www.africanreview.com

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

February 2016

African Review

of BUSINESS and TECHNOLOGY

P47

The continent's market for concrete products

P22

Ghana's mobile media business

Roshi Motman, CEO of Tigo Ghana **P20**

Mining:
Investment opportunities at Mining Indaba **P48**

Manufacturing:
Demand and production in metal packaging **P38**

Transport:
Opportunities in East African trade corridors **P26**


A STAR ALLIANCE MEMBER
Ethiopian
PASSENGER CHOICE AWARDS
2013
2014
2015
BEST AIRLINE IN REGION - AFRICA
FOR THREE YEARS IN A ROW
EVERY DAY WE SEE THE REWARDS
OF PUTTING OUR CUSTOMERS FIRST
www.ethiopianairlines.com
Ethiopian
የኢትዮጵያ
THE NEW SPIRIT OF AFRICA

Editor's Note

In this issue, covering business and finance from page 20 to page 25, there is a profile of Tigo Ghana CEO Roshi Motman, who leads the way on digital innovation and gender diversity in the communications industry. There is analyis of a business deal to boost the broadcast industry in West Africa,, and the Nigerian government's continuing efforts towards achieving comprehensive health insurance. Between page 26 and page 27, this issue offers insights into improving freight transport and business travel across South and East African countries. Critical environmental issues are covered on pages 28 and 29, with reference to the availability of reliable water supplies in urban areas. In the power sector, which is addressed one pages 30 to 36, a bright future is projected for renewables,, FG Wilson's new range of generator sets are profiled for the company's telecommunications customers; and there is a feature offering routine guidance for contractors who are working to large-scale generator maintenance contracts. After assessing the manufacturing or metal packaging on page 38, this issue takes in construction and mining from page 40, with appraisals of infrastructure development, reports on cranes, tyre manufacturing, and machine inspection processes, the market for concrete pipes and related products, and notes on what's new at Investing in Mining Indaba. This issue rounds up with research on mining in SA

Cover picture: Riccardo Mayer/Shutterstock
Inset, top: Hawkeye Pedershaab
Inset, bottom: Tigo Ghana

Dr Andrew Croft, Editor

Contents

REGULARS

FEATURES

Audit Bureau of Circulations - Business Magazines

African Review
of BUSINESS and TECHNOLOGY

Editor: Andrew Croft
andrew.croft@alaincharles.com

Editorial and Design team: Bob Adams Prashant AP, Hiriyti Bairu, Sindhuja Balaji Miriam Brtkova, Ranganath GS, Rhonita Patnaik Prasad Shankarappa, Zsa Tebbit, Nicky Valsamakis, Louise Waters and Ben Watts

Publisher: Nick Fordham

Publishing Director: Pallavi Pandey

Advertising Sales Manager: Roman Zincenko
Tel: +44 114 262 1523 Fax: +44 7976 232791
Email: roman.zincenko@alaincharles.com

China: Ying Mathieson
Tel: +86 10 8472 1899 Fax: +86 10 8472 1900
Email: ying.mathieson@alaincharles.com

India: Tanmay Mishra
Tel: +91 80 65684483 Fax: +91 80 67710791
Email: tanmay.mishra@alaincharles.com

Nigeria: Bola Olowo
Tel: +234 80 34349299
Email: bola.olowo@alaincharles.com

UAE: Rakesh Puthuvath
Tel: +971 4 448 9260 Fax: +971 4 448 9261
Email: rakesh.puthuvath@alaincharles.com

UK: Steve Thomas
Tel: +44 20 7834 7676 Fax: +44 20 7973 0076
Email: stephen.thomas@alaincharles.com

USA: Michael Tomashefsky
Tel: +1 203 226 2882 Fax: +1 203 226 7447
Email: michael.tomashefsky@alaincharles.com

Head Office:
Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place, London SW1W 0EX, United Kingdom
Tel: +44 20 7834 7676, Fax: +44 (0)20 7973 0076

Middle East Regional Office:
Alain Charles Middle East FZ-LLC, Office 215, Loft No 2/A, PO Box 502207, Dubai Media City, UAE, Tel: +971 4 448 9260, Fax: +971 4 448 9261

Production:
Priyanka Chakraborty
Nikitha Jain, Nathanielle Kumar, Nelly Mendes, Donatella Moranelli, and Sophia White
E-mail: production@alaincharles.com

Subscriptions: circulation@alaincharles.com

Chairman: Derek Fordham

Printed by: Buxton Press

Printed in: January 2016

US Mailing Agent:
African Review of Business & Technology, USPS.
No. 390-890 is published 11 times a year for US$140 per year by Alain Charles Publishing, University House, 11-13 Lower Grosvenor Place, London SW1W 0EX, UK. Peridicals postage paid at Rahway, New Jersey. Postmaster: send address corrections to Alain Charles Publishing Ltd, c/o Mercury Airfreight International Ltd, 365 Blair Rd, Avenel, NJ 07001.

ISSN: 0954 6782

Alain Charles Publishing
Serving the world of business

Agenda / North

SDMO, Tawakol showcase power solutions at Electricx

Power solutions specialist **SDMO** participated for the second time at the Electricx exhibition held in Cairo in December 2015. The company presented its products and solutions alongside one of its Egyptian distributors, **Tawakol**.

