Europe 10, Ghana C1.8, Kenya Ksh200, Nigeria N330, South Africa R25, UK £7, USA $12

African Review

OCTOBER 2017

of BUSINESS and TECHNOLOGY

53 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964

Technical Service & Spare Parts

Diesel&Gas

GENERATOR SETS
LIGHTING TOWERS

HIMOINSA

Europe 10, Ghana C1.8, Kenya Ksh200, Nigeria N330, South Africa R25, UK £7, USA $12

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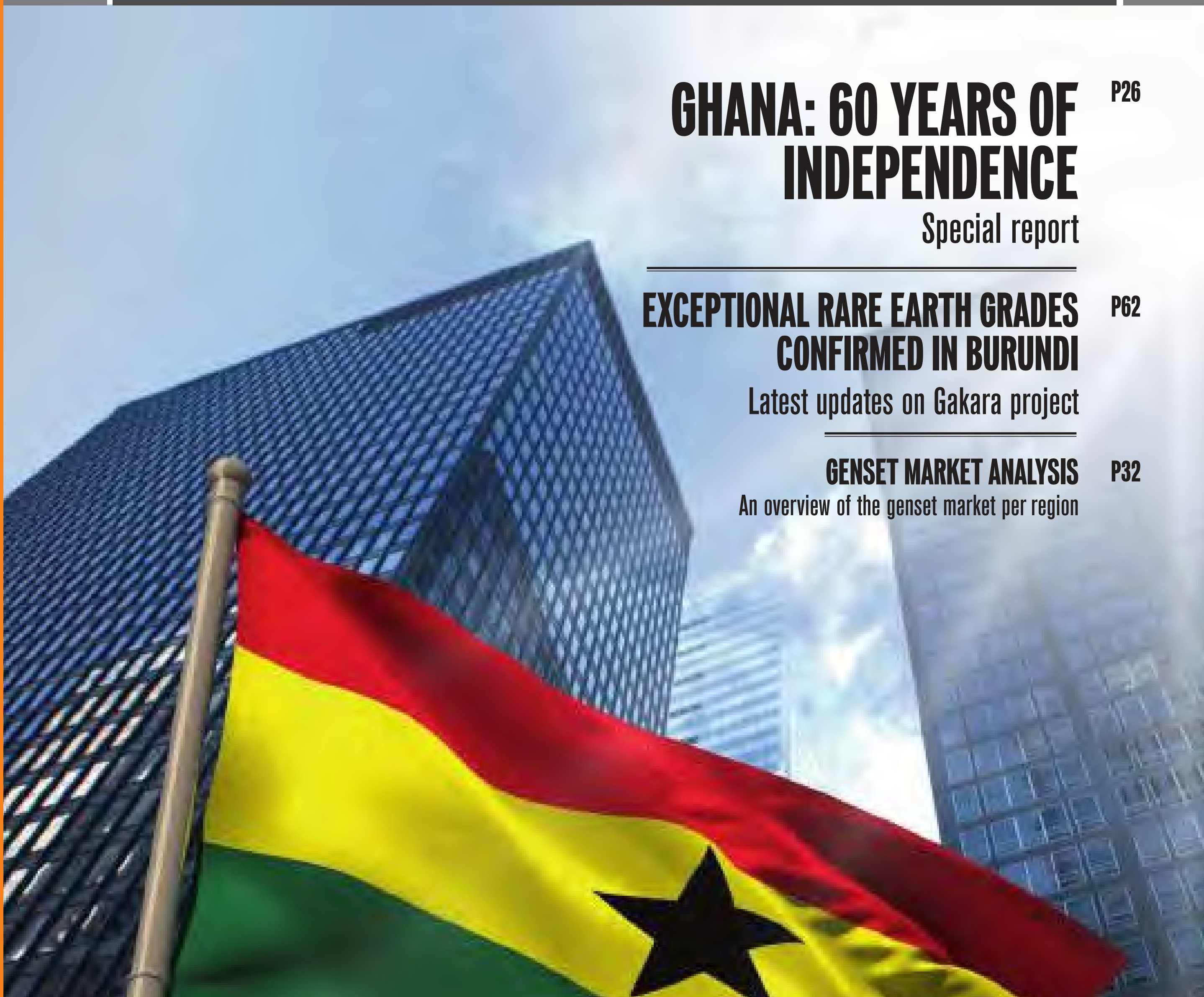

P16

"We are living in a world where connectivity is a basic human right"

James Mwangi, executive director of Dalberg

53 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964

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Cover picture: Ghana special report. (Source: Adobe Stock)
Cover Inset: James Mwangi from Dalberg. (Source: Dalberg)

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Editor's Note

Welcome to our special Ghana edition. Sixty years since independence, Ghana is holding its own among its African peers, as a much-sought after destination for investment and business. Ghana was sub-Saharan Africa's largest recipient of foreign direct investment in 2016 thanks to its thriving mining and oil sectors. Also in this issue, we offer a comprehensive overview of the genset market, looking at the different regions across Africa (pages 32-40).

Elsewhere, we catch a glimpse of formwork scaffolding behind The Pinnacle, Africa's largest skyscraper, in Nairobi (page 52). It is due for completion in December 2019.

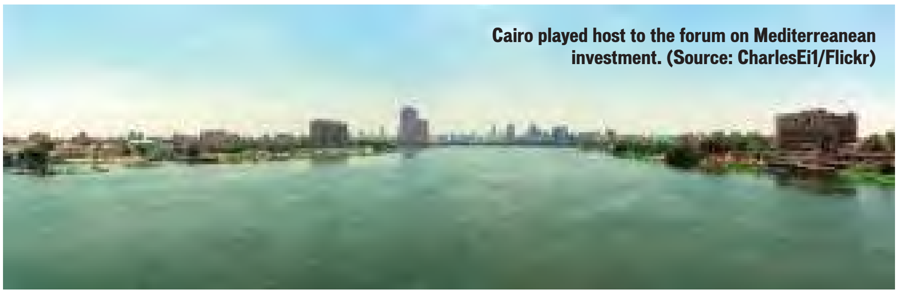
Finally, Rainbow Rare Earths has confirmed exceptional rare earth grades in Burundi with its basket price almost doubling since it listed on the London Stock Exchange on 30 January (page 62).

Don't forget to check all our latest updates on www.africanreview.com

Samantha Payne, *Editor*

Contents

Push for private sector to lead the way with investment in the Mediterranean region


Cairo played host to the forum on Mediterranean investment. (Source: CharlesEi1/Flickr)

Government officials, investors, bankers, and researchers from Egypt, Jordan, Lebanon, Morocco and Tunisia convened in Cairo in September to discuss ways to drive north African investment into the Mediterranean.

Delegates at the European Investment Bank's (EIB) conference on boosting investment in the Mediterranean region discussed potential drivers of economic growth in the region. These included ways to help SMEs and micro entrepreneurs to access finance, meeting critical investment needs to promote innovation, and elevating the international competitiveness of local firms.

On the role of the private sector in boosting Mediterranean investment, EIB vice-president, Dario Scannapieco said: "We believe the role that the private sector plays in boosting economic activity and creating jobs for the unemployed and new entrants to the labour market is absolutely key. This is why the EIB is stepping up its support to the private sector under its Economic Resilience Initiative. We recently approved 600mn euros for SME finance in Egypt, Jordan, Lebanon, Tunisia and Morocco under the new initiative. Now we are looking at more good projects to support."

Ambassador Ivan Surkoš, head of the European Union Delegation to Egypt, echoed Mr Scannapieco's sentiments about private sector involvement: "In this process, the private sector plays a crucial role. Supporting SMEs and the private sector in Egypt and the Mediterranean region will continue to be at the heart of the EU's cooperation."

As well as focusing on investment from North Africa into the Mediterranean region, Mr Surkoš announced a new initiative at the conference, the European External Investment Plan (EIP). This will cover the Middle East and North Africa and it is aimed at leveraging public and private sector funds from EU member states to these areas.

VALLOUREC AND BAPETCO SIGN EGYPT TUBE DEAL

Vallourec, a French-based tubular solutions provider, has signed a contract with Badr El Din Petroleum Company (BAPETCO), a joint venture between Shell and the Egyptian General Petroleum Corporation, to supply tubular solutions for up to 70 gas wells of an onshore project in the Western Desert of Egypt. Vallourec will use one of the new production routes created in under its Transformation Plan.

Most of the seamless carbon steel tubes will be produced by Tianda, the new plant purchased by the Vallourec Group in 2016 in Chuzhou, China, while the threading will be made at Vallourec's Chinese threading plant in Changzhou. Additionally, premium tubes made from corrosion-resistant material will be produced at Vallourec's European plants in France and Germany.

"We are proud to have won this new contract in a market as competitive as Egypt," said Didier Hornet, senior vice-president of Vallourec's Development and Innovation Department.

CHINA EYES NORTH AFRICAN TELCO EXPANSION

China is seeking to make deeper inroads into north Africa's internet and telecommunications markets in conjunction with its Belt and Road Initiative. While the Belt and Road Initiative focuses on infrastructure projects between China, the rest of the Asian continent and the Mediterranean, an Online Silk Road initiative is looking to expand China's reach in digital marketplaces beyond its own borders, including north Africa.

Speaking at the Online Silk Road conference, held in Beijing in September, Hu Xiaoming, president of Alibaba's cloud computing subsidiary Aliyun said: "We believe the Internet is a basic infrastructure, just like power grids. We also believe that cloud computing is a public service, just like how people need electricity. Resources, both the material and virtual ones, will be the core competitive edge for a country and a society."

ZTE Corporation, a Chinese telecommunications company, is one such company seeking to increase its reach and upgrade services in the North African market. Specifically, the company pledged at the conference to combine mobile information technology in railway, urban rail, city traffic, aviation, and port for smart transportation.

The company is the main supplier of information and communication technology in north Africa, with a compound annual growth rate at more than 20 per cent. ZTE has deployed a 3G/4G wireless network, a broadband network, a transmission network, management system maintenance, value added services, and a terminal for MENA telecom operators, such as Algeria Telecom, Algeria Mobile, Algeria OTA, Morocco Telecom, and Libya Telecom. It also cooperated with Algeria and Egypt with the deployment of smart city modules.

BRIEFS

Morocco hosts climate summit

The Climate Chance World Summit, held in September in Agadir, concluded with the adoption of "The Statement of Agadir", a commitment to intensify action on climate change and urge governments to facilitate further dialogue. Among the delegates were representatives of CAN-International, CSI (International Trade Union Confederation), IPACC (Association of African Indigenous Peoples) and Souss Massa Regional Council, which hosted the event.


The summit hosted more than 5,000 delegates. (Source: Climate Chance)

Eco-pesticides for farmers

Morocco, Tunisia and Algeria are the newest biofungicide markets for ÉLÉPHANT VERT, a Swiss-based sustainable agriculture company. One product is labelled for use by growers of tomatoes, peppers and cucurbits, while the other protects crops from yield-robbing nematodes. Both products are made from microorganisms as part of the company's aim to help farmers restore soil biodiversity and fertility, and improve growth and disease-resistance.


Tomatoes could benefit from biofungicides. (Source: tony/Flickr)

Kenya and Ethiopia set to outshine Africa's biggest players

Paul Gabriel, senior analyst for Africa at Control Risks. (Source: Control Risks)

Kenya and Ethiopia might soon outshine Nigeria, South Africa and Egypt in the competition for investment, according to the newly released Africa Risk-Reward Index.

The report, which was developed by Control Risks and Oxford Economics, found that Ethiopia outperformed every African region with its reward score of 8.0 (out of 10). Notably, it attracted US$3.2bn of foreign direct investment in 2016 – more than Nigeria, and double the figure for Morocco.

The east African nation is one of Africa's fastest growing economies and continues to offer strong prospects. Growth averaged 10 per cent from 2010 to 2015. Although 2016 growth was slower at 6.5 per cent the expansion remained impressive, the report said.

In Kenya, a well-educated workforce and an innovative service sector, and the government's continued investments in upgrading critical national infrastructure and deepening integration through the East African Community (EAC) have contributed to the nation being a gateway into the larger east African region. Real GDP growth averaged at 6.0 per cent in 2010-16, with 5.4 per cent forecast in 2017. The country's reward score was 6.7.

Compared to Nigeria, the report forecasts real GDP growth of only 1.1 per cent in 2017 as fall in oil prices and terrorist attacks in Niger Delta, take its toll on President Muhummadu Buhari's government. Nigeria, Egypt and South Africa's rewards scores were 6.0, 5.5 and 4.6 respectively.

Economic prospects are closely linked to the outcomes of the ANC's national conference in December. The forecast real GDP growth of 0.5 per cent for 2017 in South Africa is certainly insufficient to reduce the nation's staggering 27.7 per cent unemployment rate, the report said.

Paul Gabriel, senior analyst for Africa at Control Risks and lead author of the report, said, "Experienced investors – not only in Africa, but around the world – know that risk and reward are close companions. While no serious investor should overlook the economic giants of the continent, real competitive edge can only be achieved when investors manage to stay ahead of the pack in knowing what's next. The Africa Risk-Reward Index helps investors to identify some of the more hidden investment opportunities in times where the heavy-hitters are struggling."

RWANDA ADDS MACROECONOMIC DATA TO NSDP

Rwanda began publishing important macroeconomic data on the website of the National Institute of Statistics – the National Summary Data Page (NSDP).

This marks the culmination of recent efforts by the principal statistical agencies working together to publish the data recommended under the International Monetary Fund's (IMF) enhanced General Data Dissemination System (e-GDDS).

A staff team from the IMF's Statistics Department visited Kigali during July, 2017 to assist with the implementation of the e-GDDS.

Publication of essential macroeconomic data through the new NSDP will provide national policy makers and domestic and international stakeholders with easy access to information that the IMF's executive board has identified as important for monitoring economic conditions and policies.

CREDIT NEGATIVE FOR PETRA DIAMONDS

Petra Diamonds Limited has temporarily suspended operations at its Williamson mine in Tanzania after the government seized a consignment of diamonds for export on suspicion they were undervalued.

The government wants to nationalise the diamonds following the Tanzanian government's Diamonds and Gemstones valuation agency estimated their worth to be around US$14.7mn.

Tanzania's Finance and Planning Ministry disputes that valuation, saying the diamonds are worth US$29.5mn.

It plans to launch a probe into irregularities around the valuation of Petra's diamond exports, Moody's Investor Service reported, saying these developments are credit negative for Petra and will dent group profitability and adversely affect the company's ability to meet its December 2017 bank covenant test. The company has net debt of US$555mn.

Although Williamson contributes less than five per cent to Petra's Earnings Before Interest, Tax, Depreciation and Amortisation, and major personnel are in discussions with the government to resolve the matter, the company may be forced to put the mine on care and maintenance until it finds a suitable solution, Moody's Investor Service added.

Moody's said, "We expect that Petra will continue to engage constructively with the Tanzanian authorities, but cannot predict how long

the valuation dispute around the diamond exports will take to resolve," adding it is too early to assess the impact of the government investigations into other irregularities.

"We won't be stupid and keep on pumping in money if it's clear it will come to naught," said Petra chief executive Johan Dippenaar, according to a Financial Times report.

BRIEFS

UN pledges its continued support to Somalia

The secretary general reaffirmed UN support in the area of human rights. (Source: Adobe Stock)

The UN secretary general met Hassan Ali Khayre, Prime Minister of the Federal Republic of Somalia and commended the country for its progress in advancing state-building.

The secretary general reaffirmed the UN's support in the humanitarian, security and human rights areas.

AidEx wraps up fourth successful exhibition in Kenya

AidEx targets global humanitarian aid and development. (Source: AidEx)

AidEx, the leading event dedicated to global humanitarian aid and development, held its fourth successful satellite conference and exhibition on 13-14 September in Kenya.

Delegates were impressed by the all-women panel who discussed the future of how technology and big data will influence aid and development.

DPSA Stephen Ashcroft, head of technical assistance, said, "AidEx is a good example of how to build relationships and open up conversations."

USTDA grants mini grid projects in Madagascar

This project further aims to support Power Africa by expanding energy access across sub-Saharan Africa. (Source: SayCheeeeeese/Commons)

The US Trade and Development Agency (USTDA) has awarded a grant to Malagasy energy company, Henri Fraise Fils & Cie, for the development and implementation of mini grids in Madagascar.

In addition, the grants also aims to support the technical and economic study of solar photovoltaic (PV) powered mini grids with integrated battery storage technology at up to 100 sites, as well as a pilot to demonstrate the mini grid solution.

With just 15 per cent of the population in Madagascar having access to electricity, the mini grids focuses on ensuring reliable energy sources.

Henri Fraise selected the US-based battery storage manufacturer, Fluidic to carry out the feasibility study and pilot project. Caterpillar and First Solar will also play a role in the project.

"USTDA is pleased to facilitate new business partnerships between the US and Malagasy companies that can spur long-term, sustainable economic growth," said Lida Fitts, regional director for Sub-Saharan Africa. "This project supports the adoption of innovative US technologies that can expand electrification in Madagascar," Fitts added.

"The funds will help develop our business model and broader deployment of mini grid solutions across Madagascar," commented Nicolas Verbert, vice-president of Henri Fraise.

This implementation of this project is expected to result in the installation of a combined 10MW peak of solar power generation and 88MW hours of battery storage capacity, which would electrify an estimated 27,600 households and businesses in Madagascar, said the company.

"We are excited to work with Henri Fraise to develop mini grid projects that will increase renewable-based electrification and economic development in rural areas of Madagascar," said Richard Hallas, regional vice-president of Fluidic.

