heavy funding

Most countries are making progress to tackle low density and the decrepit state of existing roadways by spending about two per cent of GDP on road rehabilitation projects. Maintenance has improved in some places and regional governments have established active road funds. However, more capital investments are required since only one-third of rural dwellers live within two kilometres of an all-weather road – based on World Bank's Rural Access Indicator – the lowest accessibility in developing regions. Broken footbridges and perilous terrain exacerbate ongoing problems. There are estimated 330,000 bridges across SSA. Africa Infrastructure Country Diagnostic study (World Bank) estimated the scale of investment into road sector at US$5.98bn/year in capital spending, plus US$3.65bn/year in operations and maintenance costs.

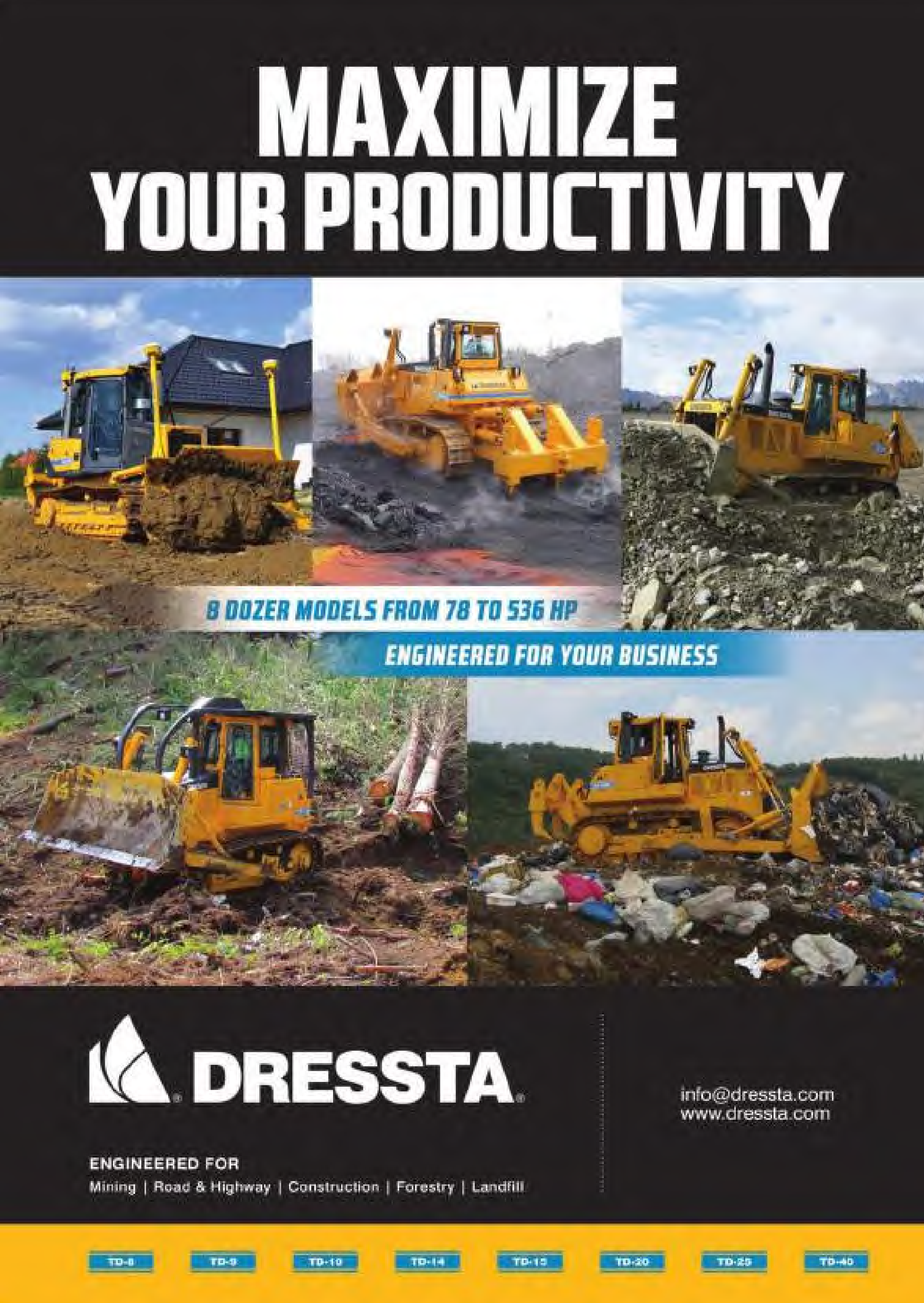
Johannesburg and Lagos pioneered Bus Rapid Transit (BRT) lines in Africa. These high-speed transport systems with elevated stations and separated lanes are popular in other cities, including Dar es Salaam, where Phase-1 line (covering 20.3 km of truck routes) was opened in 2016 carrying more than 250,000 passengers daily. The Dar es Salaam BRT is planned as a large-scale system of 137 km of high-frequency corridors constructed in six sequential stages.

Phase-2 is underway and Phases [3-4] are due to start construction by mid-2017. The project is financed by multilateral organisations, the Africa Growing Together Fund and Tanzanian government. "The BRT is another great example of how strategic government investments can lead to private sector investments and great outcomes for the people," World Bank's President Yong Kim said.

## Way forward

Road transport has a critical role to play in realising Africa's full potential and contributing to 'food security' by linking farmers to market centres. Increased urbanisation demands better infrastructure for the movement of people and goods. SSA's transport sector provides challenges and opportunities for local/ foreign firms to partner with national authorities in building networks of paved roads as a catalyst for economic advancement and regional integration.

Building strong highways between inland areas and coastal towns will increase exports and trans-boundary corridors can boost intra-African trade. As the World Bank concluded, "The focus of transport's role needs to be on increased action to reduce transaction costs and facilitate trade flows and better oriented towards enhancing human and social capital. Roads are a key asset for Africa." The continent will see substantial road-building works in coming decades. ■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Dual sand discharge. (Source: CDE)

# CDE will shed light on how to improve efficiencies at ConMin West Africa

**CDE be showcasing 25 years of international expertise to Nigerian and other West African mine and quarry operators at the ConMin West Africa trade show in Abuja in June.**

Leading wet processing company CDE will be introducing benefits of materials washing technology to the sand and aggregates industry at the ConMin West Africa trade show in Abuja on 13-15 June.

It will be demonstrating how businesses can expand by increasing their range of products and production levels, as well as make profits and a quick return on investment.

Nicolan Govender, regional manager Africa at CDE, said, "We are looking forward to growing market awareness of the CDE equipment and existing footprint in Africa at the ConMin show. ConMin is an ideal platform to interact with existing businesses that run sand and aggregates washing plants. We will meet potential customers who want to go into wet processing as a way to of expanding their current crushing and screening operations."