Electricx welcomes professionals from the electricity sector annually, with dedicated displays for distribution, production and transformation. SDMO and Tawakol were represented at the event by Laurent Berthouloux (SDMO Middle-East), Ahmed Shouman (SDMO Cairo) and Khaled Seif (director of Tawakol).

Although the visitors to the event were mostly from Egypt, they represented a wide variety of business profiles, from independent consultants to design & engineering, from public services to construction companies.

The SDMO products exhibited for the occasion (J110K, X1100, soundproofed T16, R110RC and RES 16) comfortably seized the attention of the multi-sector audience.

SDMO products were promoted at Electricx

WFES forum to highlight Egyptian energy opportunities

Egypt's renewables energy sector presents a potential opportunity of more than US$10bn for private sector financing over the next five years. As Egypt's installed power capacity is set to nearly double from 31 gigawatts in 2013 to 60 gigawatts in 2020, renewables will play a key role and present an opportunity of US$13bn in investment and development, according to **Frost & Sullivan**. In particular, Egypt plans to reach 20 per cent of its total power for a total of 11.32 gigawatts from renewables by 2020, across wind, photovoltaic, concentrated solar power, and hydroelectric projects, according to a report by the **Regional Center for Renewable Energy and Energy Efficiency**.

"There are more than 4,000 megawatts in renewable energy projects currently under development in Egypt, split between wind and solar, procured under a newly established feed-in-tariff regime and competitive tenders. There will be strong medium to short-term growth, but to date it has been a slow process due to some volatility and clarification regarding the government regulatory frameworks," said Bakr Abdel-Wahab, managing director of infrastructure private equity at **EFG Hermes**.

The World Future Energy Summit (WFES) 2016, hosted by **Masdar** and part of Abu Dhabi Sustainability Week held in January, added to an already extensive programme to allow for a country-specific focus: Egypt Energy Forum. The event proved to be a platform to learn about the latest developments in the power, water, gas, solar, wind, and waste management sectors of the Arab world's largest economy, while enabling attendees to hear how the country's leaders articulate the ten-year vision for the nation.

"There are many regional conferences on renewables, but the World Future Energy Summit has the reputation for bringing in high-level developers and investors, providing a forum to give feedback to governments," remarked Bakr Abdel-Wahab, who presented at the Egypt Energy Forum and World Future Energy Summit.

Among the key issues to be discussed are practical measures envisaged to accelerate renewable energy adoption across the country, including a proposed feed-in-tariff programme, and the rollout of solar rooftops. There will also be discussion around the status of key public-private-partnership (PPP) programmes, and how they will be accelerated in 2016, such as the New Cairo Wastewater Treatment Plan, the Helwan Wastewater Treatment Plan, Recycling Solid Waste project, and Sharm El Sheikh sea desalination plant.

Finally, developers, operators, manufacturers, and contractors heard from experts in the finance sector about its appetite for Egyptian project finance.

Abraaj invests in Algerian hygienics

Investment entity **The Abraaj Group** has completed acquisition, through its second generation North Africa Fund ('ANAF II'), of a significant minority stake in **Cellulose Processing (CEPRO)**, which manufactures and distributes hygienic products in Algeria.

Founded in 2003 by Djamel Mehri of the **Mehri Family** – a prominent diversified family-owned conglomerate in Algeria with businesses in the hospitality, telecommunications and FMCG sectors – CEPRO represents an attractive investment opportunity. Abraaj will work in partnership with the Mehri Family to increase production capacity and efficiency, diversify CEPRO's product offering, enhance marketing efforts through a new branding strategy, and expand its network by developing new distribution channels in Algeria and Sub-Saharan Africa. In particular CEPRO, which currently operates with robust corporate governance mechanisms, will look to further upgrade its enterprise resource planning (ERP) system and reporting platforms.

Ahmed Badreldin, partner and regional head of Middle East and North Africa for The Abraaj Group, said, "CEPRO represents an exciting investment partnership for us, as it is a direct beneficiary of the African consumer opportunity driven by market necessity, rapid population growth and the rise of the middle class. We will apply our global experience in the consumer businesses sector to create local value through job creation, industrial development and investment, and knowledge transfer. We look forward to working closely with the Mehri Family, one of the most established entrepreneurial groups in Algeria, to further strengthen CEPRO's position in the market and expand regionally with a focus on Sub-Saharan Africa."

Agenda / East

Norway to help Kenya develop oil sector

Through its programme Oil for Development, the **Goverment of Norway** is committed to providing support to Kenya to improve management of its natural resources and protection of the environment so that oil and gas resources can more fully benefit the country and its people.

Norwegian Minister of Foreign Affairs Børge Brende said, "Kenya is an engine of economic growth in Africa, and is becoming increasingly important for Norwegian interests. Sound and transparent management of its oil and gas resources will strengthen Kenya's economy and create jobs, as well as bringing in revenues to the state. This agreement shows how development cooperation can mobilise capital for development."

IFC invests in Co-op Bank to support entrepreneurs and housing finance in Kenya

World Bank Group member institution **IFC** has committed to the provision of a US$105mn loan to the **Co-operative Bank of Kenya (Co-op Bank)** to support lending to small and medium businesses, women entrepreneurs and the housing sector.