GLENCORE SIGNS MULTI-YEAR CONTRACT WITH ANGOLA LNG

The Anglo-Swiss multinational commodity trading group Glencore has announced that it will to buy liquefied natural gas (LNG) supplies from Angola LNG in a multi-year period. Angola LNG told Reuters that the deal is expected to help in building the company's sales book with the most important players in the LNG market across the globe. Recently, Angola LNG has signed an offtake multi-year deal with Vitol for the supply of LNG. It has also entered into a contract with Germany's RWE to delver LNG products.

The source reported that the country has been selling all of its LNG through competitive tenders in the global spot market. The reason is, partly, because an earlier plan to ship LNG to the US fell through due to the US shale gas boom. Headquartered in Soyo, Angola LNG plant is a single train facility with production capacity of around 5.2mn tonnes per year. The plant uses ConocoPhillips' proprietary natural gas liquefaction technology. In addition to LNG, it also produces propane, butane and condensate.

Glencore is one of the world's largest diversified and vertically integrated commodity producers, processors and traders. The company aims to market and distribute the industrial, automotive, construction, steel, power generation, oil and food processing industries to international customers. It has a number of production facilities across the world for supplying metals, minerals, crude oil, oil products, coal, natural gas and agricultural products.

NEW FLYOVER INAUGURATED IN ANGOLA

Angolan president José Eduardo dos Santos, has inaugurated the Unidade Operativa flyover, aiming to improve the dormant traffic condition on Deolinda Rodrigues Avenue in Angola.

The new flyover will help in reducing the heavy traffic flow in the section from Grafanil-Viana to the Unidade Operativa, both directions, and from Senado da Camara road to Tourada.

Image source Keone/Flickr

The Unidade Operativa flyover is 5.5m high, 510m long and 20m wide. The flyover will have four lanes, two for each direction, with 14m wide and 3.5m for each lane.

Prior to the inauguration of the flyover, the president received technical explanations from Artur Fortunato, construction minister, and Rosária Kiala, engineer responsible for the work, regarding the work enforcement of the much-needed flyover in the area.

With an aim to reduce the growing traffic situation and reconstruct the dilapidated road infrastructure in the country, the Angolan government has increased investment. The government is planning to spend around US$22.6bn by 2025 for the construction of new roads and maintenance and rehabilitation of the existing ones.

Angola was one of the fastest growing economies in the world in last decade. The GDP of Angola has expanded at an annual 11 per cent. The per capita income in the country rose eight-fold, with the per capita GDP standing above US$5,000, which is considered a middle-income level.

The inauguration ceremony was attended by the executive and government bodies as well as hundreds of people in the area.

BRIEFS

South Africa shines at 2017 Perumin Mining Convention

Dr Rob Davies. (Source: World Economic Forum/Commons)

A group comprising of South African exporters of mining servies and equipment showcased their products at the show that took place from 18-25 September 2017. South Africa won the best international exhibition pavilion out of 16 countries which exhibited, including Germany, USA, India and Canada. The Minister of Trade and Industry, Dr Rob Davies, describes the trade relations between South Africa and Peri as very important recognises the huge opportunities for Latin American Countries.

Botswana promotes Africa Code Week

SAP Africa Code Week returns to Gaborone's Bontleng Primary School. (Source: SAP)

To celebrate the launch of the Ministry of Basic Education, SAP Africa Code Week (ACW) returned to Gaborone's Bontleng Primary School this weekend with more fun-filled afternoons of coding training provided to 80 local teachers and 100 pupils in preparation for Africa Code Week 2017 (18-25 October 2017). More than 500 teachers have been trained in Botswana over the past two years and the ministry's support is critical to scale the initiative's impact nationwide in 2017.

Société Générale launches alternative banking model


Point of sale YUP in Ivory Coast. (Source: Société Générale)

Société Générale has launched YUP, a mobile money solution for accessing a range of transactional and financial services even without a bank account. YUP is based on an agency banking model – a network of third-party agents with whom the bank has formed partnerships (service stations, distribution trade etc). It is accessible via an expanded network of distributors equipped with adapted terminals and via the Société Générale's mobile banking app in different banks throughout Africa.

YUP has been launched in Côte d'Ivoire and Senegal, and is scheduled to be launched in Ghana by the end of 2017, and in Cameroon, Burkina Faso, Togo and Guinea in 2018. Société Générale aims to open one million wallets in the next three years, which will double its individual customer base in Sub-Saharan Africa, and create a network of 8,000 agents to serve their users.

With YUP, customers can withdraw, deposit, and transfer money, pay bills, buy phone credit, and make payments to merchants. The YUP solution also digitises corporate payment flows.

"Africa is inventing the future of banking," said Alexandre Maymat, head of the Africa/Mediterranean basin and overseas region at Société Générale. "The project's main ambition is to be a part of this revolution by offering a simple transactional tool that is accessible to all residents of the countries in which Société Générale does business, be they individuals or corporations, group customers, account holders with our competitors, or customers without bank accounts."

GHANANIAN TECH COMPANY CHIEF WINS AWARD FOR BUSINESS ACHIEVEMENTS

The CEO of Subah, one of the fastest growing tech companies in Africa, was honoured at the Annual Asian Achievers Awards last month.

Birendra Sasmal won the International Business Person of the Year award for his work in building Subah into a thriving IT, telecoms and manufacturing company in West Africa.

Under his leadership, Subah's revenue increased by more than 3,000 per cent and the company now employs 350 people, with offices in Ghana, Guinea, Sierra Leone, and Dubai. The headquarters are in Accra.

Sasmal said, "It's wonderful to receive this recognition for all the work that I have put into building Subah's business. There have been many difficult and challenging times and this award is validation of the blood, sweat and tears I've shed."

Last year Sasmal received an award from the Ghananian president for his services to the country.

Birendra Sasmal, CEO of Subah, won the International Business Person of the Year award at the Annual Asian Achievers Awards.

NIGERIA UNVEILS FIRST OFF-GRID SOLAR HOUSE

Nigeria has inaugurated its first off-grid solar house in Lagos' Ejigbo local council development area (LCDA). The five-bedroom bungalow in Ejigbo was built and managed by Concept Technologies and has been off the national grid in the last one year.

The off-grid solar house concept was initiated from the need to use renewable energy sources to solve the erratic power supply in Nigeria, according to Tokunbo Tonade, managing director of Concept Technologies.

The five bedroom house is powered by a 12.6KW solar off-grid system that runs 94 per cent on the power of the sun and six per cent on diesel during cloudy weather. The solar system generates 12.6KW of electricity per hour using 63 units of 200W solar modules, three units of 60AMPS MPPT controllers, three units of 3.2KW inverters and 24 units of 200AMPD deep cycle batteries.

Speaking about the efficacy of solar energy for the country, Tokunbo said, "I have been trying to advocate for renewable energy because it has a lot of gains and for Nigerians to see its impact. With generator, you use some amount of money to install the generator, buy diesel and fuel it yearly and when we add everything up, they are higher than what you will use to install solar energy."

Tokunbo encouraged the country's banks to adopt the solar off-grid system and use renewable sources of energy to power their branches. He pointed out that every year a bank spends US$138,373 to power each of its branches, which, in 10 years, have been accumulated to spend around US$1.3mn to power a branch alone. According to Tonade, the shift to renewable sources can save the huge spending of the banks by giving additional 25 years warranty.

BRIEFS


Wim van der Zande is the CEO of Xodus Group. (Source: Xodus)

Xodus wins two ESIA contracts off Senegal

Xodus Group has been awarded two environmental and social impact assessment (ESIA) contracts for projects in the Rufisque Offshore, Sangomar Offshore and Sangomar Deep Offshore (RSSD) blocks in Senegal.

Xodus' environmental team will undertake the study for drilling activities in the Sangomar and Rufisque blocks for Capricorn Senegal Limited, a wholly owned subsidiary of Cairn Energy.

Nigeria approves US$5.8bn Mambilla hydropower project contract

The Federal Government of Nigeria has approved a US$5.792bn contract for engineering work on the Mambilla Hydro Electric Power Plant in Taraba State.

The Minister of Power, Works and Housing, Babatunde Fashola, disclosed this at a weekly meeting of the council presided over by President Muhammadu Buhari in Abuja.

"Several efforts had been made to bring it to reality but I'm happy to announce that this government has approved the contract to joint ventures of Chinese Civil and Engineering Company for the engineering and turnkey contract, including civil and electro-mechanical works for $5.792 bn," the minister said.

According to Fashola, the plant will deliver 3,050MW of power.

Upcoming Events Calender 2017

OCTOBER

3 - 7
ARCHIBAT 2017
Abidjan, Côte d'Ivoire
www.archibat.ci/en

4 - 6
GHANA TRADE SHOW
Accra, Ghana
www.growexh.com/ghanatradeshow

10 - 12
AFRICA HOTEL INVESTMENT FORUM
Kigali, Rwanda
www.africa-conference.com

11 - 13
MEDIC WEST AFRICA
Lagos, Nigeria
www.medicwestafrica.com

16 - 17
AFRICA MOBILE & ICT EXPO 2017
Accra, Ghana
www.mobexafrica.com

17 - 18
AFRICAN RAIL EVOLUTION
Durban, South Africa
www.rail-evolution.com

18 - 20
NIGERIA ALTERNATIVE ENERGY EXPO
Abuja, Nigeria
www.nigeriaalternativeenergyexpo.org

18 - 20
MACHINERY METAL & STEEL NIGERIA
Lagos, Nigeria
www.mmsexpo.com

22 - 25
OTL AFRICA DONWSTREAM EXPO
Lagos, Nigeria
www.otlafrica.com

NOVEMBER

2 - 4
NIGERIA BUILDEXPO
Lagos, Nigeria
www.nigeriabuildexpo.net

7 - 9
AFRICA COM
Cape Town, South Afria
www.tmt.knect365.com/africacom

14 - 16
WATER AFRICA & WEST AFRICA BUILDING & CONSTRUCTION
Abuja, Nigeria
www.ace-events.com

24 - 26
EAST AFRICA ELECTRICITY
Nairobi, Kenya
www.mxmexhibitions.com/kenya_electricity

DECEMBER

3 - 5
ELECTRICX
Cairo, Egypt
www.electricxegypt.com

4 - 7
ALGERIA BUILD
Algiers, Algeria
www.10times.com/algeria-build

The 20th Anniversary Africa Com launch event in Johannesburg on 12 July. (Source: Africa Com)

MICHAEL BLOOMBERG INAUGURATES GLOBAL BUSINESS FORUM

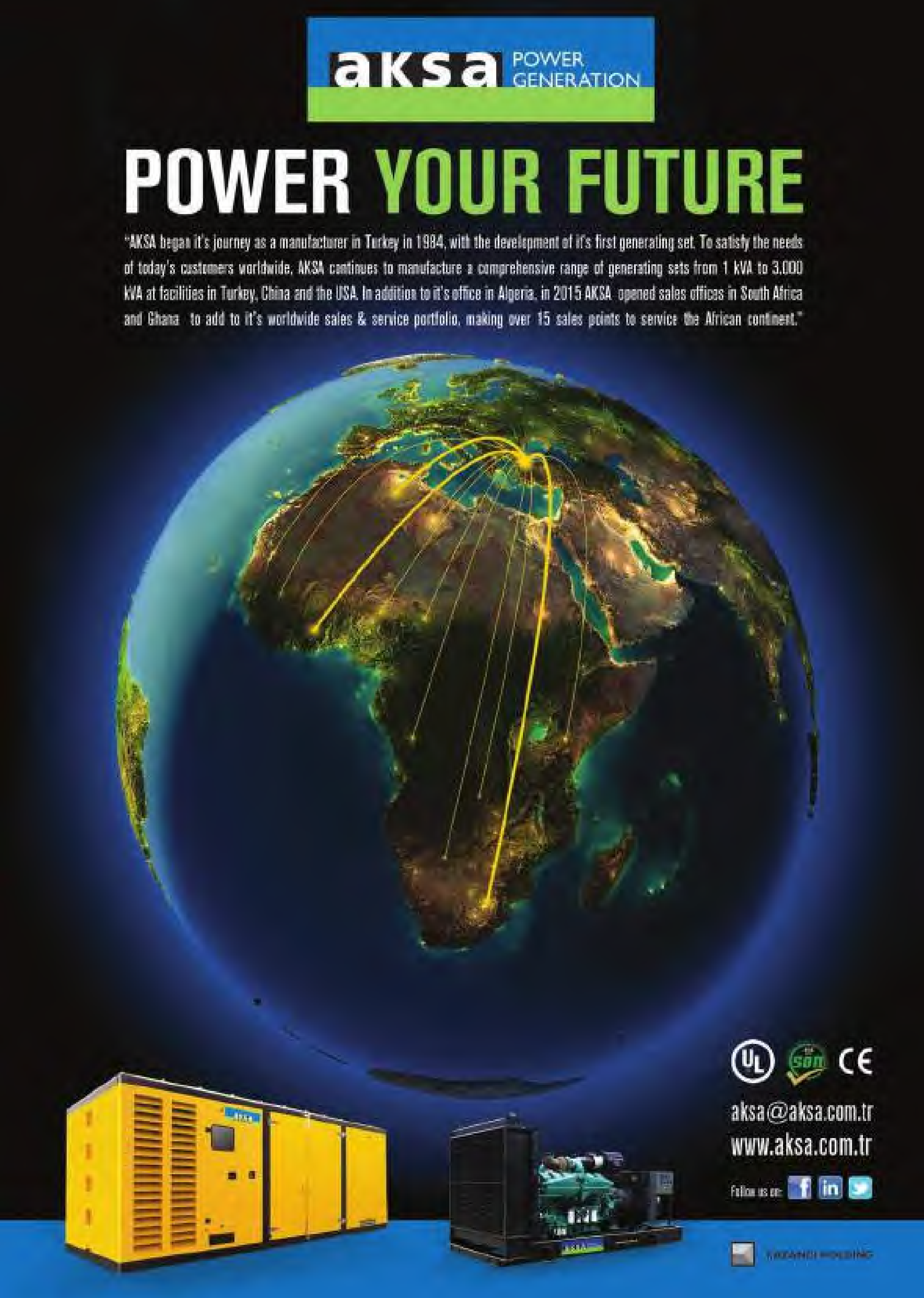
Bloomberg Philanthropies hosted by former mayor of New York Michael Bloomberg, inaugurated its first Global Business Forum with a line-up of global innovators, including Africa's richest man, Nigerian industrialist Aliko Dangote. Following talks by former US president Bill Clinton, French president Emmanuel Macron, Apple CEO Tim Cook, and Alibaba chairman Jack Ma, Dangote took to the stage with Bill Gates of Microsoft, Indra Nooyi of PepsiCo, and Masayoshi Son of SoftBank.
David Rubenstein, CEO of The Carlyle Group, moderated the panel on technology's ability to disrupt poverty. Dangote cited Nigeria's 130 million cellphone lines and his own company's initiative to use biometric data and mobile banking to target one million Nigerian women for small grants.
Dangote and the Bill and Melinda Gates Foundation cited their collaborated effort in fighting polio by vaccinating seven million children using mobile trackers.

Aliko Dangote, Africa's richest man. (Source: SDG Action Campaign/Flickr)

GHANA-CÔTE D'IVOIRE MARITIME DISPUTE SETTLED

Ghana has come up trumps after an international tribunal voted in its favour over Côte d'Ivoire concerning ownership of an offshore region.
The International Tribunal for the Law of the Sea on 23 September made the decision, following a 10-year dispute between the two countries, to draw a new maritime boundary giving Ghana most of the disputed territory.
Tullow Oil will now work with the Ghananian government to put in place the necessary permits to allow the restart of development drilling in the TEN fields.
Paul McDade, CEO of Tullow Oil, said, "Tullow Oil looks forward to continuing to work constructively with the governments of both Ghana and Côte d'Ivoire following the conclusion of this process. While the TEN fields have performed well during the period of the drilling moratorium, we can now restart work on the additional drilling planned as part of the TEN fields' plan of development and take the fields towards their full potential."
Tullow Oil expects to resume drilling around the end of 2017.

Tullow Oil plc, TEN development & production area following ITLOS decision. (Source: Tullow Oil)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A decade at the forefront of Africa's digital revolution

Dalberg was founded in New York 16 years ago and now has become a reputable consultancy firm tackling some of the world's toughest problems. *African Review* talks to executive director, James Mwangi, one of the first three people to come on board about the company's vision to empower businesses in Africa and beyond.

When Dalberg's Africa presence was first established in Johannesburg in 2007, it only had a small team of three people with limited access to resources. But with a passion to make a difference on the continent, fast forward 10 years and Dalberg has transformed itself into a global consultancy firm, touching lives in every sphere of society.

"It's interesting timing, this year marks our 10th anniversary in Africa," said executive director, James Mwangi. "When I moved to Johannesburg and set up an office in 2007 we were a tiny business with virtually no resources: only myself, two new employees and a phone. It was certainly challenging. But our efforts paid off after a lot of hard work. From the beginning, we always knew that we wanted to be a pan-African organisation, not wanting to limit ourselves to any one market. So if any shock occurred in an African economy it would not affect our business.
People are often surprised when I say we have not had a non-growth year across Dalberg since 2007. This reflects that whatever happens in the world, we always have room to increase team members, add revenue and clients, and carry out useful and meaningful work. It is about pursuing a broad enough front."

Dalberg now has more than 350 people working across 18 locations around the world, with seven offices and more than 150 people based in Africa. It works across all commercial, social and public sectors; alongside a variety of bilateral and multilateral agencies as well as national governments in established, emerging and frontier markets. Last year, it collaborated closely with the African Development Bank on creating the Facility for Energy Inclusion (FEI), a pan-African renewable energy debt fund, helping an estimated three million people gain access to energy. It has worked with large NGOs and community organisations including the biggest foundations in the world, such as The Bill and Melinda Gates Foundation, which recently provided a grant to Dalberg to help revolutionise ways of doing agribusiness in Tanzania. Dalberg also has worked with the Rockefeller Foundation and Mastercard Foundation on a range of issues and other organisations, such as Mercy Corps and Oxfam. Additionally, it partnered with the UK Space Agency to collaborate with Inmarsat, the satellite telecommunications company, on a pilot project in Kenya to equip 200 banking agents with reliable satellite-enabled connectivity.