South Africa may still be ahead of the infrastructural drive on the African continent, with a robust and consistent development of its sand and aggregates market, but Nigeria is snapping at its heels. With a population of 190 million people and correlated expanding infrastructure needs, Nigeria is resetting its economic focus to address any barriers to its economic growth in order to encourage private and domestic investments.

For sand and aggregates producers, the Nigerian construction sector, is expected to be the fastest of all global markets by 2018, according to the Global Construction 2020 report: Global Perspectives. But as the industry grows, it is time to look at new ways of producing sand and aggregates of higher quality and in larger volumes, while saving water, energy and money.

CDE boasts the successful completion of over 1,000 sand and aggregates wet processing projects globally, including the largest sand washing plant in the world in Qatar, which processes 1,200 tonnes per hour of dune sand. The company offers an enviable portfolio of successful projects across Africa where it has been helping sand and aggregates producers to maximise their operations, achieve a quick return on investment and save water since 2002.



Govender has been addressing the questions African operators still have about the viability of investing in materials washing technology as opposed to dry classification systems. He says: "While washing basically comes as a result of crushing and screening, it is a specialised and niche market. Wet processing is much more specific than crushing and screening because it entails getting from millimetre to micron sizes.

## Growing African footprint

"CDE is fast growing its footprint in Africa as sand and aggregates producers are upgrading their installations to enjoy the benefits of wet processing technology in terms of more efficient production and higher product quality. CDE's best sellers on the market include a wet processing plant – the EvoWash – and the AquaCycle thickener, which recycles up to 90 per cent waste water.

"With the respective successes met by the EvoWash and the AquaCycle, more operators are now choosing the CDE Combo, which comprises both plants. The Combo, with a capacity range of 30 to 200 tonnes, boasts a unique modular design to combine feeding, grading, washing, water recycling and stockpiling onto one compact chassis. The Combo is so efficient that the final product is ready to be sold directly from the belt. I am delighted to report that Combo customers have never looked back."

One such Combo owner is Dar es Salaam-based Estim Construction, one of the largest civil and building companies in East Africa, with sister companies in Zambia and Mozambique. The firm installed a CDE Combo x70 in 2014, which produces 40 tonnes per hour of quality washed sand while recycling up to 90 per cent waste water. As all CDE equipment is designed in collaboration with the customer, and manufactured and tested in its assembly facilities in Northern Ireland for guaranteed reliability, bespoke additions were applied to the plant to meet Estim's circumstances and requirements.

Estim, Construction's director, Darpan Pindolia, commented: "We could not be happier with the choice we made. Working with CDE Global, and especially their Business Manager and engineers, has been a crucial factor in achieving the best final product.  Thanks to our CDE Combo X70 we can now complete orders for various grades of concrete required for rafts, columns and slabs to produce paving blocks and other items in the knowledge that we will always meet our clients' deadlines and produce consistent quality and output throughout the washing process."

Govender added, "Nigeria is a natural bed of mineral resources, which can be exploited in a profitable manner. The CDE cyclone technology and turnkey, high tech and user-friendly wet processing solutions are perfectly suited to the requirements for larger volumes of high quality sand and aggregates of consistent gradings in the context of a dynamic Nigerian infrastructural drive. If you buy the right plant for your operations, reduced maintenance, reduced manpower, and continuous operation with water control far outweigh any short-term savings." ■

The rehabilitation works on the runway of the Nnamdi Azikiwe International Airport in Abuja were completed by Julius Berger Nigeria Plc on schedule and in time for ConMin. (Source: Julius Berger Nigeria Plc)

# Sustainable construction

ConMin West Africa 2017 launches on 13-15 June in Abuja, Nigeria, and is expected to bring together the leaders of the region's construction and mining sectors.

ConMin West Africa will be happening on 13-15 June and will not disappoint with more than 2,000 visitors expected over the the three day event at the International Conference Centre in Abuja, Nigeria.

The exhibition will provide an opportunity for participants with various networking sessions and opportunities for stakeholders to engage with relevant counterparts. On 14 June, the Federation of Construction Industry (FOCI) will be hosting a construction conference around the theme of Sustainability of the Construction Industry in Nigeria. These workshop/seminar sessions are free of charge and open to all visitors. Sessions will include financing projects, skilled manpower and environmental sustainability and be led by key members and experts of the federation. Across the three days, visitors can expect to hear technical sessions and be able to attend workshops held by representatives from Dangote Industries, Soetec Engineering, Total, CAT Nigeria and Boustani Nigeria.

Running in conjunction is the National Mining Summit, which will unite prominent figures from Africa's mining and infrastructure sector including investors, mining companies, geologists and other stakeholders from around the world to learn and network, all toward the single goal of advancing mining not just in Nigeria but across the West African region.

The summit, which is sponsored by Dangote Cement, Total Nigeria, Africa Finance Corporation and Stanbic Bank, will be opened by the Nigerian Vice President, HE Prof Yemi Osinbajo and is the first event of its kind ever held on this scale in West Africa. The programme was designed in partnership with Deloitte Consulting and the Ministry of Mines and Solid Minerals Development. It will welcome nine ministers from other African Countries. These include ministers from Ghana; South Africa; Kenya and Niger. Emma Hooper, Business Development Director for Afrocet Montgomery said attendees will also hear expert opinions from the likes of Dr Toni Aubynn, CEO of Ghana Minerals Commission; Ebrima Faal, Director for the Nigeria Country Office at the African Development Bank, and Jean Bakole, director of the United Nations Industrial Development Organisation (UNIDO).

With registration for the event almost full, participants are encouraged to register their interest at www.conminwestafrica.com. ■

Ibrahim Haska Dikko, director, legal services ministry of mines and steel development; George Pearson, regional director West Africa, Afrocet Montgomery; Hon. Abubakar Bawa Bwari, minister of state for mines and steel development; with Francis Anatogu energy and resources consulting director, Deloitte during a press briefing on the launch of ConMin West Africa. (Source: Afrocet Montgomery)

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| A60H | Specification and Unit |
|---|---|
| Max power at | 30 r/s |
| SAEJ1995 Gross | 495 kW |
| Flywheel power at | 30 r/s |
| ISO 9249, SAEJ1349 Net | 492 kW |
| Max torque at | 17.5 r/s |
| SAE J1995 Gross | 3200 Nm |
| ISO 9249, SAEJ1349 Net | 3177 Nm |
| Displacement | 16.1l |

A60H, Volvo's biggest hauler. (Source: Volvo)

# Great individually, superior together

**On their own, the EC950E and A60H, Volvo's biggest-ever excavator and biggest-ever hauler respectively, can be expected to deliver world-class productivity. In combination with each other, the benefits continue to grow.**

The EC950E is Volvo's new flagship crawler excavator and it has already proven to be extremely competitive in its 90-ton weight class.