The second largest bank in Kenya by total assets, Co-op Bank has 143 branches across the country and a subsidiary in South Sudan. Small and medium enterprises account for 18 per cent of the bank's lending, or close to US$386mn as of 30 June 2015. Co-op bank will use IFC's financing to extend a wider range of financial services to entrepreneurs, with US$30mn earmarked for women-owned businesses.

IFC estimates that close to 40 per cent of Kenya's SMEs are owned by women, who often have more barriers to gaining access finance than their male counterparts. Alongside the investment, IFC will advise Co-op Bank on how to tailor products to the needs of women entrepreneurs. Through IFC's Banking on Women programme, this project is supported by the Women Entrepreneurs Opportunity Facility, a first-of-its-kind global facility dedicated to expanding access to capital for women entrepreneurs, launched by IFC and **Goldman Sachs'** 10,000 Women initiative in 2014.

The loan will enable Co-op Bank to promote affordable housing in Kenya by expanding its mortgage lending and construction finance. Rapid urbanisation has led to a housing shortage of two million units in Kenya, which will require private investment to build. With only 25,000 loans outstanding in a country of more than 10mn households, the mortgage market is underdeveloped. IFC will work with Coop Bank to streamline mortgage lending and support affordable housing projects.

Dr Gideon Muriuki, CEO of Co-op Bank, said, "The long-term tenure of the facility boosts Co-op Bank's ability to offer financing solutions that are better structured and priced to fulfil the long-term financing needs of customers."

Oumar Seydi, IFC director for East and Southern Africa, said, " Small and medium enterprises make up more than 95 per cent of all firms in Africa, and are generating millions of jobs on the continent. IFC works with local financial institutions like Co-op Bank to provide innovative and specialised services to entrepreneurs, helping them grow their businesses and drive African economies."

IFC's new investment in Co-op Bank continues a relationship that began in 2012, when IFC invested US$60mn to expand the bank's SME portfolio and support the agribusiness sector. The current US$105mn loan was mobilised in partnership with IFC's managed co-lending programme, a platform allowing investors to passively participate in IFC's future loan portfolio.

Ethiopian commences new Durban route

East African carrier **Ethiopian Airlines (ET)** has commenced operation of 3x weekly flights to Durban, South Africa. Durban is the airline's third destination in South Africa after Johannesburg and Cape Town.

ET already offers daily connections from London Heathrow to Johannesburg and 4x weekly connections to Cape Town via its modern hub, Bole International Airport in Addis Ababa.

Durban is the second largest metropolitan city and the second most important manufacturing hub in South Africa. It is also one of the main tourism destinations in Africa because of the city's warm subtropical climate and extensive beaches. Durban is an important gateway into South Africa; the new service will offer passengers more choice and flexibility and facilitate trade, investment, and tourism ties between Ethiopia and South Africa.

Ethiopian Group CEO Tewolde Gebremariam said, "As a pan-African airline working to bring Africa together and closer to the world, we are very pleased to spread our wings to our third destination in South Africa. The new Durban service will give our customers more and convenient connectivity options when traveling both within and to and from the continent. We will continue to expand our reach within Africa with a view to supporting the continent's socio-economic integration and development"

Ethiopian currently serves more than 91 international destinations across five continents with over 200 daily flights using the latest technology aircraft - including the **Boeing** 777 and the Boeing 787 Dreamliner - with an average fleet age of five years. Durban is the airline's 53rd African and 92nd international destination respectively.


Remote power just got easier....
FG Wilson's latest telecoms generator set range (6.8 – 22 kVA) now offers up to 1,000 hours between services as a result of the newly designed long running fuel tanks (600 – 2,000 litres in capacity).
Improved security measures protect your fuel and internal components from theft and vandalism, while state-of-the-art control systems allow you to monitor and control your generator sets remotely, making them ideal for isolated locations. These enhanced features will result in fewer site visits and greater cost savings.
Contact your nearest FG Wilson Dealer and start making life easier today.
www.FGWilson.com/remote
FG WILSON

Agenda / South

PEPZ promotes local procurement in Zambia

Leaders of some of the largest and most economically important companies in Zambia met recently to discuss how they could increase their business with local suppliers in the country.

CFAO, **Chibuluma Copper Mines**, **First Quantum Minerals**, **Shoprite Zambia**, **Spar Zambia**, **Total Zambia**, **Zambeef** and **Zambia Breweries (SABMiller)**, along with the **Fresh Produce Export Growers Association (FREPEGA)** and the **Zambia Development Agency (ZDA)**, took part in the meeting and agreed to form a steering committee to work on initiatives that will identify local procurement opportunities and make them more accessible to local small and medium-sized suppliers.

As the largest buyers of goods and services in the private sector, these companies believe that by working together to share knowledge and experiences they can make a significant contribution to growing the Zambian economy and to saving and creating jobs through increased local procurement. The steering committee will provide the necessary strategic guidance and leadership in advocating and propagating good practices within the corporate sector and in their supply chains that will further open up opportunities for local suppliers.


Members of the PEPZ steering committee, along with PEPZ team members

The formation of the steering committee was facilitated by and operates in partnership with the Private Enterprise Programme - Zambia's (PEPZ) Business Linkages Programme (BLP), which also provides technical assistance support to qualifying suppliers to improve their capacity to take advantage of these opportunities.