Mwangi said, "We also are very engaged with an Inmarsat pilot in Nigeria, looking at ways of bringing technology into the health and education system. We continue to work very actively on the latest technologies and are working with off-grid energy companies about how they can expand their supply chain capabilities to various players in terms of connectivity. We are currently working with one of Africa's biggest banks right now, which cannot be named for confidentiality reasons, on how they can transform their operations digitally.

James Mwangi, executive director, Dalberg. (Source: Dalberg)

"Another part of what we do is commercial business. We require that any work that we do has a clear contribution to creating a more sustainable world in some way, shape or form, either by providing energy access or addressing the challenge of access to healthcare, education or finance. It is about providing a quality service to an underserved population."

> "We are living in a world where connectivity is becoming a basic human right"
>
> **JAMES MWANGI, EXECUTIVE DIRECTOR, DALBERG**

Off-grid solutions

While many advances are being made across five or more fields at any one time at Dalberg in areas such as healthcare and youth employment, Mwangi says the growing availability of off-grid solutions to the African mass market has become an interesting space for investors and government regulators alike.

"Companies such as M-kopa, Mobisol, BBOXX, Phoenix and Off-Grid Electric are sitting in a space where Dalberg played a critical role in the early stages of gathering data about what consumers were looking for, what investment was needed and what operators considered as key success factors. I believe it's an industry segment that is going to take off. Already in east Africa we have seen an explosion of these solutions where hundreds of thousands of homes are paying on a day-to-day basis, not just for lights but moving beyond that, to television and other off-grid appliances. When you start to think about what this means for the future there are very few industries that I am as excited about. It is allowing people to be a part of the modern economy rather than bringing people out of poverty. We are living in a world where connectivity is becoming a basic human right.

"Private equity investors say this is an exciting space for them to be a part of, and government regulators are now considering using an off-grid solution to meet their rural electrification targets. Suddenly we are saying let's use this technology to leapfrog and get people online and give them the basics of 21st century living, while continuing the hard work of rolling out the grid and distribution system in the power sector. Off-grid solutions touch every global, social and local level – its application over the next 10 years will be vast." ■

AfricaOnline celebrates 20 years as Ghana enters a new digital economy

AfricaOnline prides itself on being the oldest ISP established in Ghana, and in 2017 is celebrating 20 years of serving the Ghanaian business community with internet and related connectivity services.

From the origins of early dial-up to today's demand for high-speed ubiquitous coverage, AfricaOnline has made the journey with many successful Ghanaian businesses and is continuing to evolve its service offering based on changing technology, customer demands and the evolving digital economy in Ghana.

In September 2017, Ghana's vice-president, Dr Mahamudu Bawumia, announced plans to transform Ghana's economy from a container one to a digital one by relying heavily on ICT infrastructure. His reference to Ghana's container state reflects the multiple containers at every Ghana border providing Ghanaians access to low-cost foreign goods at the expense of local industry.

Access to broadband connectivity is often quoted as a major foundation for boosting the digital economy. Various industry reports including those backed by the International Telecommunications Union (ITU), GSM Association, among others, indicate that for every 10 per cent increase in broadband penetration, the underlying GDP impact can be as much as 1.38 per cent increase in low-to-middle income countries.

Additionally, for every one per cent increase in broadband connectivity, economies can generate a five per cent increase in job creation. Broadband access also has a positive impact on improving employee productivity.

However, the actual GDP impact is only felt after increasing productivity through organisation structural and process changes and in sectors that become more IT-focused. Transactional-based sectors or labour-intensive sectors often see the most benefit from a productivity perspective.

The ITU concludes that economic growth via broadband adoption is not automatic and indicates that supporting public policy is critical, and so the government emphasis on building a digital economy is essential.

Ghana has implemented many transactional service requirements to boost business efficiencies, including paperless transactions at its entry ports. With excellent coverage at the main Accra port via its wireless high site, AfricaOnline offers a full suite of connectivity services. It has wireless networks in the capital Accra as well as the major towns of Kumasi, Takoradi and Tamale, as well as access to metro fibre networks in Accra.

An unconsidered aspect of a new digital economy is the quest for widening internet coverage, and with coverage gaps in terrestrial networks, satellite services are making a commercial comeback, thanks to High Throughput Satellite (HTS) services and increasing demand for connectivity in even the remotest areas. Through its parent company, Gondwana International Networks, AfricaOnline offers its Jola VSAT service on the first Jupiter Hub in Africa which launched in the final quarter of 2016 in a strategic partnership with Intelsat for its wide-beam IS-28 Ku-Band service.

Beyond connectivity, AfricaOnline is often part of a company's IT strategy with its end-to-end managed servers for email, firewall, security and data storage, all of which have become more crucial in a world of ransomware threats. Ubiquitous coverage demands now mean WiFi is an expected service in public places, high foot traffic areas and temporary events.

"We will continue to invest in the country's digital economy, thereby continuing our journey together into the ever changing world of telecommunications, Internet of Things, cloud services and look forward to the next 20 years with our customers and partners," said Rudolf Baah, sales and marketing manager, AfricaOnline Ghana.

South Africa must be driven by the private sector if it is serious about growing economy

The Centre for Development and Enterprise has produced a report to identify national priorities for economic and employment growth in South Africa in the face of current turmoil.

Economic growth is not South Africa's priority, despite all the grandiloquence on the issue, says Ann Bernstein, the executive director of the Centre for Development and Enterprise (CDE), an independent policy research and advocacy organisation.

"Growth is not South Africa's priority despite the rhetoric. We hear about growth but this is not really at the heart of our national priorities," said Bernstein.

She was speaking during a round table discussion last month on South Africa's growth agenda, which was convened by Millis Soko, UCT Graduate School of Business director

South Africa has recorded dismal economic growth in recent times, and officially entered into a technical recession earlier this year after the economy declined 0.7 per cent in the first quarter of 2017.

Bernstein said the country was in "deep trouble". "Less than 1 per cent growth per annum and if we are lucky 1.3 per cent this year. Since 2009, every growth projection by the government has had to be revised downwards. We are nowhere near the National Development Plan growth figure," she said.

Part of the problem, Bernstein argued, was that the government had too many competing plans for improving growth.

The three major government policies for driving economic growth are: the NDP, the New Growth Path and the Industrial

Neil Cole, who used to work for the national treasury. (Source: CDE)

Policy Action Plan. "If you read these plans you will see that they contradict each other. It is impossible to implement these three plans simultaneously. They have different views on the state, the markets, the way growth will take place, where jobs will come from and a whole range of issues," said Bernstein.

She added, "The government says it wants growth but the trouble is it wants other things as well, so we want to have state-led development but one has to look at what is happening at Eskom and South African Airlines today and you have to question our capacity of state-led development. This state is in decline in very many areas and its failure to deliver leads to increased costs for many people and the economy."

The CDE has produced a report to identify national priorities for faster economic and employment growth, should the country fail to change its current trajectory.

Ann Bernstein, executive director of the Centre for Development and Enterprise. (Source: CDE)

"South Africa is on a low road of stagnating growth, policy confusion and gridlock, rising social tension and uncertainty about the future," the report states.

"In the absence of growth, South Africa's social contract, its constitution and its democratic order might unravel. Initially, this would be a result of deteriorating economic conditions; as the country becomes poorer, policy-makers would come to believe that their options had narrowed and would succumb to the temptation to impose even more extreme populist policies."

Bernstein said South Africa needs accelerated growth that is urban-led, driven by the private sector, enabled by a smart state, and targeted at mass employment.

"South Africa cannot be pro-growth and anti-business at the same time. Negative attitudes to business leads to more and more regulation, not growth," she said.

She added the first step towards accelerating growth and employment is for the government to put this goal at the top of its policy agenda.

Fellow panellist Professor Vusi Gumede, previously a chief policy analyst in former president Thabo Mbeki's administration, said there was no consensus regarding the fundamental challenges South Africa needs to tackle.

"Some say apartheid and colonialism, some say the economy; that if we get it [the economy] right then we can address other problems."

Gumede contended that while economic growth was "obviously important", development is more important. Social policy is important and needs to work with economic policy, adding that the lack of trust between government and the private sector compromised social development and economic growth.

Neil Cole, who has worked for the National Treasury and was also on the GSB panel, said the government had taken decisions that hindered economic growth and only benefited the elite.

He pointed to the state's plan to sell its 39 per cent stake in Telkom to bail out unprofitable South African Airways. The government's stake in Telkom is worth about R14bn.

"We are selling our shares in performing entities and putting that money into failing entities. We should be investing that money in education and healthcare," he said. ■

Africa Logistics Properties signs off Kenya's largest ever warehousing lease with regional freight leader

Africa Logistics Properties (ALP) has announced the signing of Kenya's largest ever warehousing lease, with Freight Forwarders Solutions Ltd (FFS), the contract logistics arm of leading regional logistics group Freight Forwarders Kenya (FFK).

FFS has signed a 10-year lease for ALP's entire first Nairobi warehouse complex of 14,000 sq m, equivalent to the size of some of Nairobi's larger shopping malls, such as Galleria.

Africa Logistics Properties's warehouse will be Kenya's first international standard logistics and distribution hub. (Source: Africa Logistics Properties)

ALP's modern warehousing complex will be Kenya's first international standard logistics and distribution hub. It is now under construction within the Tatu Industrial Park, north-east of Nairobi, and will open in October 2018. The ALP hub is on a 22-acre site and will provide 50,000 sq m of prime modern warehousing facilities for international and local regional companies. A second ALP hub, at nearly twice the size, has commenced construction to the west of Nairobi.

The opening of the first complex now leased in full to FFS is the opening launch in ALP's scheduled programme of warehouse construction across the capital cities of Sub-Saharan Africa. Shareholders of the logistics developer include CDC Group, the UK's development finance institution, and IFC, of the World Bank Group.

The leasing of ALP's entire first phase complex comes amid a lack of grade-A modern international standard logistics facilities in Kenya, and rising costs for producers on inadequate facilities.

"Kenya has been crying out for a development of this specification and ambition," said Ben Clay managing director of Freight Forwarders Solutions. "For the Freight Forwarders group, which is focused on inbound cargo, freight and transport services as well as project cargo into east Africa, this best-in-class logistics facility will enable us to provide an end-to-end delivery capability."

ALP's management team, which has 40 years of experience in developing modern warehousing across emerging markets, previously built 1.5m sq m of modern warehousing across eastern Europe.

18TH INTERMODAL AFRICA 2017 EXHIBITION TO TAKE PLACE IN COTE D'IVOIRE

The 18th Intermodal Africa 2017 Exhibition and Conference will be taking place for the first time in Côte d'Ivoire. The event on 28 to 30 November is proud to be hosted by the Port Authority of Abidjan.

Covering west and central Africa, the two-day conference will feature 30 world-class conference speakers addressing topical issues and challenges on global transportation and logistics attended by a gathering of 400 senior executive harbour masters, harbour engineers, port engineers, maintenance supervisors and procurement decision makers together with the region's leading shippers, cargo owners, importers/exporters, shipping lines, freight forwarders, logistics companies, ports, terminal operating companies, railway operators, port equipment and services suppliers from west and central Africa.

There will be an opportunity for 50 exhibitors to network directly with the delegates at this trade event.

SOLAR SHIP MOVING OPERATIONS TO ZAMBIA

Solar Ship has announced it is moving its winter operations from Brantford Ontario to Zambia as part of its mission to connect the African country to the global economy.

Solar Ship's partner Peace + Freedom Services Zambia has organised the infrastructure and local support for this move.

Once agreements are finalised, the Solar Ship team will get ready to deploy to Zambia and continue its technology development, test and evaluation.

Peace + Freedom Services Zambia has agreed with Solar Ship to provide smart, remote infrastructure.

To launch this project, Solar Ship will bring its hybrid aircraft, self-reliant hangars and aerostats to Zambia to set up an operating base.

Mataka Nkhoma, Peace + Freedom's managing director in Zambia, said, "Solar Ship has been working with us to develop the model for smart, remote Zambia. The key to smart economies is the internet and while Zambia is one of Africa's most stable countries, its rural and remote regions have some of the lowest internet penetration rates in the world, with some of the highest costs for data. Solar Ship's aerostat provides wireless Internet at a cost 10 times cheaper than a cell tower. The move to Zambia is a big step toward connecting rural Zambia with the global economy."

Solar Ship's CEO, Jay Godsall, said, "Zambians understand remote economies. The country is far more advanced than most people know. It is strategically positioned to connect the remote areas of Africa's interior with global markets. Creating an operating base in Zambia allows us to demonstrate a 100 per cent fossil fuel free platform for transport and communications."

Solar Ship is the world leader in developing solar powered hybrid aircraft and aerostats.

BRIEFS

CANSO needs "more African state members"

Morocco hosted the 2017 CANSO Africa conference. (Source: Adobe Stock)

At the 2017 Civil Air Navigation Services Organisation (CANSO) Africa Conference, hosted by Morocco, chairman Thabani Mthiyane called for more African countries to join the global aviation body.

He said, "We need other states in Africa to join CANSO, and follow the example of our hosts, Morocco, who took a bold step and are now part of a collective, whose unwavering quest is to ensure safer skies."

Mitsubishi launches 25th anniversary edition of warehouse trucks. (Source: Mitsubishi)

Mitsubishi celebrates silver jubilee with new trucks

Mitsubishi Forklift Trucks has launched a special 25th-anniversary edition of its award-winning range of warehouse and forklift trucks.

Since 1992, the company has gone from strength to strength, with 56 dealers serving customers across two continents: from Norway to South Africa and Ireland to Uzbekistan.

The limited-edition trucks, which include the manufacturer's IC engine, electric and warehouse trucks, feature a special 25th anniversary decal.

Keeping things cool on the road

New advances in refrigerated trucking technology could cut emissions from the road during the delivery of produce for the farmers' fields.

Agriculture and trade are crucial across all of Africa. The region's rich harvests of fresh fruits, vegetables and other produce have long been in demand both locally and overseas. But transportation of these perishable items is a challenge.

Heat and other extreme climatic conditions, not to mention the insects, parasites and other pests, are a major headache for all growers and logistics firms.

Moving fresh produce, potentially across long distances and over some of the continent's weak roads infrastructure in less developed areas, is an arduous task.

Across Africa, refrigerated transportation is big business, especially given that some produce travel many thousands of miles to be on supermarket shelves in Europe or beyond just a day or so after harvest.

Refrigerated transportation is big business across Africa. (Source: Adobe Stock)

Perishable goods are packed up for transport and held in a chilled storage area on the back of trucks, or in a reefer container, essentially a big fridge, before making their journey onwards.

The truck interior must reach a specified temperature before the freight can be loaded, and the produce – which could also include fish, meat, seafood and even non-food products like fresh cut flowers or pharmaceuticals – must be kept at a constant temperature during transit, something that is typically checked on arrival.

Not maintaining the right temperature means the food goes to waste, which is a big problem for all along the chain, ultimately eating away at profits.

Environmental challenge

Typically, a special coolant is used to maintain the low temperatures inside the truck's hold area.

This is common across the continent, even though the coolant can be harmful to the environment.

But recent innovations could be about to change all that.

South Africa's Transfrig is looking to clean up the country's environmental footprint by changing the way refrigerated trucks are kept cool.

A recent report by German broadcaster Deutsche Welle recently showed how the company is trialling its new refrigeration concept.

Transfrig has developed a prototype that will soon hit the market, with what the broadcaster said is the world's only cooling system that uses propane. At the same time, the system also minimises the risk from using the flammable substance.

"We use propane because it is totally environmentally friendly. It does nothing to the ozone layer; its carbon footprint is very small," said Bill Wilson, Tranfrig's technical director.

The plan is to install the propane refrigeration units in all of its large, medium and small vehicles. It is currently trialling the technology in its home market of South Africa. Potentially, and if successful, it could soon be rolled out elsewhere across southern Africa.

"Then we will look at exporting to the local African markets – Zambia, Zimbabwe, Namibia, Botswana, Mozambique – we have a very good presence in all those markets. And once it's proven here we will introduce it into those markets," said Wilson.

Integrated packaging

According to the report, experts estimate that by 2030 South Africa could reduce its CO2 emissions by 2 million tons just by using better insulation and propane based coolant units.

Another major project – championed by Fruit South Africa and global fruit giant Dole – involves using rail transport to improve the delivery of fresh fruit, loading harvests straight onto a rolling reefer box.

The idea offers improved environmental performance, getting more trucks off the roads and shifting ever greater quantities of produce across greater distances, more quickly.

But there are other challenges facing farmers and logistics firms as well.

The Fresh Produce Exporters Forum (FPEF) in South Africa recently highlighted the plight of tomatoes travelling across bumpy rural road networks, on which farmers depend.

The poor state of repair to the roads means the tomatoes – mainly grown for domestic use in South Africa because of their relatively short shelf life – often reach the market the worse for the trip. As a result, new advances in packaging technology are being made to better protect the crops in the absence of major road upgrades.

Again, it has profound implications for market chain logistics and management.

Better management of transport logistics, as well as handling practices between field and consumer should result in better quality tomatoes with a longer shelf life, the FPEF said. ■

Ghana: Celebrating 60 years of independence

Six decades on and Ghana has a new lease of life with the discovery of offshore hydrocarbons.

In 1957, Ghana was one of the first sub-Saharan African countries to win its independence, an event that sparked profound change across much of the continent. Many other states across Africa were to follow suit in the years that followed.