Similarly, Volvo's new 60-ton and range-topping A60H, the world's largest articulated hauler, sets new productivity standards for quarries, opencast mines and large earth-moving operations.

While both machines offer state-of-the-art performance individually, it is when matched together that customers can experience the excellent productivity and ownership advantages these units offer.

"The EC950E and the A60H are the perfect partners for mining applications and large infrastructure or earthmoving projects. When working together, they can move a larger amount of material more quickly and efficiently than any other combination of Volvo machines," said Carl Slotte, president of Volvo CE Sales Region EMEA.

The EC950E will move around 35 per cent more material than the EC750D, which was previously the largest machine in Volvo's excavator range. For the A60H hauler, it will move 40 per cent more material than the Volvo A40G.

"These highly productive machines enable customers to get more done with fewer machines," continued Slotte. "With a smaller fleet, customers can achieve better operating efficiency, particularly with regards to mine management or equipment allocation on large projects. Using larger machines also means fewer operators and less maintenance are required, further improving resource optimisation."

> "Opting for an EC950E and A60H is a worthwhile investment"
>
> CARL SLOTTE, PRESIDENT OF VOLVO CE SALES REGION EMEA

## Durable and powerful

With a bucket breakout force of 424 kN and an arm tearout force of 408 kN, the EC950E offers superior digging force, particularly when working with hard and heavy materials.

Powered by a 446 kW (606 hp) Volvo D16 engine, the machine utilizes advanced technology built on decades of experience to ensure highly productive operations. Cycle times are cut to a minimum thanks to the power and torque of the engine combined with the new fully electro-hydraulic system.

The EC950E features a wide track gauge, long track length, a retractable undercarriage and optimized counterweight, resulting in a well-balanced, solid machine. All machine interfaces – including joysticks, keypad and LCD monitor – are ergonomically positioned and designed for optimum control and efficiency. For increased versatility, the attachment management system enables the use of various attachments, allowing the operator to pre-set hydraulic flow and pressure through the in-cab monitor.

The heavy-duty design of the EC950E ensures the job is done quickly and without delay. Built with protected components, including a heavy-duty boom and arm, a strong frame, and a heavy-duty plate, the machine can be relied on for longevity and sustained uptime in demanding applications.

### Largest hauler – move more for less

The groundbreaking A60H features the latest innovations from Volvo. With matched drivetrain, automatic 6x4 or 6x6 drive combinations (including 100 per cent differential locks), all-terrain bogie, hydro-mechanical steering and active suspension, this machine is unbeatable. Fitted with an active hydraulic front suspension for higher hauling speeds in tough conditions, the A60H optimises operator comfort and stability during travel, allowing more material to be moved in a shorter time for unmatched productivity.

The A60H is powered by a 16-litre Volvo engine, delivering not only 495 kW of power and 3,200 Nm of torque, but also excellent fuel efficiency. It also embodies the full articulated hauler concept, providing total versatility so customers can access the entire worksite and climb steeper gradients. Customers can work in all seasons, terrains and applications, while a choice of machine configurations and tyres means the machine can be tailored to suit the application.

A number of safety features, such as superior visibility and efficient lighting help keep the operator and people around the machine safe – no matter how demanding the environment. The A60H's dump support system, hill assist and load and dump brake, further help the operator stay in control, delivering extra productivity and safety.

### Perfect combination offers best return

"With the EC950E and A60H, customers can be confident they are getting the best 'cost per hour' or 'cost per ton' for their operations," said Slotte. "Furthermore, the fact that we manufacture our own engines, drivetrains and drop boxes at Volvo CE gives our customers peace of mind, knowing that performance is perfectly matched across the machine and between ranges."

> "These highly productive machines enable customers to get more done with fewer machines"
>
> **CARL SLOTTE, PRESIDENT OF VOLVO CE SALES REGION EMEA**

Backed by its experienced and skilled network of dealers, Volvo CE offers some of the best customer support programs in the business, including customisable packages. For those wanting the very highest levels of after-market service, there is the Gold Customer Support Agreement, which delivers best-in-class parts, repairs, inspections, maintenance and more. This ensures that critical project sites, such as mines or large infrastructure jobs, stay on schedule.

Both machines were displayed to around 230 coal mining customers in South Africa. The customers were invited by Volvo CE dealership Babcock to attend an open house event at its new Middleburg facility, situated in the middle of the mining-heavy region of Mpumalanga. Both machines generated a lot of interest from customers.

"Opting for an EC950E and A60H is a worthwhile investment. With higher productivity using fewer machines and less manpower, customers will soon see excellent returns," Slotte added. ■

| EC950E T2/T3 | Specification and Unit |
|---|---|
| Engine | Volvo D16E |
| Rated output at | 1 800 r/min |
| ISO 9249/SAE J1349 net | 446 kW |
| Breakout force (Normal/Boost) SAE J1179 | 424kN/- |
| Bucket capacity | 3.9-5.6 m3 |
| Max digging reach | 12.270 m |
| Max digging depth | 7.120 m |
| Lifting capacity along undercarriage | 37460 kg |
| At reach / height | 6.0/1.5 m |
| Operating weight | 89 960-91 840 kg |

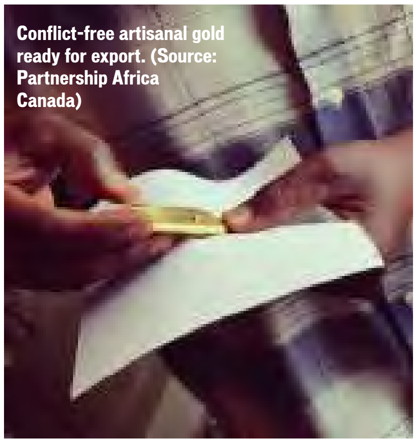

**EC950, Volvo's biggest excavator. (Source: Volvo)**

# Conflict-free artisanal gold supply chain in eastern Congo

Artisanal gold can now be exported from the Democratic Republic of Congo (DRC) thanks to a mining project by Partnership Africa Canada.

Just Gold has developed a successful supply chain for legal artisanal gold at a mine in the Ituri Province.

Joanne Lebert, Partnership Africa Canada's executive director, said, "The Just Gold project can now move from a period of testing to implementation and ensuring we have a long-term, sustainable and viable solution for traceable, legal and conflict-free exports of artisanal gold from Congo."


Conflict-free artisanal gold ready for export. (Source: Partnership Africa Canada)

It offers incentives for artisanal gold miners to channel their product for export by offering fair and transparent pricing and capacity-building, such as technical assistance to miners in return for legal sales.

Miners are taught better exploitation techniques and offered Just Gold project equipment in return for any gold produced, which must be tracked and sold through legal channels.