"The goal of the Business Linkages Programme is to facilitate and create a model for transnational and national corporations doing business in Zambia to actively engage in promoting targeted local sourcing, matchmaking and local supplier development. Among the initiatives we hope to see is an annual business opportunity fair and workshops focusing purely on local sourcing and matchmaking," said PEPZ team leader Bayo Akindeinde.

Zambia Breweries' head of procurement Colin Ogilvie, was elected chairman of the committee, which discussed strategies to promote locally-driven supply chains in order to bridge the gap between large corporations and suppliers across various sectors.

AB7 boosts Halaal business ops

As the annual global demand for Halaal food soars beyond a trillion dollars (US), more and more manufacturers, suppliers and service providers are taking advantage of the massive business opportunities supplying Halaal products to Africa's burgeoning Muslim population. The continent's biggest food and beverage expo, Africa's Big Seven (AB7), is playing an ever-greater role in showcasing the vast variety of Halaal products available from around the world at its renowned Halaal Pavilion. The next AB7 takes place from 19 to 21 June 2016 at Gallagher Convention Centre, Midrand, South Africa.

"The steadily-rising demand for Halaal products reflects the strong growth of the global Muslim population – about 1.6bn people in 2010, which will grow to 2.2bn by 2030," says AB7 show organiser John Thomson of **Exhibition Management Services**. "There are 75 countries in the world with Muslim populations of over one million people."

SDMO gensets in backup mode at renewable energy power plants

SDMO Iberica has recently delivered an installation designed to provide backup power to a thermal-solar plant in Chile. This is the second project of this type for **Abeinsa**, a customer which has already demonstrated its confidence in the power equipment company for an identical project in South Africa.

In 2013, the technical department led by Ramon Subiranas of SDMO Iberica won a contract with Abeinsa, the engineering department of the company **Abengoa**. This international company offers innovative technological solutions in the environment and energy sectors, based on solar energy generation, the production of biofuels, sea water desalination and the recycling of industrial waste. SDMO won the contract for a power plant consisting of two T1650 gensets in ISO20 containers with separate cooling systems coupled together and linked to the medium-voltage grid.

These gensets have been designed to act as backup to a 100MW plant powered by solar energy captured by parabolic trough mirrors and stored using a system of molten salt. Located in South Africa, this plant is able to power 80,000 homes and has an estimated lifespan of 30 years. By using renewable energy, this installation offers an annual reduction of 300,000 tonnes in C02 emissions.

Commissioned in early 2015, this SDMO installation met all of Abeinsa's requirements and the company decided to renew its confidence in SDMO with a second project of the same type: the Atacama 1 contract, this time in Chile. Begun during summer 2015, the project's conclusion sees the delivery of a power plant consisting of five gensets: 1 x V500C2 with enclosure, 1 x T1540 in an ISO20 container, 2 x T1900s in ISO 40 containers and 1 x T2200 in a CPU40.

BH67185

Go Further

ssa.ford.com

Agenda / West

Moneygram transfers "money in minutes" to Nigeria

Financial services firm **MoneyGram** has become is the first money transfer company to offer customers in France, Germany, Ireland, Italy and Spain a way to send money speedily to most personal Nigerian Naira bank accounts. In many cases, they will be able to send "money in minutes".

“This is a significant milestone for us. With the addition of Nigeria, MoneyGram now offers bank account deposits through our network into five of the world's largest remittance receive markets - Nigeria, China, India, Mexico and the Philippines,” said Herve Chomel, MoneyGram’s regional vice president for Africa. “Account deposit is a fast and secure way to send and receive funds between loved ones and we are proud to offer the service for our customers in Europe and Nigeria.”

Customers can send money to most of the personal accounts held at banks that are members of the Nigeria Inter-Bank Settlement System network - including **First Bank**, **UBA**, **Ecobank**, **Fidelity**, and **Zenith Bank** - from MoneyGram agent locations in France, Germany, Ireland, Italy and Spain. This marks an important innovation for the remittance industry in Nigeria. By integrating into the Nigerian Inter-Bank Payment System, MoneyGram customers are able to send money into most bank accounts in Nigeria, almost in real time. Receivers do not have to undertake any action as the funds are automatically deposited into their account and can be accessed via ATMs or online, without the constraint of a physical over-the-counter visit.

MoneyGram launches account deposit service into Nigeria’s remittance market

IFC, LAPO expand Nigerian services

The **International Fnance Corporation (IFC)** is set to work with **LAPO Microfinance Bank Ltd** to pilot and roll out agent banking that will increase access to financial services for low-income customers, small-scale entrepreneurs and rural communities. IFC is also providing a two billion Naira (US$10mn) loan to support LAPO MfB’s lending to micro-entrepreneurs. This is the largest investment IFC has made in a microfinance institution in Sub-Saharan Africa.

Godwin Ehigiamusoe, managing director and chief executive officer of LAPO MfB, said, “LAPO Microfinance Bank has remained committed to its goal of economic empowerment through access to finance. We are taking further steps to increase our reach to more low income earners and more micro, small and medium enterprises. IFC’s long term support has helped us and we hope this new project will lead to enhanced financial access for more financially excluded Nigerians.”