Fast forward 60 years and there is a fresh sense of starting over as the country's nascent energy sector begins to open up.

The discovery of offshore oil and gas deposits a few years earlier has triggered an influx of new investment in infrastructure and related services. Not just the oil rigs offshore, but new power plants onshore that will eventually draw on the nation's own gas reserves to produce electricity that will – it is hoped – put an end to perennial energy shortages.

Again, the hope is that this more reliable energy source will provide a platform for the nation's ongoing development, on top of more traditional exports such as gold and cocoa.

Arguably, the greatest boost Ghana has enjoyed has been its adoption of a multi-party democracy that is now envied across the rest of the continent.

This has earned Ghana a reputation for being one of Africa's most stable countries, a prerequisite for long-term growth, prosperity and stability.

Strong leaders through the years have stepped aside after serving their term to make way for their presidential successor.

Contrast that with states where incumbent presidents have been serving terms lasting decades.

Ghana's current leader, Nana Akufo-Addo, a 72-year-old former human rights lawyer, won the last election campaign in 2016.

GHANA AT A GLANCE

Location
Western Africa, bordering the Gulf of Guinea, between Côte d'Ivoire and Togo

Area [sq-km]
239,460 sq-km

Capital
Accra

Population
28.2mn [2016]

Currency
The Cedi

Commercial language
English

GDP
US$42.7bn [2016],
8th largest SSA economy

Contribution to GDP [2016]
Agriculture [20%]
Industry [28%]
Services [52%]

Five-year Compound Annual Growth Rate
7.6%

Sovereign credit rating
Standard & Poor's [B-]
FitchRatings [B]
Moody's [B3]

Access to electricity and improved water supplies [% of population]
78% and 50.5%, respectively [2014]

Improved water supplies [% of population]
78% and 50.5%, respectively [2014]

Road network
66,200km [2014]

Mobile phone penetration
100% [2016]

ICT
7,160 Gigabytes of bandwidth capacity [2015];

Container seaport traffic
956,647 Twenty-foot equivalent units (2014).

Legal system
based on common law and customary law.

(Source: Moin Siddiqi)

He continues a long line of dignitaries that includes Kwame Nkrumah, who became the country's founding president after colonial Britain departed, and more recently, the former UN secretary-general and Nobel Peace Prize winner Kofi Annan.

And yet there remains much to do, with many Ghanaians still living in poverty and an economy that buckled a few years ago under a growing public deficit, high inflation, and a weakening currency, which resulted in a bailout from the International Monetary Fund (IMF).

Although that loan – worth almost US$1bn – could be paid off by next year, the challenges are plain enough to see.

Indeed, targeting poverty was one of the central themes of President Akufo-Addo's anniversary speech to the nation earlier in the year.

"We assumed rapid economic development would follow the political freedom that we had won. Sadly, the economic development that was meant to accompany our freedom has still not materialised," he said. "The challenge before us is to build our economy and generate a prosperous and dignified life for the mass of our people."

The tools to do that, he added, will be hard work, enterprise, creativity, discipline and an effective fight against corruption in the public sector.

Building on the country's political stability at least affords the possibility of positive change, though, unlike some peer states.

Indeed, huge strides have been made across the decades since Ghana's independence.

According to World Bank data, per capita gross national income has risen from just US$250 in 1966 to around US$1,480 in 2015.

Another major strategy is to further boost the industrial sector and to create more jobs.

This, of course, will be underpinned by the availability of more reliable, home-grown energy.

Historically, Ghana has depended on imported fuels or erratic hydropower.

One project now underway, the Bridge Power plant in Tema, will eventually deliver about 17 per cent of the nation's electricity needs on its own.

And the emergence of the energy sector has brought with it a whole wave of new investors such as the UK's Tullow Oil - which championed the Jubilee project, the country's first big offshore oil development – the US Kosmos Energy and Italian oil and gas giant Eni.

Of course, these big investors follow more established names ranging from banks and financial groups, such as Standard Chartered through to industrial conglomerates like Unilever.

More recently, that list has diversified with the arrival of more Chinese and other Asian companies, which are now bringing investment into infrastructure and services.

During a recent visit led by the Federation of Indian Chambers of Commerce and Industry (FICCI), Ghana hosted other global names such as Tata, keen to make their mark.

FICCI's Africa head Susnato Sen, said, "Ghana is a very attractive destination for us, because of the long history of stability and the business climate. Stability is crucial for us."

In Africa especially, political stability goes a long way. After six decades, Ghana may not have all the answers just yet, but at least the right building blocks are firmly in place. ■

By Martin Clark

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Ghana: The gateway to a "unrivalled opportunity"

Economist Moin Siddiqi examines how Ghana is well-placed to attract foreign investment.

The new government of President Nana Akufo-Addo has embarked on an ambitious but achievable reform programme to improve the investment climate, tackling infrastructure bottlenecks and restoring economic momentum.

Ghana's "value-added" economy provides host of opportunities across sub-sectors, chiefly infrastructure building (roads, railways and ports); energy (fossil fuels and renewables); mining and metal processing; real estate development; information and communications technology (ICT); tourism and leisure; services (finance, oil and gas); manufacturing and agribusiness. The introduction of offshore banking has also opened new channels in business.

The World Bank consistently ranks Ghana as the most investor – friendly marketplace for doing business in west Africa, ahead of Nigeria and Côte d'Ivoire. Surveys conducted by the Bank of Ghana indicated a positive outlook for business. Mining and agriculture dominate Ghana's exports, but construction and services now comprise more than half of the GDP. Improving the quality of infrastructure provision is central to the government's goals of reducing the cost of doing business and diversifying the economy, reducing regional disparities and expanding intraregional trade by connecting Ghana more efficiently with its regional neighbours. Closing the infrastructure gap requires expenditure of more than US$$2.3bn per year, according to World Bank.

> "Ghana is making progress in stabilizing its economy"
>
> FITCHRATINGS

Macroeconomic Indicators on GHANA

	2015	2016	2017	2018	2019	2020
				------------Projections---------		
Nominal Gross Domestic Product (US$mn)	36,893	42,778	45,464	49,226	52,863	56,415
Real GDP growth (annual % change.)	3.9	3.5	7.1	8.9	5.9	5.1
Non-oil GDP (annual growth)	4.0	4.8	4.0	5.0	6.0	6.0
Hydrocarbons GDP (annual growth)	0.9	-16.9	42.5	64.9	5.5	-3.1
CPI Inflation (annual average)	17.2	17.0	10.5	7.2	7.0	6.0
Gross Capital Formation *	16.7	14.5	13.7	14.7	15.8	17.0
Budget Balance, incl. Grants *	-4.7	-8.7	-6.3	-3.8	-3.2	-3.1
External Current Account *	-7.8	-3.9	-4.6	-5.2	-5.0	-4.7
Total Donor Assistance (US$mn)	1,411	778	977	755	763	407
Gross Forex Reserves (US$mn)	4,403	4,862	5,783	6,319	6,797	7,483
Import-coverage ~	2.6	2.6	3.0	3.1	3.2	3.3
External Official Debt Stock (US$mn)	16,122	17,667	17,276	17,377	17,444	17,432

**In per cent of GDP; ~ in months of imports of goods and services.*

Sources: IMF, African Development Bank and the Ministry of Finance.

This year, Ghana received credit upgrades from both Moody's Investors Service and FitchRatings. The latter stated: "Ghana is making progress in stabilizing its economy after a recent crisis period, with an expected revival in GDP growth, declining inflation, a more stable currency and increasing foreign exchange reserves." Moody's reckons improved balance of payments prospects reflect continued development of oil resources through higher capital expenditure, supportive forex reserve buffers and reduced currency volatility.

Popular business destination

Ghana's inward investment has been on a consistent upward trend. In 2016, foreign direct investment (FDI) increased more than fivefold from US$636mn in 2006 to reach US$3.48bn, making Ghana sub-Saharan Africa's third-largest recipient in that year, according to Geneva-based United Nations Conference on Trade and Development (UNCTAD). Between 2010-2015, FDI averaged US$3.1bn per year. Its advantages lie in abundant natural resources, young/trainable labour and its strategic location as a commercial gateway to west Africa.

According to the Ghana Investment Promotion Centre (GIPC), registered FDIs during the first quarter of 2017 totalled US$2954mn versus US$157.5mn over the corresponding 2016 period (a whopping 1775.00 per cent rise). The GIPC is confident of achieving its 2017 target of US$5bn – making Ghana the best investment destination in Sub-Saharan Africa. Ghana boasts a liberal and transparent regulatory regime. GIPC has established a "one-stop shop" for investment registration in Accra and in the Ashanti, with plans for establishing one-stop shops in other regions.

Foreign investors are not legally

FDI Inflows to GHANA (US$MN)

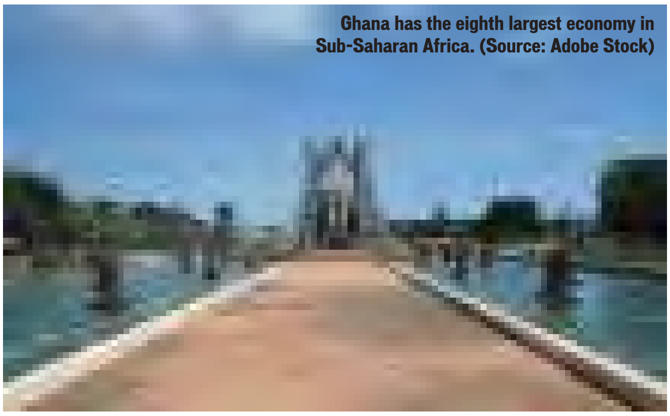
	2009	2014	2016	(%) chg 2009-16
Inward FDI (net) *	1,685	3,357	3,485	106.8
As (%) of West Africa total	16.8	27.5	30.5	
Total FDI Stock	6,571	23,205	29,882	354.7
As (%) of GDP	29.6	60.1	70.0	
No. of Greenfield investments /		44	28	

****After repatriation of interest, profits & dividends. Corporate tax (25%); Withholding taxes: Dividends (8%); Interest (8%); Royalties (10%).***

Ghana's investment laws guarantees transfer of capital, profits and dividends and guarantees against expropriation.

Greenfield investments are a form of FDI where a parent co. starts a new venture by constructing new operational facilities from scratch.

Source: UNCTAD World Investment Reports.



Ghana has the eighth largest economy in Sub-Saharan Africa. (Source: Adobe Stock)

compelled to have local partners, except in the fishing, insurance, and extractive industries. In the insurance sector, a cap of 60 per cent is placed upon non-Ghanaian equity, whereas in oil and mining sectors, the government is entitled to automatic 10 per cent equity stakes in such ventures.

According to a report RMB Global Markets Research, Ghana emerged among the top 10 African countries on the foreign investment league table. China, Mauritius, Canada and Britain are major investing countries.

Foreigners are allowed to enter into long-term leases of up to 50-99 years and the lease may be bought, sold or renewed for consecutive terms. Minimum capital threshold for companies wholly owned by non-Ghanaians is fixed at US$50,000 and US$10,000 for joint venture companies. More information can be obtained from GIPC's website, www.gipcghana.com

Mining and oil exploration are the main sectors that attract most of the FDI.

Recently, some initiatives were unveiled, aimed at strengthening local contents (services and goods) and building 'One Factories' across 216 districts of Ghana.

Looking ahead, if Ghana vastly increases 'productivity-enhancing investments' in both infrastructure (road, rail, power) and business facilitation (efficient markets, skilled labour, health and better investing climate) few, if any, observers will doubt its potential as one of Africa's great powerhouses. The country's track record of stability remains an asset to foreign investors. ■

GHANA ATTRACTS SOME REPUTABLE GLOBAL COMPANIES ACROSS DIVERSE SECTORS

Mining: Gold Fields; Newmont Mining; Gold Star Resources; and AngloGoldAshanti. Oil-Gas: Tullow Oil; Anadarko Petroleum; Kosmos Energy; Hess Corp; ENI; and Vitol Group IT & Telecoms: MTN; Vodafone; Airtel Mobile; Millicom (Tigo); Xerox; General Electric; and IBM.

Energy: Blue Energy; Siginik Energy Ltd; NEK (Swiss co.); and Turkish Karadeniz Energy Group. Infrastructure: AFCONS Infrastructure Ltd (India).

Consumer goods & beverages: Coca-Cola; Unilever; Guinness; and SABMiller. Agribusiness: NESTLE; Kraft Food; Archer Daniels Midland and Cargill.

SIEMENS COLLABORATION WITH UGANDA MOVING IN POSITIVE DIRECTION

Siemens has made positive strides in collaboration with the Ugandan government and major stakeholders to identify opportunities to support some of the country's immediate and long-term energy and infrastructure ambitions.

Speaking at the opening panel at Future Energy Uganda, Sabine Dall'Omo, CEO of Siemens Southern and Eastern Africa, said that since the signing of the memorandum of understanding in May this year at the World Economic Forum in South Africa, there has been significant progress to pinpoint areas of collaboration.

Sabine Dall'Omo, CEO of Siemens Southern and Eastern. (Source: Siemens)

"At a high level we have identified priority activities to strengthen the transmission grid and create innovative business-driven solutions that are practical, affordable, reliable and sustainable to electrify Uganda's rural households," said Dall'Omo.

Uganda has one of the lowest electricity access rates by global and regional standards, with national access to grid electricity of less than 22 per cent and only seven per cent of the rural population is currently electrified. Increasing electrification is a major drive to achieve national social and economic development objectives under Vision 2040.

GE begins commercial operations at Kusile's coal power plant

GE has successfully commenced commercial operations of Unit One of Kusile's coal power plant – the first power plant in Africa to implement clean fuel technology.

GE's efficient power generation & air quality control technology is deployed at Kusile Unit One. (Source: GE)

GE's scope in Kusile Unit One is the Engineering, Procurement and Construction (EPC) of six turbine islands, air cooled condensers and wet flue gas desulphurization plant (WFGD).

Ultra-supercritical power generation technology keeps raising the efficiency bar of coal power plants. It has achieved 47.5 per cent efficiency in the world's most efficient coal power plant in Germany, well above the global average of 33 per cent. Each percentage point improvement in efficiency is significant as each point reduces CO2 emissions from coal power plants by two per cent.

"We are extremely proud of our expert global and local EPC teams who have worked professionally to ensure that we were able to support the commercial operation of Unit One," said Nthabiseng Kubheka, GE's executive – project director for Kusile's 6 x 800MW Turbine Islands & WFGD Projects. "This great achievement definitely resonates with our goal to power everyone using clean technology," she said.

CABEOLICA CHOOSES BREEZE TO PROVIDE WIND FARM MANAGEMENT SYSTEM

Cabeolica wind energy company in Cape Verde has chosen Breeze to provide a wind farm management system.

The company's main objective is the production of electricity for the national grid as an independent producer using non-polluting, renewable and naturally abundant wind energy.

With four wind farms on four islands - Santiago, São Vicente, Sal and Boa Vista - Cabeolica generates roughly 22 per cent of the electricity consumed on the country's main islands, avoiding, on average, the production of approximately 55,000 tons of greenhouse gases per year, in addition to contributing to reducing fuel importation needs.

"We found Breeze to be a very modern impressive system and very suitable for our needs. We are looking forward to using Breeze on a daily basis," said Helder Andrade, technical manager at Cabeolica.

"We are very happy to have been chosen by Cabeolica. They are a pioneering wind energy company in Cape Verde and deserve to get international recognition for their ambitious project," said Jonas Corné, CEO at Greenbyte.

Cabeolica has four wind farms in Cape Verde. (Source: Greenbyte)

Gensets market showing brisk business

The demand for gensets across Africa remains steady as utilities and users across all sectors seek to plug gaps in the continent's fragile energy network.

Competition for gensets remains strong among both local and international power companies hoping to provide customers with dependable energy solutions, ranging from small units to bigger, semi-permanent installations.

These include thermal gensets and hybrid solutions, involving solar, renewable or battery technology, highlighting a new and emerging trend in the market.

For now, though, it is still the traditional diesel genset that dominates the landscape.

The data in the table perhaps recalls a more perilous time, when demand for temporary power services surged amid severe shortages in South Africa.

During the period shown there was a big spike in imports to the country. This reflects the power shortages of the time (between 2014 and 2015) as state utility Eskom raced to install a new large-scale plant.

Much progress has been made since then, with the company rolling out new grid-based electricity across the nation, and into the wider southern African region.

Apart from South Africa, other leading importers include the major economies of north Africa, Egypt and Algeria, and in Nigeria, Western Africa.

In eastern Africa, that list also includes Tanzania and Ethiopia.