"Proving that artisanal gold in eastern Congo can be conflict-free, legal and traceable is a major step in responsible sourcing efforts in the Great Lakes region," continued Lebert. "The government of DRC is taking major strides in complying with regional standards and demonstrating how the implementation the OECD of Due Diligence Guidance for Responsible Supply Chains can contribute to progressive improvements in the sector, supporting artisanal gold men and women miners to enter international markets."

Partnership Africa Canada signed a memorandum of understanding with DRC's minister of mines, Martin Kabwelulu, in September 2016, outlining support of the project.

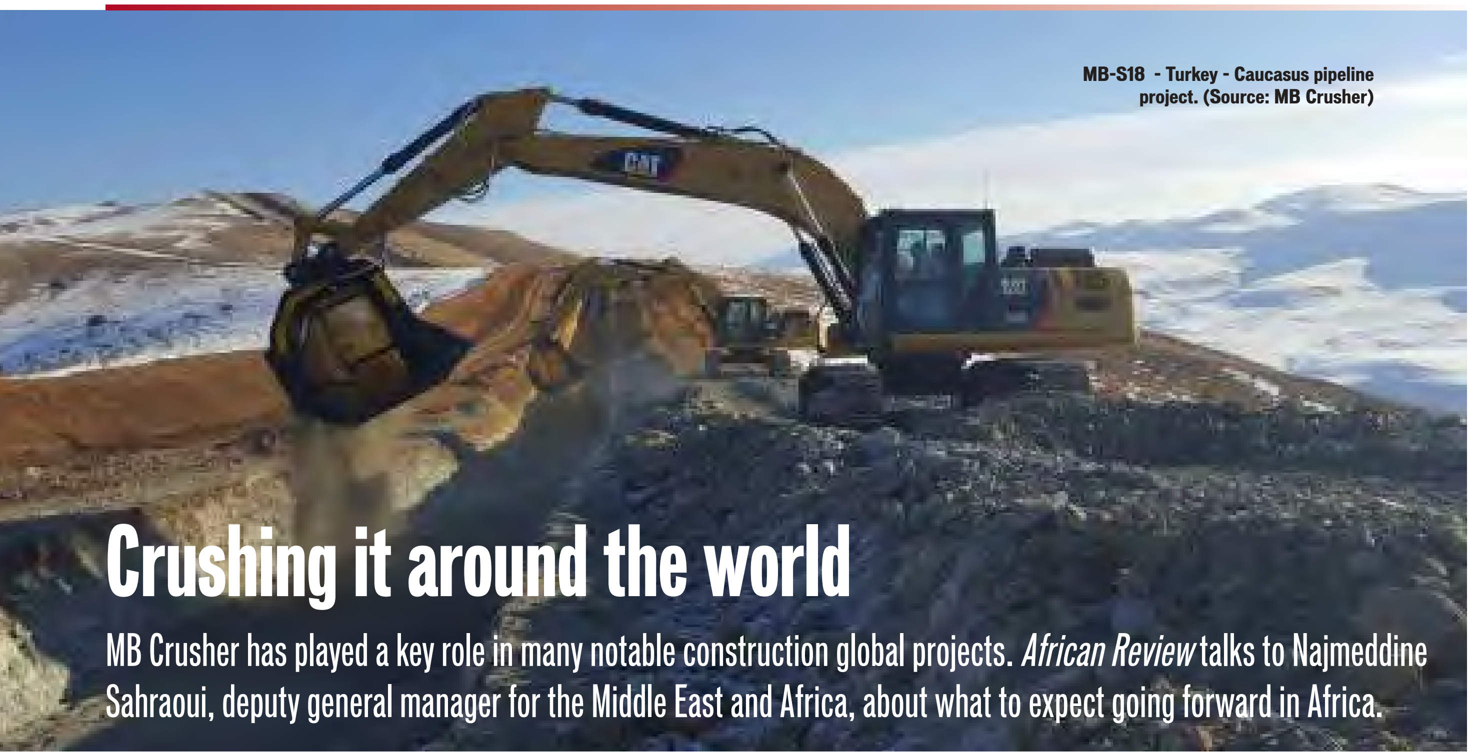
## DETECTION SYSTEM IN COAL MINES HELPS MEET ZERO FATALITY TARGETS

The pressure is on mines and their suppliers, including those in the field of proximity detection systems (PDS) to meet industry targets to eliminate mining fatalities by 2020.

Booyco Electronics' PDS has gained a reputation for helping mines protect their people.

Anton Lourens, managing director, said the device was developed as part of the Booyco Electronics Asset Management System (BEAMS) that provides underground and surface mining operations with a web-based application and robust database to optimise mine safety and ensure compliance to legislation.

He said, "Our PDS was developed using the latest electronic technology to facilitate effective and reliable communication, and is suitable for use underground and on surface. While deaths in mining fell five per cent to a record low of 73 in 2016, there is a way to go meet the 2020 target."



MB-S18 - Turkey - Caucasus pipeline project. (Source: MB Crusher)

# Crushing it around the world

MB Crusher has played a key role in many notable construction global projects. *African Review* talks to Najmeddine Sahraoui, deputy general manager for the Middle East and Africa, about what to expect going forward in Africa.

**Can you provide details about your global footprint?**

There are many important projects where our products have been involved around the world. For example, MB Crusher has been a partner in the development of the South Caucasus Pipeline and the Trans Anatolian Pipeline, providing 13 screening buckets MB-S18 for operations development in Azerbaijan, Georgia and Turkey.

Then, two MB products (the Crusher Bucket 135.8 and the screening bucket MB-S18) have been used in a big quarry in Al Kharj, a small village in the south of Riyadh, in Saudi Arabia, working to recover inert material to be reused for the construction of the new subway in Riyadh.

MB attachments are used every day in many important projects all over the world. In Germany, for example, MB-R drum cutters have been used to complete demolition works on an old bridge which had loomed over the motorway for years. And in Turkey, our BF120.4 crusher bucket is working in a big quarry in Kastamonu.

**Are you now active across the whole of Africa?**

We can genuinely say that we are active across all the African countries. Nowadays, MB Crusher attachments are no longer considered as a niche or specialist piece of machinery; they are becoming a piece of standard equipment for every construction company. In fact, our extensive know-how in the engineering sector, and investment in technology and innovation, has allowed us to offer customers lots of advantages.

**Tell us about your key products in Africa?**

Actually, the most popular models are the biggest in the range: they are very efficient, especially in quarries and locations that often require huge extensions, where big machines are at work. MB crusher buckets (together with MB screening buckets) can make the difference on big road construction projects and on pipelines. Starting from the BF90.3 (for excavators weighing up to 21 tonnes) and the BF120.4 (for excavators weighing 30 tonnes), up to the the biggest models, the BF135.8 and the BF150.10. This last one in particular - the BF150.10 - is the biggest crusher bucket in the world, for excavators weighing up to 70 tonnes.