Ford equips motorcycles to map health services

Automotive industry enterprise Ford is expanding its use of OpenXC sensor technology to motorcycles, allowing researchers and programmers to better understand how cars, bikes and other modes of transportation in combination can create new mobility solutions and help make people’s lives better – including improving how healthcare is delivered rural West Africa.

“OpenXC started as a project to make a car send a tweet five years ago, but has since become a platform, or an ‘Internet of mobility’ that allows us to use data to better understand how people move around the world,” said Ken Washington, Ford vice president, research and advanced engineering. “Now, the same open innovation mentality behind OpenXC has inspired our team to create a sensor kit for bicycles and motorcycles to learn how other transportation options might best serve people in urban, suburban and rural areas, including improving their health.”

Ford’s open-source hardware and software kit provides real-time access to vehicle data, such as sensors, GPS receiver and vehicle speed. Ford has been using OpenXC to support some of its Ford Smart Mobility experiments for more than a year.

The company is gathering and analysing vehicle data collected by OpenXC as part of Ford Smart Mobility, its plan to take connectivity, mobility, autonomous vehicles, the customer experience, and data and analytics to the next level.

The broad insights learned from vehicle data, including how people drive and use their cars, first inspired Ford researchers to create a sensor kit for bicycles to collect additional data. Now, the company is rolling out the new sensor kit to motorcycles helping Riders for Health.

The medical services group collects GPS data and mapping coordinates to reach people who need medical care – vaccines, medications and live-saving hospital care –

Events / 2016

March

1-2
Cards & Payments Africa
Johannesburg, South Africa
www.terrapinn.com

1-3
Securex West Africa
Lagos, Nigeria
www.securexwestafrica.com

2
UK-Mali Trade & Investment Forum
London, UK
www.developingmarkets.com

3-5
CIBEX East Africa
Nairobi, Kenya
www.cibexeastafrica.com

8-9
Gabon Oil & Gas
Libreville, Gabon
www.theenergyexchange.co.uk

14-15
Oil and Gas Telecommunications
London, UK
www.smionline.co.uk

15-16
Power & Electricity World Africa
Johannesburg, South Africa
www.terrapinn.com

15-17
Cape VI African Petroleum
Abuja, Nigeria
capeafrica.com

15-18
Propak Africa
Johannesburg, South Africa
www.propakafrica.co.za

18-20
Plast-Print-Pack-Paper
Dar es Salaam, Tanzania
www.mxmexhibitions.com

18-20
Trade Africa
Dar es Salaam, Tanzania
www.mxmexhibitions.com

21-22
Africa CEO Forum
Abidjan, Côte d'Ivoire
www.theafricaceoforum.com

22-24
Power, Steel & Housing
Calabar, Nigeria
powerandsteelexpo.com

27-29
East Africa Oil & Gas
Dar es Salaam, Tanzania
www.eastafricaogs.com

Bulletin / Communications

World Bank crowdsources with Mapillary to chart Tanzania

Crowdsourced mapping app enterprise **Mapillary** has formed a collaboration with the **World Bank**'s Dar Ramani Huria project to chart Tanzania's largest city, Dar es Salaam; supported by the World Bank's Global Facility for Disaster Reduction and Recovery, this community-based mapping project trains university students and local community members to create highly accurate maps of the city in areas that are prone to devastating flooding.

Facebook introduces innovation challenge with Internet.org

Social network **Facebook** has launched its Internet.org Innovation Challenge in Africa with the aim of acknowledging developers and entrepreneurs who are using the internet to improve the standard of education and economic health in their communities; Ime Archibong, director of strategic partnerships at Facebook, said, "By connecting people and empowering them with access to services and information, we can help them achieve extraordinary things and help them to enhance their lives."

Ooredoo signs new financing agreement of US$177mn

Telecommunications company **Ooredoo** has signed three new financing agreements with local and international banks worth US$177mn, to sustain general corporate operations and to underpin continued investment in the company's network and ongoing enhancement of services for its business and consumer customers; Jorgen Latte, chief financial officer at Ooredoo, said, "With our clear vision and strategy, Ooredoo attracts many banks who want to participate and support our strategic ambitions."

Expresso Telecom Group joins SAMENA Council

Sudatel Telecom Group subsidiary **Expresso Telecom** has joined **SAMENA Council**'s community of telecom operators, technology providers, digital services companies; Tarig Hamza Rahamtalla, managing director at Expresso, said, "By joining SAMENA Council, we hope to enrich our awareness of industry matters and make our brand more visible, to be able to realize our objectives of achieving competitive edge as well as long-term financial profitability for our investors."

Microsoft works with Udemy to boost youth employment

To promote youth employability in the Middle East and Africa (MENA), **Microsoft** has signed a memorandum of understanding (MoU) with **Udemy**, a marketplace for online learning and teaching, committing both parties to share skills-based course offerings available through the Udemy platform on "YouthWorks" a regional network of youth employability portals led by Microsoft and **Silatech**; in 2015 YouthWorks, or Ta3mal, as it is named in the Arab world, reached 8.7mn youths in the MENA region.

Siemon supplies West African data centre cabling solutions

Network infrastructure specialist **Siemon** has installed cabling solutions in the 3,500m^2 **MainOne** data centre located just outside of Lagos, Nigeria; the 600-rack facility is the largest co-location facility of its kind in West Africa and delivers consistent high-level performance, data storage and data security to support leading businesses from across the region.