Across all the power ranges (from under 75kVA to above 375kVA), Nigeria achieves a somewhat unenviable record for consistent high levels of imports. While this clearly reflects the country's own inadequate electricity supply system, on a more positive note, it

Gensets Imports 2014/2015

Southern Africa	< 75kVA 2014	2015	YOY %	75-375 kVA 2014	2015	YOY %	>375 kVA 2014	2015	YOY %
Botswana									
Imports USD	$560714	$1217865	117%	$951538	$1322253	39%	$971524	$13818989	1322%
Madagascar									
Imports USD	$5489150	$3366685	-39%	$2904587	$1318231	-55%	$3440889	$16485577	379%
Mozambique									
Imports USD	$7643350	$7427430	-3%	$3746180	$4444533	19%	$12085180	$5020987	-58%
South Africa									
Imports USD	$18677869	$48865196	162%	$18605724	$32007333	72%	$23034548	$27633496	20%
Zambia									
Imports USD	$3741066	$1919575	-49%	$1218042	$2111659	73%	$42364881	$4031899	-90%
Zimbabwe									
Imports USD	$5034845	$9700067	93%	$4701011	$5471284	16%	$2432089	$4031899	66%

North Africa	< 75kVA 2014	2015	YOY %	75-375 kVA 2014	2015	YOY %	>375 kVA 2014	2015	YOY %
Algeria									
Imports USD	$22300624	$22350345	0%	$30962545	$41692834	35%	$69588964	$98562029	42%
Egypt									
Imports USD	$43249833	$23967018	-45%	$58593169	$49323103	-16%	$47316788	$58113090	23%
Morocco									
Imports USD	$5792461	$3578198	-38%	$9171639	$7273649	-21%	$11986459	$8140236	-32%

West Africa	< 75kVA 2014	2015	YOY %	75-375 kVA 2014	2015	YOY %	>375 kVA 2014	2015	YOY%
Benin									
Imports USD	$4127287	$2743888	-34%	$1775315	$1710538	-4%	$5831333	$4521112	-22%
Burkina Faso									
Imports USD	$9921360	$6029361	-39%	$2739959	$2190110	-20%	$1697082	$6532209	285%
Côte d'Ivoire									
Imports USD	$8796626	$11815006	34%	$4868540	$4658173	-4%	$7314095	$5456277	-25%
Gambia									
Imports USD	$353641	unavailable		$261791	unavailable		$1002	unavailable	
Guinea									
Imports USD	$11086001	$850211	-92%	$1947595	$2118184	9%	$1685898	$4070812	141%
Nigeria									
Imports USD	$153140480	unavailable		$51055978	unavailable		$114281592	unavailable	
Niger									
Imports USD	$3399254	$4631128	36%	$212263	$2373657	1018%	$13552395	$2755693	-80%
Senegal									
Imports USD	$5364915	$6827105	27%	$3973967	$5583739	41%	$30453131	$26479720	-13%
Sierra Leone									
Imports USD	$11083088	$8738813	-21%	$2327903	$3662569	57%	$580099	$549266	-5%

Central Africa	< 75kVA 2014	2015	YOY %	75-375 kVA 2014	2015	YOY %	>375 kVA 2014	2015	YOY %
Cameroon									
Imports USD	$14916223	$10880204	-27%	$4792607	$4510236	-6%	$23035615	$6330634	-73%
Central African Republic									
Imports USD	$1518114	$1503447	-1%	$281237	$3528684	1155%	$183475	$610655	233%
Congo									
Imports USD	$11667355	unavailable		$6916656	unavailable		$9639370	unavailable	

Continued

Gensets Imports 2014/2015

East Africa	< 75kVA 2014	2015	YOY %	75-375 kVA 2014	2015	YOY %	>375 kVA 2014	2015	YOY%
Burundi									
Imports USD	$1350425	$1016701	-25%	$548749	$1176966	114%	$153408	$1139538	643%
Tanzania									
Imports USD	$15473347	$25665194	66%	$8230091	$6969706	-15%	$11589587	$9368045	-19%
Ethiopia									
Imports USD	$18365759	$26397750	44%	$13338286	$19933419	49%	$13837894	$12718323	-8%
Rwanda									
Imports USD	$1412021	$5709383	304%	$1682780	$1708549	2%	$7904155	$5026745	-36%
Uganda									
Imports USD	$7513895	$7520470	0%	$4071718	$4210326	3%	$11454998	$5145553	-55%

Source: United Nations

also underscores a high level of pent-up demand and a bustling economy. Moreover, it presents a solid business opportunity for the genset companies.

Southern region

Going forward, while South Africa's electricity system has found greater stability – and continues to do so, with repercussions for the rest of the region – there remains a steady demand across various niches and sectors for gensets.

That includes backup power for major sporting events right through to essential or critical services, such as healthcare and security, plus traditional industries like mining, for years the backbone of South Africa's economy.

The plight of state utility Eskom racing to prop up energy demand in recent years has further stimulated interest in genset solutions.

In 2015, when South Africa experienced widespread power outages, this boosted the diesel generator market as homes, businesses, and industries quickly made alternative arrangements for electrification.

Across the rest of the southern African region it is much the same story, although a less developed electricity network and coverage elsewhere means the demand for bespoke power technology and solutions is perhaps even greater.

YorPower recently appointed a new South African distributor to further grow its local business. The new Johannesburg-based distributor offers turnkey power solutions and specialises in areas, such as static UPS (uninterruptible power supply) and diesel generator systems, according to YorPower's international business development manager, Jonathan Brown.

"South Africa's power problems and ever deteriorating infrastructure demands leading, world-class technology solutions to minimise downtime and increase productivity and security."

The appointment will allow the company to sell YorPower's range of diesel generators together with full installation and servicing, said Brown.

The company can take heart from recent business wins elsewhere around the region. That includes a sometimes difficult Zimbabwean market, where its dealer in Harare has renewed its contract to hold stock of YorPower Perkins powered diesel gensets for at least another two years.

The local distributor has been trialling the British manufactured diesel engines throughout Zimbabwe "with impressive results", the company said.

"The southern African market is very competitive and to receive further commitment from our dealer is very positive news," said Brown, announcing the deal this year.

He said the company plans to continue to develop further territories across the region.

An uptick in the mining sector has also had a positive impact, as

Cummins Power Generation specialises in pre-integrated gensets from 8 kVA to 3,300 kVA. Seen here is its flagship QSK95 'Hedgehog'. (Source: Cummins)

more projects come to life and operators hunt down portable energy solutions.

This has sparked interest in flagship mining markets, such as South Africa, Zambia, Namibia and the Democratic Republic of Congo (DRC), all members of the Southern African Development Community (SADC).

At a recent mines trade show in Botswana, power generators were out in force, showcasing new technology and innovation to potential buyers.

Among them was Cummins, which displayed various generators, diesel engines and a range of sophisticated high-tech equipment.

Cummins Power Generation director Kenny Gaynor said equipment choice is vital as "only a few minutes of power outage can result in millions of rands in lost production". However, it is not the only thing that is important. Based out of Johannesburg, and with branches across South Africa as well as Botswana, Zambia, Mozambique and Zimbabwe, the company also boasts a wide dealer network in support of its broad southern Africa footprint.

Gaynor said, "Cummins also stocks essential parts on-site to ensure minimal downtime. Unfortunately, not all parts can be kept on-site. To ensure minimal disruption, Cummins boasts a comprehensive logistics supply chain to ensure that any part reaches site in the shortest possible turnaround times."

However, away from the traditional industrial clients, genset producers are also facing up to a power sector environment that is rapidly shifting, with the advent and uptake of more accessible renewable technologies.

Andrew M. Herscowitz, coordinator for Power Africa in Pretoria, said there is "tremendous growth" in the number of companies now providing pay-as-you-go solar home systems. This allows consumers in peri-urban and rural areas to access not just electric light, but also small items, such as clothing irons, electric razors, radio chargers and televisions – all with a small solar panel that costs them less than US$2 a day, sometimes less than 50 cents a day. "We're seeing these companies really start to take off."

Despite the impact of these emerging technologies, demand for traditional gensets is likely to remain strong, experts believe.

One report, Growth Opportunities in the Southern Africa Diesel Generator Market, Forecast to 2019 sees greatest potential in Mozambique.

The country, which is now developing its offshore gas sector, is tipped to grow at more than 13 per cent over the next couple of years.

It says that leading up to 2015, diesel genset volumes peaked at 14,123 units, bringing in US$344.8mn into the region – a 40 per cent increase in sales compared to the previous year, driven by Eskom's plight in feeding electricity to the rest of the region.

Although this has subsided as South Africa's power sector has stabilised, the market will continue to experience "favourable growth" in neighbouring countries until at least 2019, the report added.

It means southern Africa will

> **"South Africa's power problems demands leading solutions to increase productivity"**
>
> **JONATHAN BROWN, YORPOWER'S INTERNATIONAL BUSINESS DEVELOPMENT MANAGER.**

continue to attract interest and investment from the leading power and genset firms, especially in those areas where good coverage is weak.

West Africa

A vast market, and one plagued by perennial power shortages, West Africa continues to provide good business for genset makers and their distributors.

Traditional industries like oil and gas in Nigeria and gold mining in Mali have for decades presented opportunity for power companies, given the lack of established grid-based electricity.

That's especially so in Nigeria, Africa's most populous state, where, of the network's installed capacity of around 12.5GW, just 3,500-5,000 MW is typically available - and all serving a country of some 186 million people.

Clearly, it's a market with massive long-term growth potential. Nigeria's population alone is forecast to grow to 300 million by 2050, further squeezing an already inadequate network.

To put it simply, there is not enough power to go round.

All of the major genset engine manufacturers and major distributors have played a role in feeding additional demand to this underserved market.

Major regional players include the likes of Jubaili Bros, an authorised Original Equipment Manufacturer (OEM) of Perkins, manufacturing high quality engines at various factories including in Nigeria.

It has been well placed to track emerging business in other regional states too, such as the fast growth of Ghana's own offshore oil and gas sector, which has spurred other industrial developments onshore. Responding to this heightened demand, it took part at the PowerElec Ghana exhibition this August, showcasing not only its diesel generators, but also its transition into the field of renewable energy.

Jubaili Bros manufactures high-quality gensets powered by Perkins Engines in Nigeria (Source: Perkins)

Among the other big global brands with a presence across the region is Caterpillar, which operates in many markets through its Tractafric Equipment distributor.

The core industry sectors it serves include telecoms, construction, utilities, services and the medical sector, all areas demanding dependable power with high availability.

Bruno Chappuis, energy and transportation business unit director at Tractafric Equipment, says that major markets in parts of central and western Africa continue to do very well.

"With two-thirds of the sub-Saharan African population without access to electricity, energy supply is one of the major challenges of this century in Africa," he said. "With considerable needs, central African markets are very buoyant, especially with a notable recovery in the Democratic Republic of Congo, where mining operators, after a slack period, have begun to express their needs again."

He says that within this context, Tractafric Equipment – Cat dealer in Cameroon, Congo, Gabon, Equatorial Guinea, Central African Republic, DRC, as well as Chad, Burundi, Rwanda and Morocco – is committed to providing energy solutions with dedicated teams in each subsidiary, supported by specialised engineers based in France.

Renewable solutions

Increasingly, this also means offering new hybrid and renewable solutions to a more discerning client base, from solar and battery power through to a bespoke mix with traditional diesel fuels.

Chappuis says these are major areas that the company is now developing, reporting several success stories already in the telecoms and mining sectors in particular.

Despite this innovation, the company's success has been built on more traditional foundations. "Whatever the technology chosen, our after-sales service is one of Tractafric's major focus areas and our parts and services teams guarantee optimal operation of the facilities."

Another major Cat dealer and distributor that operates in territories such as Ghana and Nigeria, Mantrac Group, has also been showcasing a hybrid genset that uses the latest Cat solar and energy storage technologies, providing a full range hybrid power solution.

The scale of the problem facing West Africa's energy sector remains daunting, however. With Nigeria's population soaring, it might be tempting to think the region's plight might be too challenging, but large-scale investment is now filtering through to ease the problem. Ghana's development, for instance, has spurred significant investment in new power stations, triggering confidence elsewhere.

Even in the poorest states, like Liberia, which had only 2 per cent access to electricity, and only 20 MW of power, the launch of the Mount Coffee hydro project has effectively quadrupled the amount of power that's now available in the country. While most people remain cut off from the grid supply, it's a mark of progress.

Despite these success stories and intentions, that still leaves massive gaps for customers in high demand industries such as mining, energy, telecoms and others.

That means a continued role for large-scale, traditional thermal-based gensets supporting critical installations. Rolls-Royce last year delivered 36 MTU Onsite Energy natural-gas-powered gensets to the Tema thermal power plant in Ghana that will produce 1,560kW of electric power and feed 56MW into the grid. The new plant, built and operated by the VPower group in Accra, is now a key part of the country's power supply network.

The recent discovery of gas offshore Ghana has paved the way for added thermal-based generation to drive the nation's economy. The country is pondering other more traditional options too, including a new 700 MW coal-fired plant with China's Shenzhen Energy.

For now though, large system gaps, patchy coverage and the requirement for "without fail" power in critical industries and applications means the role of genset manufacturers and suppliers is pretty much guaranteed for many decades to come. West Africa is poised to remain a strong market for all the major genset players.

Aggreko cited strong growth for the African region as a whole in its half-yearly results for the first half of 2017. (Source: Aggreko)

East Africa

Major players serving the eastern Africa market include the likes of Aggreko, which has consistently secured business in the region through many years.

It has been involved in both small projects and very large contracts, effectively propping up national grid systems at difficult times.

Like other parts of Africa, major economies, such as Kenya, Uganda and Tanzania continue to face chronic power shortages, prompting industrial clients and state-owned entities to call on back-up generation.

Aggreko cited "strong" growth for the African region as a whole in its results for the first half of 2017.

East Africa's power woes have meant plenty of work for others too.

In Kenya, that includes Ganatra Plant & Equipment, the country's sole authorised distributor for the JCB brand and its range of generators.

Another is YorPower, which was recently selected to provide a diesel generator for a new five star hotel complex near Mombasa.

As well as the inconvenience of plunging guests into darkness whenever a power cut hits, there are also safety issues at stake when it comes to security monitoring and the smooth functioning of the hotel's lifts. The new hotel is located on Chale Island in the Chale Marine National Park and boasts 60 guest rooms and chalets.

The genset company has a long history of providing diesel generators to customers throughout eastern Africa. "Whether for prime or emergency standby power solutions, YorPower generators have been proven to be reliable and efficient, often in harsh environments where generators from manufacturers more concerned with turning out cheap units quickly fail," it said in an August 2017 statement.

As well as these projects, government infrastructure projects such as tech cities, special economic zones (SEZs), railways, the expansion of state and national highways – all major developments in eastern Africa right now – are expected to drive further genset growth, according to the Africa Diesel Genset Market 2017-2023 report.

The general rise in demand for power is also expected to fuel the market for diesel gensets, the report said, as is growth in traditional sectors like mining in Tanzania.

Gensets between 5KVA-75KVA rating are expected to maintain their dominance in the market through to 2023, it said.

But it is not just the region's larger economies facing power challenges: the situation also extends to the region's smaller economies as well.

Indeed, Aggreko's latest assignment in the area is for the supply of genset units to Eritrea, to feed electricity to copper and zinc operations. The company has signed a 10-year deal to provide 22 MW of diesel and 7.5 MW of solar-generated power to mining group Nevsun.

It underscores Aggreko's move into smart genset solutions, tapping into new renewable technologies to complement its existing product portfolio.

Aggreko's solar-diesel hybrid power package combines cost-effectiveness and green renewable energy with the reliability of diesel-generated power to provide uninterrupted power round the clock, said the company's chief executive, Chris Weston.

"Technology never stands still, and neither does Aggreko. Our mobile, modular power enables us to make a massive difference to the communities and industries we serve, and our solar-diesel hybrid offering is an example of an innovation that brings cost-effective, reliable, uninterrupted power with additional fuel flexibility to customers."

Indeed, the changing nature of the regional economy, and the rise of digital technology especially, has impacted the genset business.

FG Wilson distributor Blackwood Hodge has been part of the Kenyan economic landscape since 1949.

"If you go back 10 or 12 years, our customers were almost entirely buying for commercial buildings,

> "Technology never stands still, and neither does Aggreko"
>
> **CHRIS WESTON, AGGREKO CHIEF EXECUTIVE**

shops, offices, hotels and hospitals, and the generator sets were running for standby power and sometimes prime," said Blackwood Hodge's James Rowe.

He says the same customers are there today but the scope of their needs has increased, shaped in part by the digital mindset of today. "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."

Earlier this year, Himoinsa again was asked to supply two more gensets to Casablanca's Finance Centre. (Source: Himoinsa)

North Africa

A comparatively more developed market in terms of energy supply and economic diversity, North Africa nonetheless is still an important territory for genset makers.

This relative sophistication is reflected in the evolution of the power sector where solar energy is now making headway in places, such as Morocco, Egypt and Algeria.

Moreover, the region's oil and gas industry has long been an important market for power generation companies.

North Africa's more developed economy has naturally brought interest from all the major genset brands, such as Caterpillar, Cummins and Aggreko, among others.

This relative sophistication is also reflected in the range of opportunity areas present, including an expanding tourism sector with major hotel chains such as Hilton rolling out new properties aggressively across the region.

In Algeria, Himoinsa is supplying the emergency power for two large hotels belonging to the AZHotels chain that will open this year, in Kharouba and Mostaganem.

The combined four HDW-750 T5 gensets can deliver a combined 3MW of power.

Reflecting its growing economic might, North Africa's retail, services and financial profile is likewise expanding rapidly too.

Earlier this year, Himoinsa again was asked to supply two more gensets to Casablanca's Finance Centre (CFC), which aspires to be Morocco's Wall Street.

The twin units will guarantee the supply of electricity to the CFC Tower, the first building in the new financial district, which will be home to the offices, headquarters and services of the nation's top banks and finance houses.

It is a critical environment, where any power shortage could potentially entail losses of millions of dollars or more.

Yet while the market as a whole is evolving and changing, the reasons behind the deal and the selection of Himoinsa gensets are time tested.

Both units will work in parallel and will be able to supply up to 1.3 MW of standby power, but in a small, confined space. The Himoinsa engineering team redesigned the generators' standard canopy to adapt it to the small room in which they will be housed.

According to Redouane Mouzani of Oger International, the project's head of engineering, Himoinsa was "the only company able to come up with a technical engineering solution adapted to the limitations of the room in the installation".

The company in charge of the CFC Tower project, Cegelec, said one of the greatest percentages of its budget was allocated to the purchase of the gensets. "We chose Himoinsa because they guaranteed an excellent after sales service, a high availability of replacement parts, a quality product and because of how they quickly resolved the engineering challenges that the project presented," said Karim Housni Alaoui, Cegelec's project head.