**What are your ambitions there going forward?**

Considering the dynamics of the construction industry in Africa, we believe it to be one of the highest potential markets for our products and are focused on increasing our coverage in a phased manner while constantly improving our service through careful learning of customer needs and expectations. Our goal is to increase our presence in this important market. We don't want to lose any opportunity to take part in future big projects, so we'll be working very closely with our dealer network to confirm and strengthen our relationships there. Furthermore, we need to educate the market more about a completely new concept of crushing, never seen before, and to make people understand the great advantages in terms of saving time, money, staff, without forgetting environmental sustainability.

**Any new products in the pipeline?**

MB Screening and crushing buckets have been used in many pipelines projects, since they can simplify the working process, eliminating costs

BF150.10 is the biggest crusher bucket in the world.

and reducing time required for the disposal of materials and in the procurement process. By using MB's range for digs, channelling, construction and maintenance of sewerage, water and gas pipelines, the costs of loading and transporting materials to the landfill are eliminated completely, with significant savings in terms of money and time.

It also permits the carrying out of the entire production process with full regard to the local environment, without altering the elements present. For example: the 13 screening buckets working in the development of the South Caucasus Pipeline and the Trans Anatolian Pipeline and the screening Bucket MB-S18, screening natural material from excavations that will be used as backfill of the GAS pipes in Russia.

Moving forward, MB Crusher is always working on new projects. Our research and development (R&D) department keeps on studying new solutions, in part thanks also to the suggestions of our loyal customers.

> "Africa's infrastructure and mining industry has the biggest potential for growth."
>
> **NAJMEDDINE SAHRAOUI, DEPUTY GENERAL MANAGER FOR THE MIDDLE EAST AND AFRICA**

Najmeddine Sahraoui, deputy general manager for the Middle East and Africa.(Source: MB Crusher)

**What about after sales service & support?**

MB has outlined a far reaching customer service department made up of experts, since our customers are the focal point for each and every stage of our products. We also have a specific service for our dealers: our private B2B online portal offers hundreds of video tutorials covering the MB product line, technical services, marketing and communications, as well as 24 hour online chat support. In this way we can offer our dealers the ability to access all of MB's sales and product information, making it possible to answer any questions regarding our products and services.

**Any other key differentiators?**

MB Crusher is the inventor of the crusher bucket and offers the widest range of crusher buckets, available for all operating machines. We have crusher buckets for excavators, loaders, backhoe loaders and skid steers, so we can satisfy all possible customer requirements.

MB Crusher holds a series of certifications, including UNI EN ISO 9001:2008, CE, TUV, GOST and RINA (the latter is for welding processes) and it employs Hardox-certified materials to give customers the best possible products.

Our focus on innovation is proven by the number of awards that the company has won over the years, including the prestigious Grand Prix of the International Exhibition of Inventions in Geneva in 2007, something which no Italian company had achieved for more than 20 years.

MB also uses the special hydraulic system, AAA + type. The MB crusher bucket is, in fact, the only one with a low hydraulic demand both in terms of the need for pressure and hydraulic flow rate. This means higher productivity and quality of the crushed product in all construction sites (in part, thanks to the patent EP 1532321 owned by MB). The extreme compactness and low centre of gravity also improves balance and drastically reduces the strain on the excavator arm, eliminating impact and vibration.

**How upbeat are you about Africa's future prospects?**

Africa's infrastructure and mining industry has the biggest potential for growth and opportunities for investment and we think that this could have a significant impact on our crushing and screening equipment. Due to this positive trend, we are certain that we can play an important role in this development. We hope that with the larger policies and programmes now being implemented across the region, there will be a lot of interest in MB products. At the macro level, we can now explore a lot of public and private sector investments and overall infrastructure initiatives taking place. ■

# Zimbabwe rooftop solar power boost

**Solar panel project in Zimbabwe could generate 20MW of clean off-grid electricity. (Source: Shutterstock)**

A new study in Zimbabwe will make the case for installing rooftop solar panels on buildings in a project which could generate 20 megawatts (MW) of clean off-grid electricity across the country.

The Sustainable Energy Fund for Africa (SEFA) has approved a US$965,000 grant to local investment firm Oxygen Energy Private Limited for the scheme. SEFA is managed by the African Development Bank (AfDB).

The project would involve building solar PV rooftop panels on buildings owned and managed by Old Mutual Property Group Zimbabwe countrywide.

"This highly innovative project will provide reliable and competitive solar power to multiple SMEs throughout the country," said Ousseynou Nakoulima, AfDB's director for renewable energy and energy efficiency.

He said the involvement of Old Mutual in the proposals was critical. "Working with a strong domestic financial institution has been essential in overcoming common barriers and will help achieve speed and scale."

Nakoulima said SEFA support will be instrumental in leading the project to financial closure by funding technical feasibility work, legal advisory, and in structuring a bankable project.

The AfDB's Africa Climate Technology Centre will cover the costs for environmental and social impact assessment, and a grid interconnection study.

The injection of 20MW of electricity would be a huge boost for a country facing significant base-load power shortages.

The project is aimed at providing reliable electricity to hundreds of SMEs located as tenants within the Old Mutual premises.

The solar power would also replace large quantities of diesel oil used as backup fuel. According to the AfDB, the project will lead to a diesel displacement of more than 12 million litres per year, as well as direct savings and avoid around 33,000 tonnes of carbon dioxide emissions per year.

# AMSOL lands offshore marine protection deal

African Marine Solutions Group (AMSOL) has been recruited by the South African Department of Transport to beef up its offshore environmental protection efforts.

The company has been awarded a five-year contract to operate a standby tug as part of state-backed marine pollution prevention measures.

AMSOL's managing director Paul Maclons said the company will provide a high speed tug and crew, plus support services, "to safeguard South Africa's marine environment and ensure proactive protection from the impact of pollution caused by incidents at sea."

The company will work in partnership with the South African Maritime Safety Authority, as well as the Department of Transport.

Maclons said the standby tug will be available 24/7 on the South African coast to respond to emergencies and is capable of dealing with even the largest sea-going vessels.

The tug was specifically designed to operate off the South African coast, with its characteristic weather and sea conditions, which can prove challenging to passing shipping traffic. The vessel will serve as a platform for the training of South African seafarers.

In May, AMSOL was appointed by the Sunrise Energy Liquefied Petroleum Gas (LPG) Import Terminal as the preferred contractor for its marine operations in Saldanha Bay.

Maclons said his company will provide specialised marine resources and diving specialists to assist Sunrise Energy with the safe and timely turnaround of LPG tankers discharging at the site's multi buoy mooring. "Our solution is focused on ensuring environmental protection," he added.

AMSOL is an African owned company with a South African shareholding that includes employees and management, together with Pan-African Capital Holdings, the Mineworkers Investment Company and RMB Ventures.