Siemon's Z-MAX Cat6A shielded cabling

Orange acquires Bharti Airtel assets in Africa

French telecommunications group **Orange** continues to expand in Africa with the acquisition of two businesses from Indian counterpart **Bharti Airtel International**; Orange now owns 100 per cent of the share capital of Airtel's subsidiaries in Burkina Faso and Sierra Leone, which have 5.5mn customers between them.

Alcatel-Lucent, Bytes transform Cape Town's digital profile

In South Africa, the **City of Cape Town** has signed a three-year agreement with **Bytes Systems Integration (Bytes SI)** to expand its broadband and IP routing architecture, including deployment of the **Alcatel-Lucent** 7950 extensible routing system, 7750 Service Router Portfolio, the 7210 Service Access Switch and the 5620 Service Aware Manager for a broadband IP infrastructure project; Alcatel-Lucent Enterprise will provide the OmniSwitch Ethernet LAN switching portfolio to extend the services envisaged by the City of Cape Town to offices and remote locations as the network edge switches in connecting via metro ethernet.

SNS finds M2M & IoT ecosystem opportunities ahead

Research conducted by **Signals and Systems (SNS) Telecom** indicates that global spending on machine-to-machine (M2M) and Internet of Things (IoT) technologies will reach nearly US$250bn by 2020, driven by a host of vertical market applications including but not limited to connected car services, remote asset tracking, healthcare monitoring, smart metering, digital signage, home automation and intelligent buildings; concurrently, multimedia and video applications will account for more than 20 per cent of the revenue generated by M2M and IoT services by 2020, amid growing incorporation of LTE in M2M modules and gateways.

"Quotes"

"Sustainable energy is vital for development and inclusive, fast-track growth in Africa. It will determine Africa's ability to unleash its full potential and improve living conditions."

Thiong Niang, co-founder and vice-president, Solektra International

"With recent drivers such as the Obama Administration's Power Africa initiative and the Paris Climate Pact, renewable energy promoters have an immense opportunity to deliver real impact."

Jerome Ringo, chairman and CEO of Zoetic Global

"Collaboration by various stakeholders including governments, NGOs and research bodies is needed now to rapidly scale-up the African agricultural sector to improve food security and resilience to climate change."

Estherine Fotabong, programmes director, NEPAD

"South African seafarers are highly sought after internationally and demand for senior officers is particularly high. This, combined with the country's world-class training and certification standards, provides an ideal opportunity for South Africa to play a more active role in the global seafarer supply market."

Daniel Ngubane, group CEO, Marine Crew Services (MCS)

Daniel Ngubane, group CEO, Marine Crew Services (MCS)

"Quotes"

"We have seen phenomenal changes across other areas with internet infrastructure such as Lagos, Nigeria where Yaba's Silicon Hub continues to provide opportunities for jobs, increased investor funding, and enhanced social entrepreneurship which is pushing the frontiers of eCommerce in Nigeria."

Kazeem Oladepo, regional executive for West Africa, MainOne

"West Africa is still one of the biggest and fastest-growing industrial, mining and power generation markets in the world. The region has massive gold, copper and iron ore deposits and hundreds of mining projects under way at any given time, all with heavy electricity demands."

John Thomson, managing director, Exhibition Management Services

"Not only does training equip your people with skills and knowledge to enable them to do their jobs better, it also improves their job satisfaction. Happy employees usually mean happy customers. Whether you're training your people to use your systems more effectively, educating them in ethics or law, or helping them develop softer skills such as negotiation and sales techniques, your customers will benefit."

Sandra Swanepoel, managing director, Sage HR & Payroll

"Climate change will have serious and adverse consequences for many development sectors in Africa, and threatens the economies and livelihoods of many African countries."

Mohamed Abdel-Monem, special adviser, AMCEN)

African Review/On the Web

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

Promising 'New Deal on Energy' for Africa

The deal's aims revolve around providing more power for households in Africa. (Photo: meunierd)

African Development Bank will manage Africa's New Deal on Energy along with investing US$12bn in energy funding over the next five years.

Africa has been recognised as a huge resource potential for the energy sector, however, economic conditions have not yet allowed the complete utilisation of this potential. It is these circumstances that have given rise to 'New Deal on Energy', unveiled during the World Economic Forum in Davos in January 2016.

www.africanreview.com/energy-a-power

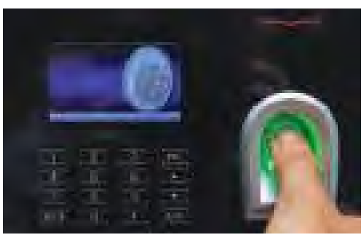
CWG Plc witnesses executive level leadership changes

A series of leadership changes have taken place at the executive level of Computer Warehouse Group (CWG) Plc.

James Agada, formerly the chief technology officer has been appointed as the new managing director and CEO. Agada is a highly innovative and versatile technology expert, who holds a first class degree and a master's degree in electronic engineering, with a specialisation in digital systems from the University of Nigeria, Nsukka. He also holds an MBA from the International Graduate School of Management (IESE), Navara, Spain.

www.africanreview.com/finance

Ingenico sets up landmark 50,000 banking terminals in Africa



Through biometric scans, candidates' authenticity was validated prior to loan disbursement. (Photo: Chaikom)

Payment solutions provider Ingenico has set up 50,000 terminals across Africa that will serve the unbanked population in the continent.