> "We chose Himoinsa because they guaranteed an excellent after sales service"
>
> **KARIM HOUSNI ALAOUI, CEGELEC'S PROJECT HEAD**

Flexibility with design and in manufacture – together with cost – have long been important traits for all successful genset providers, as is the necessity of having strong local distributor teams in place, across such a large and diverse range of territories.

The CFC Tower project was undertaken through Morenergy for Africa, Himoinsa's distributor in Morocco. Its chief executive, Sabir Zouhir, also praised the group's "agile" and "dynamic" technical and commercial abilities on the CFC project.

But not all things have stayed the same. The fast evolving renewables industry – where Morocco is leading the field in wind and solar power – is not without an impact on the genset market.

As well as pumping more electricity into the network, buyers and operators are glimpsing the use of these technologies alongside more mainstream standby power solutions.

That is a sentiment echoed by Bruno Chappuis, energy and transportation business unit director at Tractafric Equipment, the dealer for Cat in Morocco.

"The group answers all needs, from individuals to large companies, with diesel and gas generators from 10 kva to 50 MW," he said. "Alongside these traditional solutions, hybrid solutions such as diesel / batteries, diesel / batteries / solar or 100 per cent solar are also beginning to spread – an area in which Tractafric is developing." ■

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High efficiency drives higher energy reliability in Africa

Kohler teams up with Clarke Energy to provide gas engines as an alternative power solution for the African market.

Decentralised power using gas and diesel-fuelled gensets are a core element in ensuring reliability of power supplies across Africa.

Diesel gensets, such as those supplied by Kohler-SDMO, ensure consistent power supplies for industry and residential developments across the African continent.

Kohler is now offering another power solution with Clarke Energy gas products.

In fact, gas engines have emerged as a viable alternative to diesel gensets where there is a natural gas supply. Opportunities for gas engines are currently focused on the gas-rich countries of north Africa, in the south of Nigeria, in Tanzania, Mozambique and east/central South Africa.

Gas engines are also valuable for their ability to generate at high efficiency through combined heat and power (CHP) or cogeneration. CHP is typically a form of localised power generation, where along with electricity, heat is recovered from a generating set for use in boilers or as hot water. This provides much higher levels of fuel efficiency – more than 90 per cent compared to between 40 per cent and 50 per cent for electricity generation alone.

Trigeneration takes energy efficient cogeneration technology to the next level. Trigeneration or combined cooling, heat and power (CCHP) is where a proportion of the heat from the generating set is used in an absorption chiller. Absorption chillers are able to convert this heat to cold water, which in turn can be used in refrigeration systems, air conditioning or other forms of cooling plant. Absorption chillers provide an economical and environmental alternative to conventional refrigeration. Combining efficiency, low emission power generation equipment with absorption chillers allows for maximum total fuel efficiency, elimination of harmful refrigerants and reduced overall air emissions. There are a number of different configurations of CHP units from which refrigeration can be derived. These include operations using hot water, using steam or direct heat via combustion. Compression-type refrigeration machines can either be driven directly or with electrical power.

A landfill gas power station using GE's Jenbacher engines at Bisasar Road, Durban, South Africa. (Source: Clarke Energy)

There are a number of associated benefits for using gas engine technology, including increased energy efficiency, reduced operational costs and less atmospheric emissions than using other dirtier fuels than gas. Standardisation of design using engines such as GE's Jenbacher platform can deliver smaller scalable footprints fitting in to tight spaces in existing plants.

Combining a CHP plant with an absorption refrigeration system allows utilisation of seasonal excess heat for cooling. The hot water from the cooling circuit of the plant serves as drive energy for the absorption chiller. The hot exhaust gas from the gas engine can also be used as an energy source for steam generation, which can in turn be used as an energy source for a highly efficient, double-effect steam chiller. Up to 80 per cent of the thermal output of the cogeneration plant is thereby converted to chilled water. In this way, the year-round capacity utilisation and the overall efficiency of the cogeneration plant can be increased significantly.

Trigeneration in larger offices is a natural fit for trigeneration technology. Offices in Africa typically have significant needs for cooling. Approximately 150kW-170kW of cold output is required per 1,000m2 of office space. Deploying a gas-fuelled trigeneration plant to satisfy both the local electrical load and cooling load is a logical choice. If surplus electricity is generated then the ability to export this to the natural grid is beneficial.

For factories involved in the processing of food, drinks or other perishable goods, trigeneration technology can help improve energy efficiency and provide the core power generation role for the operation of the plant. Trigeneration can be used either in synchronisation with the local electricity grid, or alternatively in island mode, where a whole factory's operation is reliably supported by the generating set. This is particularly important in countries with an unreliable national electricity grid, such as Nigeria. Almost all Nigerian factories operate with island mode power generation. Diageo's Guinness Ogba brewery power plant in Lagos, Nigeria, was one of Africa's first gas-fuelled trigeneration plants. Built in three phases, adding boilers operating on the engine exhaust gas, then absorption chillers also fed directly by engine exhaust gas, it led the way for sustainable low carbon technology on the continent.

Data centres are a particular area of potential for future development. These processing and storage centres now consume around 3 per cent of the world's electricity. This figure is set to triple over the next decade. Data centres in hot countries such as those in Africa will need some of the most effective cooling for optimal performance. A major global reference for this technology is Citibank's data centre in London, which cut its energy use by deploying combined cooling and power technology.

With the growing availability of gas in Africa in locations, such as Johannesburg, Lagos and Dar es Salaam, gas-based trigeneration technology can support the growth of data centres in these regions.

In summary, gas engine based trigeneration is a proven, successful technology internationally for delivering cost and carbon savings. Gas supplies are restricted to certain parts of the African continent so diesel and gas generators will be combined proposals for the African market. Growing industries, particularly in the data centre sector, provide the most exciting opportunities. ■

By Alex Marshall, from Clarke Energy, Emilie Cabon and Bertrand Bauchard from KOHLER-SDMO

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Solar kits bring power to billions living off-grid

Across the developing world more than a billion people live without access to electricity where alternative energy sources are the mainstay. Tim Guest reports.

From mobile phones to refrigerators, school computers and general lighting needs, powering these devices in the developing world is a straightforward challenge where grid electricity is available, such as in urban and semi-urban regions. In remote locations, however, and Africa is a case in point, being off-grid presents anyone hoping to run such equipment with the problem how to power it.

According to the World Bank there are some 1.2 billion people in remote regions of the world without success to grid power. For years now, the power needs of such remote communities have largely been met by diesel and fossil-fuelled generators. Increasingly though, alternative energy sources such as photo-voltaic (PV) solar solutions are being used to help people in those off-grid regions meet a wide range of power needs.

International charity SolarAid provides access to solar lights in Uganda, Malawi and Zambia to help catalyse solar markets and eradicate the kerosene lamp. (Source: Patrick Bentley/SolarAid)

Off-grid power for remote mobile

It is strange to think that someone living in a small rural community in one of many countries in Africa, where they have no access to running water, decent sanitation, grid power, or regular medical treatment and facilities, might own a personal mobile phone. Fact is they often do and increasingly so. That alone raises questions such as: how do they charge their phones? Where does their phone service come from and how is it powered?

For many years now, mobile phone operators have been unable to roll out traditional cell sites and terrestrial infrastructure to isolated communities and instead have installed remote cell site base stations that rely on satellite to deliver the mobile service to a localised area. With VSAT (Very Small Aperture Terminal) dishes and equipment in place to provide voice and broadband services, these sites often rely on power from diesel generators, but also increasingly from alternative energy systems and sources such as from solar panels. One major reason for this change is the cost and logistics of transporting diesel to a remote region; additionally, the ongoing maintenance required to ensure a remote diesel genset keeps operating without problems is a major challenge requiring regular, disciplined efforts on the part of the community, which can often be a problem.

As a result, solar panels are used increasingly to power remote mobile communications and base station sites. They offer a reliable, low-maintenance option that can meet not only the needs of the mobile comms installation, but often also supply power to other parts of the community. That said, even when solar panels are used, systems installed need to harvest the energy generated by the panels intelligently. There is no point powering a remote village mobile communications network when no one is using it to make calls, at night for instance, and systems deployed will typically automatically power down at such time and/or re-direct the energy to other applications in a village community, which may already share the power source, for example, for fridges, school computers, lighting.

Costs and the future

Without grid power, people in remote off-grid regions spend vast sums of money – US$27bn annually, according to the World Bank – on the likes of diesel, kerosene, batteries and candles, which offer relatively unreliable sources of energy. Off-grid solar solutions offer a future that might provide universal access to electricity for even the remotest populations on the planet – and many of those are in Africa.

Since 2012, the off-grid solar sector has grown at an impressive rate. There are now more than 100 companies offering solar kits that are targeted specifically at households and communities without any grid access. From solar-powered lanterns to other lighting and re-charging solutions, some 20 million pico-solar products, each with a PV panel smaller than 10W, were sold up to mid-2015. And this trend has continued, with pico-solar products for off-grid users fast becoming mainstream. Estimates by the World Bank suggest that 30 per cent of Kenyans living off-grid have at least one solar product in the homes. The bank also projects that with this off-grid solar sector advancing so rapidly, far beyond the needs for basic lighting and phone charging, home kits will soon be able to support higher-margin products to meet growing consumer demands. The bank expects that by 2020 there will be some seven million off-grid households in Africa with solar-powered fans, and 15 million with solar-powered TVs, with similar kits and products, used increasingly by small business.

But what about households who cannot afford to buy a solar kit? Well, there are a number of companies selling pay-as-you-go solar kits, enabling low-income families to pay by instalments. The clever part is that they have introduced a technology into products that stops the product functioning if someone is late with a payment, unlocking it again once payment has been made. Around half a million people, mainly in East Africa, are benefiting from such services. ■

Genset demand in telecom sector continues to rise

R.R. Deshpande, joint managing director of Kirloskar Oil Engines Limited, talks to *African Review* how its genset arm of the business is booming thanks to its array of genset products.

What plans do you have to promote your gensets in Africa?
We have been operating in different countries in Africa for the past few years. Africa has a prominent role in our future expansion plans. We see growth opportunities in the existing, as well as new markets in Africa and the Middle East. We also are expanding our product range in the market towards the higher and lower capacity range.

Our main focus is to get closer to the market. We have two regional offices in Africa; in Nairobi and in Johannesburg. We are strengthening our presence by putting technicians in various countries to offer a faster response time to our valued customers. Our technical personnel are stationed in three countries and we have plans to add more.

As a customer-oriented engineering company, we believe in offering optimum solutions to our customers. In line with this philosophy, we have assigned a dedicated application engineer for Africa. Operating out of Johannesburg, he will study the customer needs and provide the most optimum solution to satisfy them.

R.R. Deshpande, joint managing director of Kirloskar Oil Engines Limited. (Source: Kirloskar Oil Engines Limited)

What's your opinion on the genset market in general in Africa? Have you seen a rise in growth in the number of their gensets being sold this year compared to 2016?
Gensets have a huge potential in Africa, especially below 1,000 kVA. We are upbeat about our business prospects in the foreseeable future. Our business is rising as a result of our market expansion and enhanced product range.

As a combined result of introducing new products and entering new markets, we are aiming at a quantum jump in business by 2020.

What gives the Kirloskar group the edge over its competitors?
Kirloskar comes with a successful performance history since 1946. We have experience of working in all sorts of operating conditions. Our products are reliable and easy to operate and maintain. These parameters are of paramount importance to end users where we score over most of our competitors.

We manufacture water-cooled as well as air-cooled generating sets. Water-cooled generating sets have lower initial costs. Air-cooled engines have lower cost of operation as they requires less maintenance. Thus, we have a unique position in the market to offer technology to suit the needs of end users.

We are developing our service as a differentiating factor in the market. We have improved availability of spare parts and have stationed people in or closer to the markets where we operate. We invest in training technicians as well as end users.

Reliable product performance and effective support systems have earned us a reputation in Africa. We are able to win existing customers and are proud to have customers advocating our products to others. This gives us a competitive edge in the market.

Which industries do you normally support?
Power generation is our major focus but we do not consider it as one monolithic market. Sub-segments such as industry, construction, housing and telecom have distinct features and we develop customised plans to meet their requirements. Recently, we have introduced 7.5 kVA to 15 kVA gensets for residential use and higher capacity gensets up to 625 kVA for industry and construction, which have received very encouraging feedback.

The telecom sector needs a reliable genset with a high fuel economy. These gensets have tremendous load variation. Underloading of gensets is a typical problem. However, air-cooled gensets are the most suitable solution for telecom and will soon be launching a new range of gensets to provide optimum solution to its power needs.

Has the Kirloskar green genset taken off yet in Africa as in India?
We have been maintaining our leadership position in India in regards to our green genset. However, we are comparatively a new entrant in many parts of Africa and are in the process of establishing sales and service networks in various countries. We are also working on various measures to build our brand.

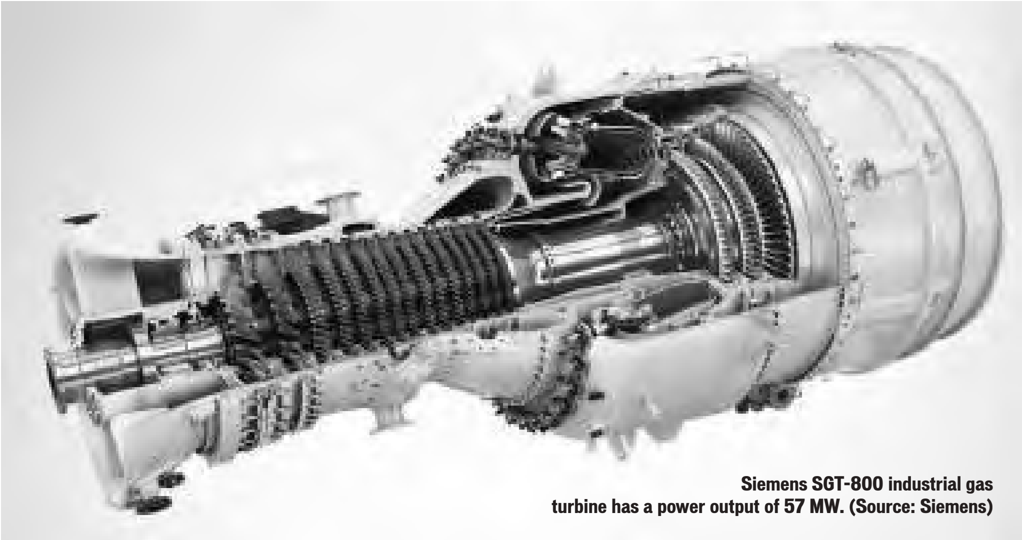
We are successfully competing with the established brands in the countries where we are active and have defined a road map to be among the top three players in particular markets in Africa by 2020. ■

SGT-800 industrial gas turbine delivers even more power and higher efficiency

Siemens is now offering its SGT-800 industrial gas turbine with a power output of 57 MW and an electrical efficiency of more than 40 per cent in simple cycle application.

In a combined cycle configuration the power output is 163 MW at a net efficiency of more than 58.5 per cent.

The company presented this upgrade for the first time at this year's Power-Gen Asia trade show in Bangkok from September 19 to 21. The SGT-800 is now available with power output from 47.5 MW to 57 MW thanks to this upgrade, which will be offered to the market in addition to the current ratings.



Siemens SGT-800 industrial gas turbine has a power output of 57 MW. (Source: Siemens)

"The most powerful SGT-800 to date is aimed primarily at industrial power producers and oil and gas companies that have a particularly high energy demand," said Nick Muntz, CEO of the Siemens Distributed Generation Business Unit. "We're thus helping meet the rising global demand for distributed power generation and offering a high-end product for such applications."

The 57 MW upgrade follows the design philosophy of taking small evolutionary fine tuning steps, while staying close to the commercially proven and reliable design of the SGT-800 industrial gas turbine. Only improvements of gas turbine parts using Siemens' existing and mature core engine technologies have been made. The improved performance of the 57 MW rating has also been achieved through improved gear box and outlet casing/diffuser efficiencies. A reduced footprint of the gas turbine package has been achieved thanks to a shorter design, as well as a higher degree of preassembly for shorter installation time at site.

To date, more than 325 SGT-800 turbines have been sold worldwide. The Asia Pacific region is an especially important market for the machine, with more than 100 units sold, 71 of them in Thailand alone. Over the last five years the SGT-800 has been the market-leading gas turbine for combined cycle applications in its power range. The installed SGT-800 fleet has reached more than five million operating hours. The turbine, which was originally known under the product name GTX100, began development in 1994 and was launched in 1997.

AFRICA'S UPTAKE OF DRY-TYPE TRANSFORMERS SET TO GROW

Already popular in North America and Europe, dry-type transformers will soon be seeing greater take-up in Africa through a more concerted entry and support strategy from global leader Hammond Power Solutions (HPS).

According to Andrea Giacometti, regional sales manager of the HPS Europe, the company's recent acquisition of major technology pioneers Euroelettro Hammond and Marnate Trasformatori in Italy has put the company in a strong position to grow into Asia and Africa. It also acquired PETE in India, a leading manufacturer of power and distribution transformers in Andhra Pradesh.

"As the world's largest producer of dry-type transformers, HPS's Italian acquisitions have led to a strong technology base in Europe from which we have already expanded into Asia," said Giacometti. "The technical excellence of our plants in Canada, US, Mexico, Italy and India give us the ability to recommend and apply the right solution for a range of applications and industries."

Marnate, for example, has manufactured dry-type transformers since the 1970s and has been at the forefront of cast-resin technology. As with HPS's other facilities, it operates at the highest levels of quality and safety, compliant with global standards and certified by international bodies like CESI and TUV.

He said HPS Europe is now working closely with Trafo Power Solutions in South Africa to boost its Africa footprint in a strategic and forward-looking manner.