# Ugandan's capital still grappling with challenges of waste management

Kampala's soaring population and rapid economic development poses continual challenges to the city's authority to deal with waste management. Geoffrey Muleme reports.

(Source: SuSanA Secretariat/Flickr)

There is a lack of adequate waste recycling plants in Uganda and the emission of methane gas during organic waste decomposition is affecting people's quality of life.

The Kampala Capital City Authority reported that 80 per cent of the garbage collected is organic matter, which is putting a strain on resources. Kampala is the most populated city in Uganda, experiencing increased immigration from people looking for work.

"Kampala's annual municipal waste generation is about 350,975.38 tonnes with Kiteezi landfill, the main landfill in Kampala, receiving approximately 1,500 tonnes of solid waste a day. Of this waste generated,70-80 per cent is organic while the rest is inorganic such as glass, paper, plastic, street debris, saw dust, metal, paper among others," the Uganda Bureau of Statistics (UBOS) reported.

According to a recent National State of the Environment Report for Uganda, it said the government was undertaking a number of waste management initiatives and that "significant investment is required if solid waste management is to improve".

The report said an estimated US$10.6mn is spent on solid waste collection in Kampala, which has increased to 380,000 tonnes annually. Other municipalities in other parts of the country do not have adequate resources to deal with the amount of solid waste generated daily and as a result there was an environmental impact to the improper disposal of it.

"Indiscriminate disposal of waste, largely due to limited awareness and lack of adequate facilities, have caused man-made floods in water channels within major towns especially Kampala. The drainage channels are usually blocked by common waste materials like plastic bottles and polythene bags thus causing floods," it stated.

Peter Kaujju, deputy director of public and corporate affairs of the Kampala Capital City Authority (KCCA) told African Review plastic bottles, polythene bags and street debris in channels and along roads was still challenging for the authority. "But we have to educate people, communities, and schools on how to dispose of their rubbish," adding that they have been able to increase a fleet of garbage trucks in addition to private collectors. These include Kampala Solid Waste Management Consortium, Homeklin Limited and Nabugabo Updeal Joint Venture. Their fleet of vehicles includes Iveco trucks from Italy, which take the garbage to landfill at Kiteezi, outside Kampala city.

But Kaujju says the landfill site is due to expire. To make preparations for this change, KCCA has bought 135 acres of land in Dundu, a few kilometres east of Kampala where the site will be transformed to produce biogas. "We are working hand-in-hand with the World Bank and the process is ongoing for the construction of a waste management plant. The biogas produced will be supplied to the national grid depending on the collection from the waste," said Kaujju.

According to the KCCA, the city is subdivided into seven collection zones and Kampala Solid Waste Management Consortium, Homeklin (U) Limited and Nabugabo Updeal Joint Venture are responsible for collecting and transporting waste from the various zones to the main landfill.

Nabugabo Updeal Joint Venture has developed innovative solutions for the packaging, storage and transport of waste.

The KCCA said in 2012 it took steps to improve the Solid Waste Management (SWM) services in the city through engaging the private sector and the possible commercial utilization of refuse products and landfill gas through a Private Private Partnership (PPP) project, which is ongoing today. It says the objectives were to improve the efficiency of solid waste management collection and management in Kampala, reduce the fiscal burden of building new infrastructure, and institute a transaction structure that assures sustainability of the PPP project.

The IFC found private operators were providing door-to-door collection in richer areas and charged households and businesses directly for this service. But there was no exclusivity for operators in designated collection zones and several operators had customers on the same street resulting in inefficient operations and illegal dumping of waste in communities. ■

# The role of generator sets in the new landscape of microgrids

**The demand for primary energy to meet the basic needs of the population for heating, transport and electricity consumption, has grown in recent decades. Massimo Brotto, sales engineering manager at Himoinsa, reports.**

Since 2010, primary energy has increased by a factor of 1.5 and, according to the International Energy Agency, it is predicted to grow 32 per cent by 2040. How can this growth be sustainable in the long-term? The energy mix needs to be remodelled to make way for cleaner forms of energy. This is where generator sets play a crucial role. Generators add reliability to this new mix, they have to be efficient, compatible with the existing infrastructure, adapt to demand at any given time and reduce the environmental impact caused by the unstoppable increase in global energy needs.

## Distributed energy to meet long-term energy demand

Increased consumption in countries such as India and China, global population growth and the significant industrial development that is taking place, have an enormous effect on the upswing in demand for energy resources. But this growth has set a course: the process has to be sustainable. The historic 2015 United Nations climate change conference, held in Paris, set out the path towards a low-emission economy, with the commitment of the 195 countries that signed the agreement. The majority have heeded the agreement and have started to put solutions in place to reduce their dependence on coal.

Technology already offers concrete solutions to these needs. 'Distributed Generation' makes it possible to take energy production to where the energy is, with units that, by working autonomously and without depending on the electricity grid, can produce energy continuously and sustainably.

Microgrids represent the most developed Distributed Generation model to date systems, whether connected to the grid or not, which can combine different conventional and renewable technologies. In addition to energy generation, they have two distinctive features – control, the most intelligent part, which predicts consumption and work cycles, and storage devices, the heart of a microgrid, which together with power electronics compensate for the load variations of renewables and are much more efficient in energy production.

To make all this equipment work, a monitoring system is required to collect and communicate all data, both from the grid and from the other connected sources, in a smart grid environment.

At present, one third of energy supplied by microgrids comes from generator sets, another third from wind energy and the rest from microturbines, solar panels or fuel cells.

However, the global trend is to combine different technologies to eliminate the negative aspects they each have when used individually, and to reduce dependency on fossil fuels. The falling price of solar panels is making the transition much smoother and countries such as the United Arab Emirates, Saudi Arabia, Qatar, Germany and Chile have started to encourage renewable energy projects with this goal.

The appeal of combining fossil fuels and renewable energy, and its success, largely depend on external factors, such as the legislative framework, the distance from the national electricity grid, and the cost and profitability of electrifying an area, considering its population density and its level of industrialisation. Even so, this market is expected to grow at a brisk pace, around 17.1 per cent per year for the next five years, and rural and island electrification is expected to lead the process as a whole, with year-on-year growth of 23 per cent.

## Advantages of incorporating generator sets in hybrid generation plants

Incorporating generator sets into these hybrid systems guarantees that the system is reliable as it ensures that energy is always available. They are the ingredient in the mix that provides a very sound solution to the intrinsic instability of renewable energy, because, unlike renewable energy, generators are not dependent upon often unpredictable natural conditions.

In addition, generators function as a very useful storage alternative that can respond very quickly to load variations. Combining generators with a smart management system makes it possible to plan running hours to perfection and to increase the microgrid's efficiency enormously.

The combination of a conventional fossil fuel-powered generation plant with a 100 per cent renewable energy plant offers significant advantages.