Considering around three-quarters of the population is still unbanked, there is a need to address this challenge, feels Luciano Cavazzana, Eastern Europe & Africa managing director for Ingenico Group. Ingenico has partnered with FINCA for the provision of financial services in Africa.

Ingenico tapped FINCA agents to use its biometric terminals to capture fingerprints of applicants to validate identities prior to loan disbursement. The programme has been implemented in Malawi, Nigeria, DR Congo, Tanzania, Uganda and Zambia.

www.africanreview.com/finance

Algeria and China to build US$3.3bn port

Algeria and China have signed a US$3.3bn deal to build a new transshipment port around 60km west of Algiers.

The agreement was signed between Algeria's transport ministry, China Harbour and Engineering Company (CHEC) and China State Construction Engineering Corporation (CSCEC) in Algeria.

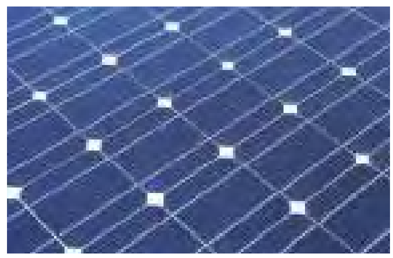
The companies will construct the port with 23 docks, capable of processing 6.5mn 20-foot containers and 26mn tonnes of goods per year.

www.africanreview.com/construction-a-mining

Renusol enters South African solar market

German photovoltaic (PV) mounting systems manufacturer Renusol has established a presence in South Africa's promising solar market.

The company supplies its innovative solutions for mounting photovoltaic modules on roofs to South African wholesaler Lumax Energy, which sells Renusol's entire product portfolio.



An estimated 100MW of roof-top and agricultural photovoltaic output have been installed in South Africa. (Photo: leungchopan)

Frans-Willem Vermaak, business development manager at wholesaler Lumax Energy, said, "The solar market in South Africa is continuously growing. On top of the estimated 100MW of roof-top and agricultural photovoltaic output that have already been installed in the country, the Council for Scientific and Industrial Research predicts a significant rise in new installations in the future."

www.africanreview.com/energy-a-power

TE Connectivity opens first cable assembly facility in Morocco

BTE Connectivity has opened its first manufacturing facility in Morocco's Tangier Free Trade Zone.

The facility will specialise in the assembly of new cables, while additionally focusing on the production of automotive applications. The range of products will cater to the needs of automotive sector customers in the Europe, Middle East and Africa (EMEA) region.

TE Connectivity's facility in Morocco indicates the company's strategy to be part of Morocco's automotive ecosystem. The Moroccan Ministry of Industry, along with the Tangier Mediterranean Special Agency (TMSA), helped set up the factory in the Tangier Free Trade Zone and operations began in less than a year.

www.africanreview.com/manufacturing

How women lead at Tigo

Communications industry CEO and her contemporaries innovate digital access and gender diversity

Noted for her outstanding transformational leadership, Roshi Motman, CEO of Tigo Ghana, has never ranked higher amongst her telecommunications companies contemporaries.

Motman was awarded CEO of the Year at the 2015 COM World Series AfricaCom Awards, a technology event held in Cape Town, South Africa, each November. The prestigious award recognises the outstanding contribution of a business leader in the field of telecoms and ICT within an African-listed company. It also celebrates business leaders who contribute towards the expansion, growth and quality of information and communications technologies enterprises as well as promoting socio-economic growth through access to telecommunications and ICT services, most notably to the disadvantaged segments of society.

An enhanced team

Motman is part of Millicom's (Tigo's parent company) drive to increase female leaders across the African continent. As well as Motman, Millicom's senior leadership team in Africa includes Cynthia Gordon (Africa CEO), Rachel Samren (executive vice president of external affairs), Uche Ofodile (CEO, Tigo DRC) and Chantal Umutoni Kagame (deputy CEO, Tigo Rwanda).

Millicom is currently running a programme to raise awareness, enhance recruitment and talent management from a diversity perspective.

> "Motman's AfricaCom award, as 2015 CEO of the Year, is testament to Tigo's stellar business performance over the past year and a half and positioning as the digital lifestyle brand of choice for Ghanaians"

Motman credits her management team, staff and customers for their support

Gordon said, "We are passionate about promoting gender diversity at Millicom and I am delighted that we have such a fantastic role model in Roshi. We need to continue to ensure that the same chances for success and digital access are available to not only all our employees but to all African women as they make and influence more of the decisions around the purchasing of smartphones and use of data."

Motman credits her management team, staff and customers for their support for her and the business she runs. She also emphasises the importance of new wave companies such as Tigo that are committed to hiring locally and promoting talent from within.

Since taking up the reins of Tigo Ghana as the company's first CEO in 2014, Motman has not only steered the telecom company towards a refreshed brand outlook, aggressive network expansion, massive service delivery improvements and increased subscriber growth, but has also transformed communities, touched lives and been a source of inspiration for many. Her outstanding track record of developing and nurturing talent, and making bold business decisions, sets her apart as an exceptional leader. Among her many roles and initiatives, she has also chaired the Ghana Telecoms Chamber, and mentored young women to create innovation through technology. ■

Tigo Ghana's initiatives for 2016

Some of Tigo Ghana's major initiatives for 2016 include network optimisation and revamping its product portfolios to attract and retain customers.