"At HPS, we develop our products in line with our customers' applications and needs," he said. "The real innovations in this field are not just the technology itself, but the way we apply these technologies with our customers. We work with our customers to find solutions."

David Claassen, managing director of Trafo Power Solutions, highlights that flexibility is the focus in the way that both HPS and Trafo approach their work.

"The application will determine the enclosure design and the transformer design," said Claassen. "In our modus operandi, 'one size fits all' definitely does not apply."

In fact, Trafo Power Solutions does not see itself as simply a distributor of products. In line with the approach that HPS has always adopted, it is a solutions-driven company.

"We work with customers to engineer technically appropriate and proven solutions for their applications," he said. "HPS has longstanding experience in a host of technologies, which matches well with my experience in working with various sectors and applications around Africa."

Dry-type transformers supplied by Trafo Power Solutions are from HPS manufacturing facilities in Italy. (Source: HPS)

POWER

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KOHLER-SDMO to the rescue

KOHLER-SDMO steps in to supply emergency power after Hurricane Irma causes widespread devastation.

KOHLER-SDMO generating sets shipped to St Martin Island by France-based Enedis electricity provider. (Source: Enedis)

After the devastating passage of Irma through the Caribbean in early September, the need for electricity in the affected areas has never been more urgent. ENEDIS sent nearly 100 KOHLER-SDMO gensets to assist the on-site emergency services.

Although the final toll of the damaged caused by Irma is yet to be established, initial information about the power grid and production facilities is somewhat alarming.

Via its historic business partner, ENEDIS, KOHLER-SDMO generating sets were dispatched from their storage platform in Orléans to the islands of St Martin and St Barthélémy on 8 September.

Ninety-five generating sets were prepared: the batteries were disconnected and the fuel tanks emptied for air transport, and their electrical characteristics modified to adapt to the grids on the Caribbean islands (change from 50Hz to 60Hz).

All the equipment was transported to the military base in Châteauroux, where an Antonov aircraft specially chartered for this emergency took off for Guadeloupe.

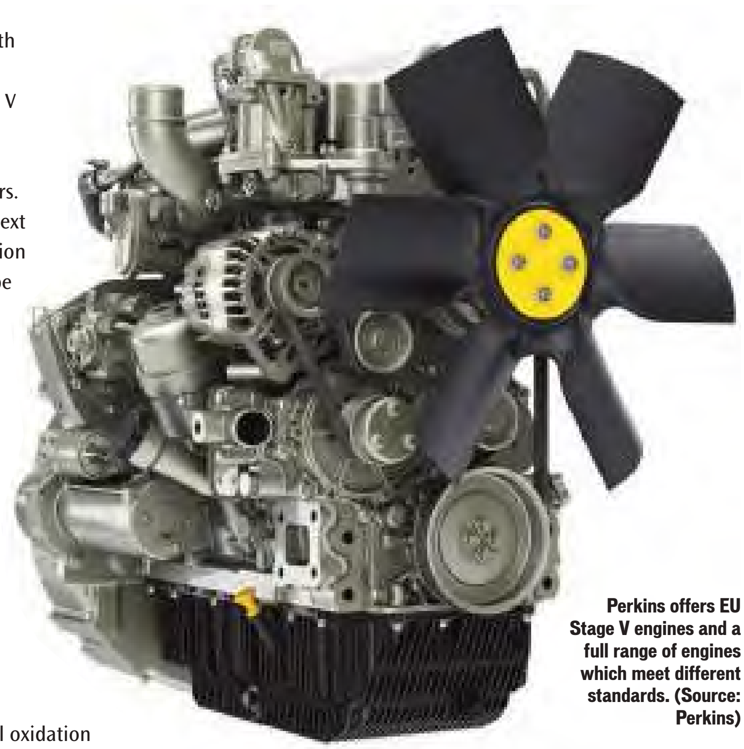
KOHLER-SDMO Industries is proud to have been able to offer its support to the affected populations who have been so severely impacted by the hurricane. ■

Perkins offers full range of Stage V engines

Perkins, which is celebrating its 85th anniversary, has unveiled its Stage V engines for the construction and agricultural sectors.

Stage V – the next stage of EU emission standards – will be phased in for off-highway diesel and mobile EP machines from 2019, affecting all engine manufacturers.

Perkins Stage V engines have integrated technologies selective catalytic reduction (SCR) technology, diesel oxidation catalysts (DOC) and diesel particulate filters (DPF) to adapt to countries with tougher regulations.



Perkins offers EU Stage V engines and a full range of engines which meet different standards. (Source: Perkins)

All 56-130 kW engines have to be Stage V compliant by January 2020 while other power engines have to be phased in by January 2019.

Stage V stipulates that 19-560 kW engines must not generate more than 0.015g of carbon per kw/hour – 120 times less than when Stage 1 was introduced 20 years ago and half of North America's, (0.030g of carbon per kw/hour).

The other difference with Stage V compared to previous emission standards, is that it limits the number of larger particles.

To learn more about Perkins Stage V engines in the 400 Series to 2800 Series visit www.perkins.com/stagev

DANGOTE EYES POTENTIAL STAKE IN PPC

Dangote Cement Plc (DCP) has signalled its interest in acquiring South Africa's PPC, following a joint bid by Canada's Fairfax Financial Holdings and South African firm AfriSam, according to reports.

If Dangote Cement's bid is successful it would consolidate its position as the largest cement producer in Africa, with nearly 46 million tons per annum capacity across Africa. Its operations are in Cameroon, Congo, Ghana, Ethiopia, Senegal, Sierra Leone, South Africa, Tanzania and Zambia.

In response to media interest, DCP said, "DCP hereby confirms that the Board of Directors of DCP has merely communicated its interest to the Board of Directors of PPC with respect to the acquisition of the entire share capital of PPC. This communication is still at the preliminary stage."

Lafarge is also reportedly interested in acquiring PPC, aleading supplier of cement in southern Africa.

BOBCAT LAUNCHES NEW T870 COMPACT TRACKED LOADER

Bobcat has launched a new version of the company's top-of-the-range T870 compact tracked loader, featuring a new torsion suspension undercarriage.

The torsion suspension undercarriage features torsion axles that dampen vibration, combining the comfort of roller suspension and the stability of a solid mount undercarriage with other new features to provide a tracked loader that outperforms all other machines on the market.

The new T870 torsion suspension machine offers 10 per cent more lift capacity than the previous roller suspension model. The new T870 model is available with a wide range of standard and optional features and in a range of configurations to match emissions and specification requirements for all European, Middle East, Africa and Russia and CIS markets.

The new T870 provides a more comfortable and relaxed environment in the cab – achieving a new level of comfort without sacrificing work performance.

The major product improvements and customer benefits are: improved comfort and ride quality with reduced vibrations and noise inside the cab, increased stability with superior grading and ground engagement characteristics, increased flotation and reduced ground pressure with increased ground contact, highest lifting capacity compact loader with increased performance

Increased uptime with increased productivity and increased durability and reliability with increased productivity and improved debris shedding with ease of clean-out.

The five-link torsion suspension undercarriage minimises rocking when lifting a load high. An additional link on the rear axle increases productivity.

BRIEFS

Siemens to build two new substations

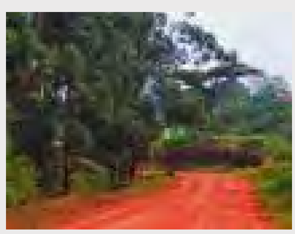
Siemens has been contracted by EETC to build two substations. (Source: Adobe Stock)

The Egyptian Electricity Transmission Company (EETC) has awarded Siemens a contract for the construction of two substations.

They will be used to transmit electricity from the Burullus power plant in Kaft El Sheikh Governorate, which will supply up to 15 million Egyptians with reliable electricity.

Emad Ghaly, CEO of Siemens Egypt, said, "We are pleased to build on a trusting relationship with EETC to boost grid infrastructure."

EAC member states to upgrade 30,000km road network



Road projects include Uganda's Entebbe and Kampala-Jinja Expressways. (Source: Adobe Stock)

East African Community (EAC) member states are considering upgrading their 30,000km road network to bitumen standards by 2050. At an average rate of 900km per year, the region is looking to cover its entire road network over the next 33 years, according to the EAC vision 2050.

Flagship projects include Uganda's Entebbe and Kampala-Jinja Expressways and the Mombasa-Mariakani in Kenya.

Working on Africa's tallest building 'The Pinnacle'

PERI Formwork Scaffolding Engineering Ltd is behind the formwork scaffolding on the continent's biggest skyscraper.

President Uhuru Kenyatta laying the foundation stone of The Pinnacle, which is expected to be built by 2019 (Source: Enos Teche)

By the end of 2019, Kenya will be home to Africa's tallest skyscraper, known as The Pinnacle.

It will be no mean feat to complete the Sh20.6bn (US$200mn) project, requiring the best in the industry to make it possible.

PERI Formwork Scaffolding Engineering Ltd has been contracted to carry out the scaffolding work on both towers, which will be built by the China State Construction Engineering Corporation (CSCEC).

The developers are Jabavu Village, the Kenyan real estate arm of Hass Petroleum and the White Lotus Group, which is investing US$200mn into the project.

The first tower at 300m tall, comprise of luxury appartments and offices. The second 215m tall tower will include a 255-room Hilton Hotel.

Chris Heesen, head of strategic projects Africa from PERI, shares with *African Review* a few insights into the unique scaffolding systems, that have never before been used in Kenya.

What PERI systems will be used for The Pinnacle?

PERI is a leading global supplier of innovative and cost-effective formwork and scaffolding solutions, which will provide a multiple of formwork and scaffolding systems for The Pinnacle project.

We will be using PERI's optimally harmonised Automatic Climbing System (ACS) and Rail Climbing System (RCS) in combination for the towers and lift shaft cores. Also, the Rail Climbing System with Protection Panels, (RCS P) will be introduced on this project. The innovative and economic solutions, which are a first for the Kenya market, also boast safety aspects, which will set new trends and standards in the local construction market.

What other scaffolding systems will be installed?

The array of formwork and scaffolding systems also include Single Sided Brace Frame technology, combined with PERI TRIO Panel Formwork, PERI VARIO Girder Wall Formwork to lift shafts, sheer walls, and columns and PERI's Frame-Flex Shoring Frames to slabs. The main benefits of using ACS, RCS and RCS P include:

- Reduced need for crane time
- Increased efficiency because formwork remains mostly intact when moved
- Time and cost-saving through mechanisation with low reliance on site labour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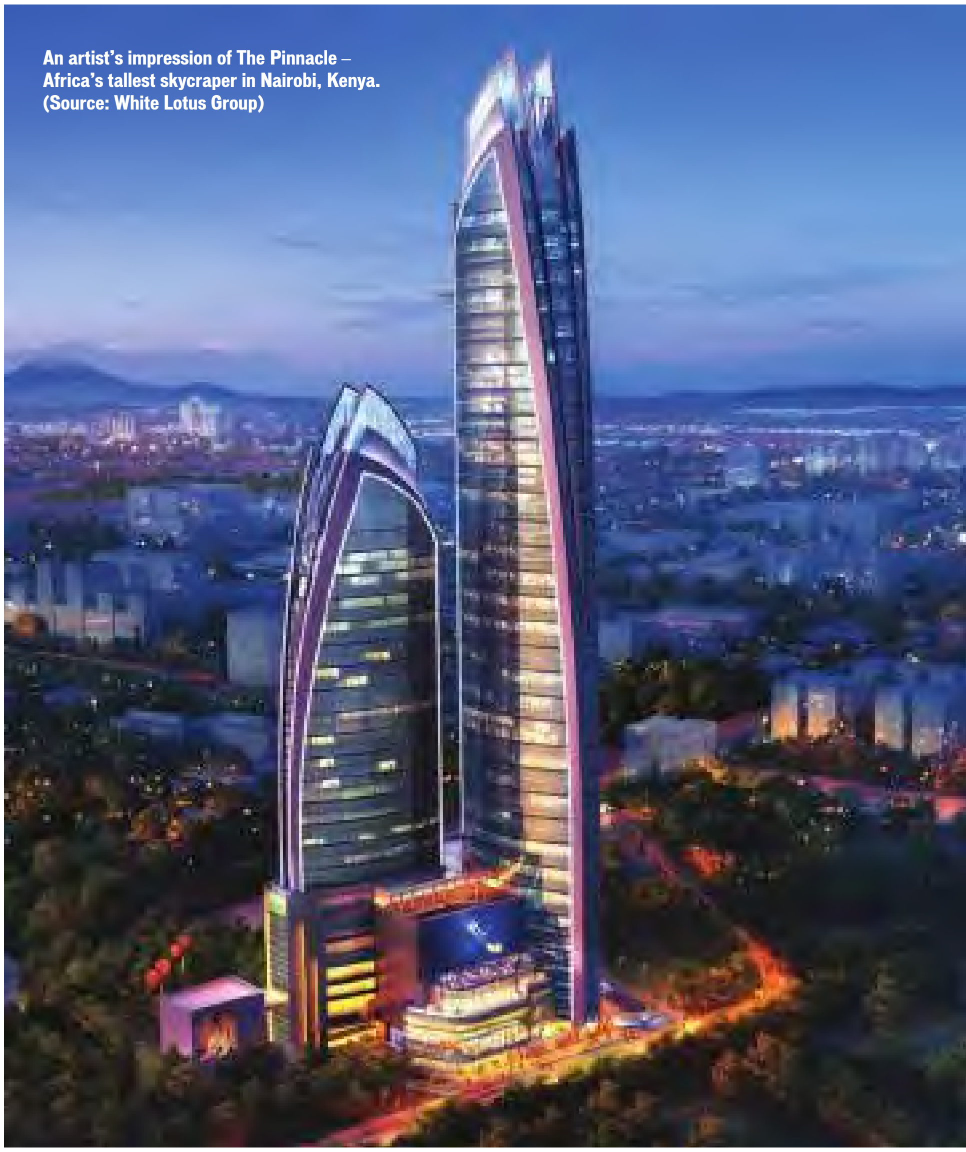

An artist's impression of The Pinnacle – Africa's tallest skycraper in Nairobi, Kenya. (Source: White Lotus Group)

- The systems are climbed hydraulically, even in higher wind conditions
- Continuous weather and safety protection for construction staff

How are these scaffolding systems different to the standard scaffolding used for other tall buildings in Kenya?
For the untrained eye, the differences might appear insignificant at first glance. The uniqueness of PERI's products lies in how the products are developed during the development phase and then efficiently manufactured to ensure that these translate into savings during the construction phase. PERI products and solutions are synonymous with the term "efficiency", therefore involvement with a specialist supplier such as PERI is absolutely crucial to the success of a project, such as The Pinnacle.

What are the extra safety features that are mentioned in relation to this type of scaffolding solution?
The RCS-P edge protection encloses the area under construction in a factory-type environment. This enables safe working by minimising the risk of workers falling off the edge. It also gives one the impression that you are working inside an enclosed area and not at height, which increases productivity and safety.

When do you anticipate the scaffolding to be shipped to Kenya?
We are expecting the containers with the scaffolding equipment to arrive in Kenya in January 2018.

At what stage will the scaffolding go up?
The core wall formwork is used from the top of the base onwards but the RCS & ACS climbing

The formwork is securely mounted on the carriage and can be retracted by 90 cm without the use of the crane. Due to the roller bearings, it is easy to operate as well as being jerk-free. (Source: PERI GmbH)

platforms is only installed after the first three floor core walls are completed. The edge protection, RCS-P, is only installed once the podium is completed and the tower floors commence. This will only be towards the end of 2018.

Are you able to confirm that no other supplier or developer is using scaffolding systems like this?

I can confirm that the two tallest buildings which have recently been completed, namely Britam Tower and UAP Tower, did not use these systems. I can also confirm that PERI has never used these systems in Kenya before.

Can you talk us through the works of putting up the scaffolding for this type of building, and how long it takes?

Initial installation on the hydraulic climbing systems (ACS, RCS, RCS P) could take up to five weeks, depending on the complexity and size of the panels. This process sets up a self-contained forming factory for the structures, which thereafter can move floor to floor on an every four to five-day cycle on the typical floors.

Have you ever worked on a project of this scale before?

PERI has been synonymous with this type of construction for many years, with an extensive list of reference projects, successfully completed worldwide. We are currently working on The Leonardo – a 50-storey building in Sandton, Johannesburg. ■

Protected by the RCS Climbing Protection Panel, the two twisted Absolute World Towers in Mississauga, Canada, were climbed upwards using regular weekly cycles. (Source: PERI GmbH)

Get the mix right to get the price right

The team at CIBER provides *African Review* a glimpse into the workings of asphalt plants.

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

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

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

Asphalt producers in Brazil

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

Opportunities for savings in asphalt plants

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

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

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

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

In sum, having or purchasing mobile asphalt plants with more built-in technology provides, above all, the assurance of a perfect asphalt dose and lower fuel consumption. ■

Steinexpo: Innovations for the construction materials industry

African Review has selected highlights from a few of the main exhibitors at Steinexpo, Germany's international demonstration show for construction materials production.

Steinexpo in its 10th year lived up to its reputation for introducing the latest developments in the construction sector at this year's show in Homberg, Germany.

From dumper trucks to the latest innovations in crushing and screening, there was something for everyone in the industry.

"It was the most strenuous Steinexpo that we have ever organised – but, at the same time, it was also our most successful fair," said Dr Friedhelm Rese, the managing director of the exhibition. "I'd like to thank the exhibitors for their abiding trust in our exhibition concept. And I would like to thank the visitors for their attention to our offer, which is unique on the European continent."