Firstly, it provides an uninterrupted power supply, which a renewable energy plant alone is unable to guarantee.

Secondly, it significantly reduces running costs. A typical load pattern of these plants shows how the combined use of generator sets with renewable energy offers a significant fuel saving, and reduced overall running and maintenance costs. Running hours will always be lower and less maintenance and lubricant, filter or injector changes will be required.

## Suitable conditions for the installation of a hybrid plant

Hybrid solutions are attractive for industrial markets, such as the mining or telecommunications sectors, as back-up energy in rural areas and islands, as well as a single source of continuous power for shops, farms or households.

All these applications share a number of common features:

- They are used in places that are not connected to the grid or that have high electricity costs.
- Their demand is up to 5MW, with around 4,000 running hours per year. The ideal situation for a hybrid plant is most of the demand occurring during the day, when solar sources are available.
- They have a high level of exposure to sunlight or wind. To guarantee a return on investment, solar irradiance should be more than 1,300kWh/kWp or, as applicable, wind exposure should be at least 4 m/s. Countries such as Chile, Peru and India, and regions such as the Caribbean, Asia Pacific, Middle East and North Africa are geographical areas that meet all these optimal natural conditions for installation.
- They have enough space for the installation of solar panels. Where this is under a roof, the ratio should be around 10 square metres per kW generated. Where this is on the ground, 20 square kilometres would be required per MW.

In the transition from conventional energy production to more renewable forms of production, generator sets have a role to play in the future. Their capacity to ensure availability of energy to meet increasing demand that is challenging environmentally makes them a sound solution to the intrinsic instability of renewables, and a useful storage alternative. Generators respond quickly when load variations occur and, when integrated in the management of a smart grid, make it possible to plan running hours and to increase the efficiency of the whole system. ■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# IVECO in Egypt to bring truck solutions with new partner

## IVECO presents its latest range of light and heavy vehicles at a major customer event in Egypt, organised by FAMCO.


Iveco teams up with new brand distributor FAMCO. (Source: Iveco)

IVECO joined forces with its new brand distributor, Al-Futtaim Misr for Car Trading (FAMCO) and hosted a well-attended event in Egypt, attracting more than 200 customers from across the country.

The truck company presented on 4 April its full range of light to heavy vehicles to industry professionals and decision makers. They included government establishments, municipalities, construction businesses, quarries, and transport operators.

It also marked FAMCO's official launch of its operations in Egypt and its new facility in Cairo to provide after-sales support to customers. Fabio De Serafini, IVECO Africa & Middle East business director said, "We are sure that with FAMCO we will substantially improve the level of service to our customers in Egypt. FAMCO is a highly reputable company with a strong financial capability and an outstanding ability to move forward in terms of projects. FAMCO's network in Egypt provides us with business opportunities both in terms of sales and after-sales services, and we look forward to a establishing a long-term relationship with the firm."

> "Iveco's off-highway ranges offer a superior choice for fleet owners"
>
> **NIGEL JOHNSON, SENIOR MANAGING DIRECTOR, FAMCO GROUP**

Nigel Johnson, senior managing director, FAMCO Group, said, "As part of our strategic expansion plans and in line with Al-Futtaim Automotive Group's strategy 'Customers and Vehicles for Life', we were quite interested to get into a partnership with a reputable brand, such as IVECO, which has a deep understanding of the area's transportation needs for both on-road and off-road and provides a wide range of products to the transportation sector. The medium and heavy vehicle ranges represent IVECO's core business in the Middle East Region. The company is aware that the needs of fleets are changing, as well as the types of vehicles required, and IVECO's off-highway and on-highway ranges offer a superior choice for fleet owners."

Nabil Naga, general manager, FAMCO Egypt, said, "In line with Al-Futtaim Automotive Group's philosophy of being the customers' preferred choice, we have decided to invest in establishing a state of the art facility in Abu Rawash in Cairo. This facility is operated by our highly skilled sales and after-sales professionals in order to provide our customers with the highest level of support to their business's needs. Our newly opened facility is equipped with sophisticated equipment to ensure a full care of our clients' fleets. Considering the valuable time of trucks working on site, we have prepared a mobile service facility to reach our clients wherever and whenever they require. We were very pleased to welcome all our business partners to join us on the official launch of FAMCO's operations in Egypt and we look forward to serve them at our facility and support them to take their businesses further." ■

# Bobcat launches new high-torque forestry cutters

The company's new cutters are compatible with compact tracked and skid-steer loaders


The new forest cutters are compatible with the Bobcat T770H. (Source: Doosan Bobcat)

Bobcat has launched the new FRC150HT and FRC200HT high torque forestry cutter attachments for use with the company's market-leading compact tracked, skid-steer and all-wheel steer loaders.

The new forestry cutters are compatible with the Bobcat T770H and T870H compact tracked loaders, S770H and S850H skid-steer loaders and the A770H all-wheel steer loader.

Designed for continuous use in shredding and mulching bushes, shrubs and small trees, the forestry cutters are ideal for fast removal of thick undergrowth. Providing cutting widths of 1.5 and 2.0m, respectively, the FRC150HT and FRC200HT forestry cutters are designed for continuous work on bushes and trees 100 to 120mm in diameter, intermittent use for trees with a diameter from 180 to 220mm and occasional use on trees 250 to 300mm in diameter.

Applications are varied, ranging from agriculture, including vineyards, orchards, nurseries and tree care; forestry, including cutting fire breaks in woods and forests, clearing work and removing unwanted undergrowth trees; wildlife, national park and country estate management; perimeter maintenance of facilities, such as schools and military bases; site development in construction; land clearing for landscaping and recreation projects; maintenance work on vegetation next to pathways and other right-of-ways; utilities, railway lines and roads, as well as clean-up work after storms and floods.

## New variable torque motor

The FRC150HT and FRC200HT replace the previous models in the range and, based on customer feedback, they have been enhanced with a new variable torque motor providing 40 per cent more power and several other updates to improve performance. The latter includes a new drum design, new routing for the hoses, a reduction in weight, improved visibility and much more, increasing efficiency and improving manoeuvrability.

The forestry cutters are part of the comprehensive Bobcat range of attachments for forestry, estate management, amenity and landscaping work, including stump grinders, wood chippers, brushcutters, flail cutters, augers and tree transplanters.

Powered by the new M-BOOST high performance motor with variable torque, the 1.5 m drum on the FRC150HT forestry cutter is equipped with 30 fixed carbide teeth, while the drum on the FRC200HT has 36 cutting teeth. Other new features include five rows of counter cutters; a new adjustable push bar configuration; a new reinforced chain protection system at the back; a new HD belt cover; a new forestry applications kit rear window; new adjustable skid shoes; an automatic drum brake system; an ACD Control system and a patented fixed knife rotor with tungsten carbide tips.