Volvo – Dumper A60H

The 60-ton dumper is designed for challenging off-road operations with a long-lasting machine life. With an enormous payload of 55 metric tons, the cost per ton can be cut with the A60H. The modern design increases capacity and improved fuel efficiency. The A60H is powered by a 16-litre Volvo engine with a maximum output of 470 kW and a maximum torque of 2960 nm.

The A60H dumper is powered by a 16-litre Volvo engine. (Source: Volvo)

Wirtgen Group – MS 953 EVO

With its precise classification of different feed materials across a number of applications such as quarries, mining, aggregates, sand production and recycling, combined with short mesh exchange times, the Kleemann MS 953 EVO classifying screen is suitable for nomadic crushing and screening contractors. It boasts an industry-first safety feature that allows the entire machine to be moved, unfolded and operated via a user-friendly, mobile control panel, which can be plugged in at three different points on the screening plant.

The new Kleemann MS 953 EVO classifying screen is suitable for nomadic crushing contractors. (Source: Wirtgen Group)

EvoQuip – Bison 120 jaw crusher

The Bison 120 has been specifically designed for operators for whom versatility, manoeuverability and transportability are of essential importance. It is small enough to fit inside a container for transport but strong enough to withstand the toughest of applications. The Bison 120 features a 680mm x 400mm single toggle jaw crusher that can be adjusted hydraulically using the remote control which comes as standard with the machine. The jaw is driven hydraulically, allowing the customer the ability to reverse the crusher to clear a blockage as well as being able to run in reverse permanently for sticky applications such as asphalt.

The Bison 120 jaw crusher features a 680mm x 400mm single toggle jaw crusher. (Source: EvoQuip)

Liebherr – SG 30B stone tongs

The SG 30B stone tongs is a special version of the sorter grab for the safe and efficient movement of large stones and blocks of stones. Liebherr uses a very high proportion of components produced in-house. The large slewing ring and the massive hydraulic cylinder, as well as the inner hydraulic lines for attachment with LIKUFIX (a hydraulic quick-change system), ensure a longer service life of the tool attachment/implement. The buckets are secured $^2/_3$ to the mounting with Passfix bolts. The sealed and play-free bearings guarantee high reliability.

SG 30B stone tongs is a good for grabbing large blocks of stones. (Source: Liebherr)

Metso – The Lokotrack LT120

The Lokotrack LT120 is a primary jaw plant for mining and aggregate production. It can be used as a first unit in a multistage crushing process or standalone unit in size reduction applications. Lokotrack LT120 is designed to be safe to operate. The jaw die bolts are easily accessible, and the composite covers protecting the flywheels can be safely and easily opened.

The Lokotrack LT120 can be used as a first unit in a multistage crushing process. (Source: Metso)

Kotmatsu – PC700LC-11 hydraulic excavator

The new PC700LC-11 hydraulic excavator has an operating weight between 67.500 kg-69.500 kg and is EU Stage IV emissions compliant. It maintains the powerful productivity and transportability of the previous model, while improving fuel efficiency by up to six per cent, cab design, and serviceability. A 327 kW (439 HP), Komatsu SAA6D140E-7, EU Stage IV emissions certified engine with integrated, Selective Catalyst Reduction (SCR) system that uses AdBlue® to meet EU Stage IV emission regulations for NOx emissions. ■

The new PC700LC-11 hydraulic excavator is EU Stage IV emissions compliant. (Source: Kotmatsu)

How to integrate screen media and machines for best results

Optimal performance, longer life and reduced downtime are all achievable if customers ensure that the screen media used is fit for purpose, according to Ross Dott FLSmidth's business development manager for Meshcape screen products.

Woven wire screen cloth. (Source: FLSmidth)

Understanding the density of the material being treated and prioritising the correct apertures and wire diameter in the choice of screen media is important for customers to grasp, says FLSmidth's business development manager, Ross Dott.

"One size does not fit all in screening applications," he said. "Material density will vary dramatically from one site to another, and this will affect your choice of parameters.

The specifics of each operation must be well understood."

With the Meshcape screen media brand part of FLSmidth, customers can take advantage of full service packages that include a full range of wire screens and screen media. The group's customer offering also extends to the provision of and technical expertise in screening machines.

This is a substantial added value, says Dott, as correct machine set-up is vital to enable the required results to be achieved from the screens. A common issue is that screen suppliers will focus on the customer's required throughput as the main driver of the machine's specification, without paying sufficient attention to the precise application and material to be treated. Too many users then pick a generic set-up configuration to generate around 4.5 to 5Gs of force, but do not achieve the optimal stroke and motor speed leading to issues like pegging and blinding.

"In the mining industry, we often find that screens are set up to try and accommodate both fine screening and heavy media screening, dealing with both the top and bottom section of material," he said. "This is not productive, as the machine's stroke and speed must be determined specifically for one application or the other."

FLSmidth's integrated approach allows for more effective interventions to be made, says Dott, as the customer may request a screen provider to address performance challenges that, in fact, originate elsewhere.

FLSmidth's capacity as screening machine builders for Africa is supported by manufacturing facilities at its Delmas supercentre in Mpumalanga province. This facility is one of seven FLSmidth supercentres around the world, providing the southern African industry service and repair facility for all FLSmidth activities in the region, according to Fikile Nghondzweni, Meshcape screen media sales manager at FLSmidth.

"With our focus on sub-Saharan Africa, we can leverage the extensive product range and experience of the group to ensure that customers have seamless access to our strategic offering as a screen media supplier and screen builder," said Nghondzweni.

This means that specialised services, such as process optimisation, specialty product development, screen surfaces audit, and screen system and component installation can be provided on-site. This is in addition to technical assistance during installation, maintenance or repairs at the customer's mine or quarry site.

With its own operations in South Africa, Botswana, Mozambique and now Ghana, FLSmidth is also supported by a network of agents and distributors in the rest of sub-Saharan Africa. He said, "We have the necessary expertise and work closely with our agents to give them the training they need to provide a quality footprint for our Meshcape screen media brand. We also collaborate with them to conduct technical surveys for customers, and to provide advice and recommendations where necessary. We can also draw on a range of expertise across our organisation for any other issues that the customer faces with their plant."

This allows an ongoing process of knowledge sharing between FLSmidth and the customer, says Dott, as there are still a number of misconceptions about screen media that undermine users' efforts to improve plant performance. One of the main issues relates to wire thickness and its impact on wear and downtime.

In order to achieve longer wear life for screen media, many mines will opt for thicker wire in their screening applications.

He added, "This approach, however, is counterproductive. By always choosing a higher thickness, the user may be unwittingly sacrificing performance by not achieving the optimal aperture. The use of thicker wire reduces the open area and increases the installed mass, which both contribute to an increased cost of material processed." ■


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Exceptional rare earth grades confirmed in Burundi

Rainbow Rare Earths is on track to deliver its first shipment of concentrate in the last quarter of 2017.

Rainbow Rare Earths aims to deliver its first shipment of concentrate at the end of this year. (Source: Rainbow Rare Earths)

LSE-listed Rainbow Rare Earths has announced that it is on target to deliver its first shipment of concentrate in the fourth quarter of 2017 after returning an average Total Rare Earth Oxide (TREO) grade of 62.17 per cent from its Gakara project in Burundi.

This latest grade compares favourably to the average grade of 57 per cent contained within mineralised veins across the Gakara project as disclosed in January.

Rainbow Rare Earths aims to sell its first rare earth concentrate in partnership with German multinational firm, thyssenkrupp Raw Materials (TK), which is confident that there is a strong demand to achieve a run rate of 5,000tpa of rare earth concentrate before the end of 2018.

Investors' confidence also increased when Rainbow Rare Earths' basket price rose to more than US$18 per kg by 18 September, more than 80 per cent since the company's LSE listing earlier this year.

Martin Eales, CEO of Rainbow Rare Earths, said, "I'm pleased to report extremely positive news on all fronts, which sees the company firmly on track to deliver its first shipment of concentrate in quarter four 2017. The construction of the plant at Kabezi is progressing well, despite minor logistical difficulties, and we have commenced mining ore from the Gasagwe pit. "Meanwhile, the market for rare earths goes from strength to strength and our basket price has nearly doubled since our listing on 30 January. This is reflected in many things, such as the increase in demand for rare earths, lack of new suppliers and the positive news about electric vehicles, which will be a big consumer in the future. The Chinese government is also clamping down on illegal mining of rare earths for environmental reasons and is maintaining control of production from a quota perspective, so there are a lot of favourable aspects to the market which is affecting the price."

The Gakara basket produces magnet rare earths, including neodymium and praseodymium, which are pushing demand and account for 70 per cent of annual

> "The construction of the plant at Kabezi is progressing well"
>
> **MARTIN EALES, CEO OF RAINBOW RARE EARTHS**

global Rare Earth Element sales because of their use in vital components in motors, generators, wind turbines and electric vehicles.

Kabezi processing plant

Around half of container shipments, with plant machinery, arrived in mid- September, in time for the construction of the processing plant in Kabezi. It is ideally located, approximately 20km from the company's mining areas, and is also next to a main road, providing easy access for trucks to collect rare earth concentrate for export.

"Mining basics would normally tell you that you put your plant by your mine. In this case, we have installed it 20km away," he said. "There are very good reasons for this, because the mining area is very hilly. While it is not impossible to put a plant on the side of a hill, it is a lot easier to put it on flat ground.

Rainbow's basket price is up 80 per cent year to date. (Source: Rainbow Rare Earths)

Container trucks are coming into the plant to pick up the concentrate, so by putting the plant by a main road, it is a lot better from an export-logistics perspective. The commissioning of the plant should be completed within six to eight weeks."

Despite Burundi's fuel shortages this year, Rainbow Rare Earths has been continuing operations without any disruption, and has developed contingency plans to cater for any local shortages. "Every operation has challenges that come along and the team is working hard to address them," said Eales. "We maintain good relations with many different fuel suppliers. Sometimes there is a national shortage of fuel, albeit temporarily. It has not happened yet, but in extreme circumstances we would import our own fuel rather than buy it from a local supplier."

Gakara is one of the highest grade rare earth element mining projects globally, with an estimated in situ grade of between 47 per cent and 67 per cent TREO. ■

ROCK INTRUSIONS ARE PROBLEMATIC WHEN SPECIFYING FEEDER BREAKERS

With coal miners moving into more difficult geological conditions, a detailed characterisation of the ore body is increasingly vital when specifying feeder breakers or mineral sizers, according to PC Kruger, capital sales manager at FLSmith Buffalo.

"Most of the 'easy' coal seams in the Witbank coalfields have been mined and what remains tends to include a high level of hard rock intrusion as well as tramp material such as steel, wood and concrete," said Kruger.

In particular, a strip mining of old underground bord-and-pillar mine often encounters a substantial portion of rock, which has a much higher ultimate compressive strength (UCS) than the coal. While the UCS of coal ranges from about 40 MPa to about 60 MPa tests in the Witbank region, over a number of decades, have found that some rock intrusions easily measure up to 210 MPa in strength. He says that feeder breakers are well suited for most underground mining conditions where the coal is relatively soft and homogenous.

"However, they are not designed to deal with high strength material," he says. "Where there are regular hard rock intrusions, you will generally opt for mineral sizers."

Another critical consideration in specifying equipment for coal processing is the principle of reduction ratios in each stage of sizing.

PC Kruger, capital sales manager at FLSmith Buffalo, said feeder breakers are well suited for most underground mining operations where the coal is relatively soft. (Source: FLSmith).

Kruger says the "the rules of the game" require that, in the primary sizing stage, the ratio between the input size of coal and the output size should be about 4:1 or 5:1.

"In other words, a large chunk of material with dimensions of 1,200 mm in two or three dimension can realistically only be reduced to about 300 mm in size in the primary phase," he said.

Similarly, in the secondary sizing stage, the ratio should be 3:1, which can reduce this 300 mm coal down to 100 mm. In the tertiary sizing stage, a ratio of 2:1 is the norm, breaking the material down further to the -50 mm size that the end-user usually requires.

"Trying to operate outside the boundaries of these reduction ratios invariably leads to increased wear and running costs," he said. "Putting over-sized material – say, larger than 150 mm material – into a tertiary sizer designed for 100 mm material prevents the positive 'bite' that breaks the product down. Instead, the size and geometry of the pieces means that they do not pass cleanly through the rotors, and cause undue wear on the rotor teeth and other components."

PERKINS LAUNCHES WORLD'S FIRST SMARTCAP ENGINE MONITOR

Perkins has launched the world's first low-cost engine level connectivity device – the Perkins® SmartCap.

The company, which is celebrating its 85th anniversary, proudly unveiled its latest innovation, a smart oil cap, which can be used on new and existing Perkins mechanical and electronic engines.

Designed to replace the oil filler cap, Perkins SmartCap is a low-cost connectivity solution that allows end users to connect their mobile device to their engine via the free Perkins® My Engine App on their smartphone.

The cap monitors the Perkins engine and sends data direct to the Perkins My Engine App. The free app can be downloaded from the Apple and Google stores.

"The low cost Perkins SmartCap in conjunction with the Perkins My Engine App will, for the first time, enable Perkins customers to easily track use of their engine and servicing requirements, locate their local Perkins distributor, see parts information and receive service updates, all in one place," said Michael Wright, Perkins general manager – Aftermarket.

The Perkins Smartcap monitors Perkins engines and sends data direct to the Perkins My Engine App. (Source: Perkins)

"The low cost cap and free app are very simple to use. Also, the fact the cap can be fitted to any Perkins mechanical or electronic engine in a matter of minutes and instantly provide engine telematics, will be appreciated by millions of Perkins end users both in the US and around the world," he added.

When combined, the Perkins SmartCap and Perkins My Engine App will give Perkins customers information including: engine running hours, engine location, service reminders and service log, start/stop data, parts book and consumables information.

The Perkins My Engine App and Perkins SmartCap are ideally suited to owners and operators of Perkins powered machines, providing easy access to engine specific information such as running hours, start/stop data, build list, series, type, model, Perkins Platinum Protection indicator, parts book, OMM, a consumable list, up and coming services and a completed service log.

Priced at an introductory offer of £39.99 / $US54, the Perkins SmartCap will be available from your local Perkins distributor.

When combined, the Perkins SmartCap and Perkins My Engine App will give Perkins customers truly useful engine information, such as running hours and parts book. (Source: Perkins)

Advertiser's Index

Why private equity is vital to job creation in Africa

Paul Boynton, chief executive officer, Old Mutual Alternative Investments, shares his views on the importance of private equity firms in encouraging long-term investments across multiple regions.

Africa is home to approximately 1.2 billion people, more than 60 per cent of whom are aged under 25. That figure is predicted to double by 2050 so that in 30 years, Africa's under-25 population will stand at around 1.25 billion.

Recent figures have predicted the possibility of a "massive" unemployment crisis across parts of Africa, with the continent facing a shortfall of 50 million jobs by 2040. This huge swell of disaffected youth presents a concerning security issue that risks destabilising developing economies and it is no wonder this prospect is increasingly described as a ticking time bomb. This is not a distant issue – the picture now is equally concerning with youth unemployment figures averaging more than 51 per cent between 2013 and 2016.

Mass job creation on such a scale is no easy task, especially when the traditional approach to it, through industrialisation and manufacturing, is hampered in Africa due to shortage of adequate infrastructure. The 'fourth industrial revolution' cannot happen without power firstly and good transport links to ports and regional hubs secondly, underlining the urgent requirement for further private sector investment in infrastructure.

Paul Boynton, chief executive officer, Old Mutual Alternative Investments. (Source: Old Mutual Alternative Investments)

Important partner

Between 2010 and 2016 private equity (PE) firms invested around US$25.6bn in Africa according to Baker McKenzie/The Economist Corporate Network, demonstrating that it's an important partner in development efforts, especially by following the lead of African governments and international organisations and starting to invest in sectors that need to see meaningful growth, such as manufacturing, renewables, housing and transport.

The private sector provides 90 per cent of all jobs on the continent, according to a 2016 report from the Africa Private Equity and Venture Capital Association (AVCA), demonstrating unequivocally that private sector investment is an important force in the drive for economic growth and stability in Africa. The same study revealed a 17 per cent increase in new jobs being created in portfolio companies after PE investment with the majority, 91 per cent, of those being permanent roles. And it's not just greater employment opportunities that are created through PE; the industry is playing a essential role in capacity development. According to AVCA, the majority of PE firms have implemented initiatives to improve the quality of these jobs as well, with training in environment and health and safety, leadership and HR, as well as more effective measuring of workplace quality. The aims of PE firms correlate with those of local governments as the long-term nature of investments ensures that businesses, and thus jobs, can grow healthily, which of course means good returns.

Africa's population of 1.2 billion people is set to double by 2050. (Source: Adobe Stock)

PE investments

Compared to a record 2015, 2016 saw a dip in PE investments in South Africa, as finding opportunities with attractive returns became more challenging within the overall economic environment. However, such dips should not be too discouraging. As PE investments require a longer-term financial commitment (of 15 years or so in the case of infrastructure), meaning it can deal with economic and industry cycles. What is needed on the part of governments is a well thought out coordinated investment programme, transparent about project scope and concession, which will then unlock private capital in infrastructure. And what PE firms must do now is encourage a more thoughtful and coordinated approach to investments across Africa, supporting long-term investments across multiple regions with a firm eye on positive impact as well as positive returns. This approach is already starting to make a difference in countries such as South Africa, Kenya and Nigeria.

More and more firms are waking up to this reality and investing further, and not just in Africa but increasingly in Impact funds specifically. A Financial Times report last year found that 59 per cent of 182 family offices and foundations had achieved positive financial returns from impact investing. And good returns for PE is also good news for the continent's sustainable growth and job creation.

Old Mutual Alternative Investments (OMAI) is the largest private alternative investment manager in Africa, with more than US$4bn under management in infrastructure, private equity and impact funds. The business originated in 1970 as Old Mutual's private equity fund. ■

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