## Safe operation

To ensure safe operation of the forestry cutters on loaders, the forestry applications kit protects the loader and operator from flying objects and debris. The kit includes an impact resistant front door, which must be installed in order to operate the forestry cutter. A safety feature stops the cutter drum from turning if the loader door is opened.

For work in confined spaces in woodland and forests, front and rear light guards are added to the loader to protect the lights. A guard protects the hydraulic quick couplers, hoses and wire harness from falling trees and branches. A level II FOPS (ISO 3449) protects the operator and the cab from falling trees while top and rear polycarbonate windows provide protection for the operator.

Shields protect the lift cylinders against debris and reduce material build-up in the engine. Although daily maintenance is essential in this type of work, a debris screen on the radiator ensures continuous operation and makes cleaning up easier.

All functions of the forestry cutters can be controlled from the operator seat without requiring the operator to remove their hand from the loader steering levers. The forestry cutters have a hydraulically adjustable front gate that can be opened while cutting debris and then closed to retain material and provide a fine mulching action. ■

*For more information, visit www.bobcat.com*

# SINGLE DEVICE MULTI CONTROLLER TO ATTRACT WIDE RANGE OF INDUSTRIES

Booyco Electronics has introduced the ESI Multi Controller – a new fire detection system – to meet environmental safety requirements across a wide selection of industries.

Jaco du Plessis, continuous improvement manager at the company, said the device will work as a controller, repeater and has input/output functions.

It will help solve issues experienced with past fire detection systems, which were made up of a number of individual devices, which had to be interconnected and configured.

Instead it will act as a single platform, making it an extremely easy and user-friendly device. “Having a single device or fire protection system in a box such as the ESI Multi Controller with I/O allows for exceptionally simple installation and commissioning with the added advantage of ease of use,” he said.

The ESI Multi Controller I/O was designed to be a drop-in replacement for most of the previous generation range of Remcon Fire Detection equipment.


**Single device Multi Controller with I/O. (Source: Booyco Electronics)**

The equipment that has been replaced includes industrial modem controller (DPT IMC), repeater (DPT IMR), quad I/O device (DPT 8IMI/O) as well as the media converter (DPT IM).

Du Plessis said that live diagnostics can be done on the unit while in I/O and repeater mode via the RS485 port without having to disconnect the unit from the network.

A built-in alarm function allows a local alarm to be connected to an on board digital output channel, ensuring functionality even if there is a network failure. This can be adjusted to match the low alarm limit defined by the end user and is configurable via an AT Command setup structure.

Operational functionality has been enhanced through an LED based status indication which facilitates effective visual identification of the real-time status of sensors connected to the device. This allows personnel to check the signal (mA) band of the input at any stage.

The ESI Multi Controller offers six AI, six DI and six DO channels, facilitating a wider scope of monitoring and control as more sensors and monitors can now be connected to a single device. In addition, the on-board selector switch allows for switch over to be done without the need to reboot the unit.

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# "Africa needs to realise its power as a collective"

Rand Merchant Bank (RMB), a division of FirstRand Bank Limited, is a leading African corporate and investment bank. *African Review* talks to Ronak Gopaldas, Africa strategist at Rand Merchant Bank about what the continent needs to do to adapt to the difficult years ahead.

**What does your role at RMB as Africa strategist involve?**

I look at politics, economics, and security and operational risk in various jurisdictions in Africa. I have a team of four analysts and we try to make sense with what's happening on the continent by anticipating and reacting to key political and economic developments and figuring out how they impact our business.

Ronak Gopaldas from Rand Merchant Bank talking on investment risk in Africa at the Oxford Business Forum Africa earlier this year. (Source: Saïd Business School)

**In your opinion, which countries remain Africa's hottest investment destinations and why?**

Côte d'Ivoire is definitely among the top places because President Alassane Ouattara, a technocrat and an ex World Bank banker, has enacted business-friendly policies, making it easier to register a business. He has brought in favourable mining legislation, re-engaged with the IMF and has cleared the country's external debt. All of which has given people confidence to invest in the country and we have seen this with investment from French retail giant Carrefour and the return of the African Development Bank as well as a host of other new entrants into this market. Other markets that stand out are regional powerhouses Nigeria, Kenya and South Africa. Despite Nigeria going through difficult times, it's simply too big to ignore. Kenya has got a relatively diversified economy, a highly skilled workforce and has easy access to the rest of the east African community, and South Africa has a sophisticated economy. Ethiopia is also an interesting market with approximately 90 million people, but it is still a very closed economy with limited private sector participation. In addition, a country like Mauritius is small but diversified and business-friendly.

Overall, I would say the factors that initially attracted long-term investors to Africa are still in play; the demographics, the growing middle class, and the fact that Africa is going to play a significant role in both global production and consumption in the coming years. There is so much untapped potential and we need so much with regards to infrastructure, education and healthcare.

**What practical measures are needed to promote intra-regional trade and investment within the sub-Saharan regions of Africa?**

Customs, tariffs, trade barriers, and proper infrastructure. The list goes on and on, however, it all centres on political will.

**What advice would you give to African policy makers?**

They should concentrate on regional integration, expand and develop regional trade hubs and markets to make it easier to do business with neighbouring countries. Economical diplomacy also has a part to play. In light of this changing geopolitical world and the vacuum that exists, if you are clever around how you do this, you can come out favourably like Kenya, which took advantage of big investor appetite from China, the United States, India and the UK. Thirdly, Africa needs to realise its power as a collective. There are often disagreements in the African Union, because of fragmented leadership, but the continent's power and its role on the international stage, will be achieved by speaking with one voice. This is very difficult in the context where, Nigeria, Egypt and South Africa, the three largest economies are struggling and preoccupied with domestic issues, but having a more coherent and visionary leadership in the African Union would enhance the continent's position more favourably in the future.

> "We're in crisis, but never waste a good crisis because this gives you the opportunity to structurally reform"
>
> RONAK GOPALDAS,
> AFRICA STRATEGIST AT RAND MERCHANT BANK

**What should African countries do to prepare themselves for the future?**

There is no commodity cycle rebound that is likely to happen. We are in a crisis, but I say, never waste a good crisis because this gives you the opportunity to structurally reform. Maybe with the drop in commodity prices, this could be the impetus that African countries finally need to industrialise and create value-adding products that they can export. As a continent we consume what we don't produce and produce what we don't consume. Take Nigeria, it is a country which produces oil but imports refined oil, they produce tomatoes but import tomato paste, it's crazy.

**In your opinion, what is going to be the main challenges that the continent faces in 2017?**

It's going to be another challenging year because we have a lot of external headwinds. There is the turbulent Chinese economy and commodity prices that we can't control. There's also the issue of which way Brexit will go and whether Africa can emerge favourably and broker favourable trade deals with the UK, and finally what the Trump administration's policy means for Africa in terms of aid cuts. ■