Cynthia Gordon, executive V-P, Africa Division of Millicom and parent company of Tigo, says that Africa's telecommunications market is innovative and competitive, due to the size and scale of predicted growth therefore the focus needs to be on some key strategic pillars.

"Ghana is an interesting and exciting market. It is one of the most vibrant and has enormous growth potential and we will differentiate ourselves by adding more value through existing infrastructure and partnerships. For instance with the increasing adoption of smartphones and internet consumption locally and the decreasing prices of smartphones worldwide, we can help drive up the numbers for smartphone connections through a win-win partnership with an affordable handset provider," she explained.

She revealed the focus for Tigo in 2016 is to grow the volume and value of customers by accelerating growth in data, Tigo Business and Mobile Financial Services, MFS.

In 2015, Millicom, the parent company for Tigo highlighted industry predictions of an exponential growth in Africa's mobile broadband subscriptions – which are expected to almost triple by 2018 whilst data traffic in sub-Saharan Africa is estimated to grow by 20 times by 2019 – twice the global average. Industry research also forecasts that data revenue in Africa represents 10-20 per cent of the total revenues, but this number is expected to reach 30 per cent by 2018.

Millicom's vision is to leverage on the role of the internet and digital technology to advance people's lives — financially and socially.

New national standard for audience surveys

GIBA, GeoPoll and Kantar Media form a partnership to innovate mobile media data capture in Ghana

The Ghana Independent Broadcasters Association (GIBA) recently established a partnership with mobile surveying company GeoPoll to be the provider of media data to GIBA members, which include TV, radio and web broadcasters throughout Ghana. GeoPoll's joint product with Kantar Media, Kantar-GeoPoll Media Measurement (KGMM), is Africa's largest provider of overnight media data and the only source of next-day ratings for TV, radio, and print in Ghana. GIBA's partnership with KGMM comes at a pivotal time for Ghanaian broadcasters: the television industry is preparing a switch to digital signal in early 2016, a move which will introduce new channels to the market and increase the need for a fast, reliable audience measurement system.

Broadcasting in Ghana is at a turning point, and audiences are becoming increasingly savvy about the way they consume media, according to Agyeman (Photo: Riccardo Mayer/Shutterstock)

> **"KGMM's mobile-based methodology has become increasingly valuable as mobile penetration increases throughout Africa"**

GIBA is an association of authorised and operational non-state owned, private and independent broadcasting organisations. GIBA's mission is to proactively support and promote the independence, legal and economic interests of its members through the provision of top quality research, advisory, consultancy and advocacy in a changing business and regulatory environment.

GeoPoll is a mobile survey platform conducts surveys through the mobile phone and provides results to clients in real-time, giving anyone the ability to make data-driven decisions. Through work with companies, nonprofits, and governments, GeoPoll provides insights on everything from food security to brand preferences. GeoPoll services include both custom research and subscription products.

"We are extremely pleased to partner with GeoPoll to bring better media data to broadcasters in Ghana. Broadcasting in Ghana is at a turning point, and audiences are becoming increasingly savvy about the way they consume media. We are confident that with this data broadcasters will better understand the behaviour of their audiences, make more effective programming decisions, and improve their ratings in this competitive media environment," said Akwasi Agyeman, president of GIBA.

Mobile penetration and media consumption

KGMM's mobile-based methodology has become increasingly valuable as mobile penetration increases throughout Africa and media consumption moves away from the home. Conducted through panel-based text-message surveys, KGMM's daily data clearly demonstrate media trends including popular stations and peak viewing or listening times.

KGMM allows for filtering of data by demographics including age, gender, and location, or psychographics such as bank account ownership and preferred brands. In addition, KGMM provides media planning and post-campaign evaluation tools which can be used by broadcasters or agencies looking to plan their advertising based on the most up-to-date data available.

GIBA's membership is open to all non-state owned broadcasters in the country. GIBA supports its members by providing top quality research, consulting, and advocacy services. With this partnership, all GIBA members will have access to quarterly KGMM data at no cost, and will be able to subscribe to KGMM's monthly, weekly, or overnight data services at a discounted rate. GIBA and GeoPoll will work together to promote KGMM to the industry, and GeoPoll will provide GIBA members with specialised training on how to best leverage KGMM's data and toolset for their advantage.

Kantar-GeoPoll Media Measurement is also available in Kenya, Nigeria, Rwanda, Tanzania, and Uganda, and is set to roll out in the DR Congo, Côte d'Ivoire and Mozambique. ■

Pipe Machines

HawkeyePedershaab offers a range of productive and flexible production machines for concrete pipes, manholes and boxes

Productive machinery

Our machinery is tailormade for the production of infrastructural products like concrete pipes, manholes and box culverts. Therefore the production processes are optimised for these products giving very efficient machinery.

Flexible plants

Our concrete machines can be equipped with different vibration technologies making the plant capable of manufacturing a large variety of infrastructural products. This gives you future possibilities of adapting to new market trends.

Global service

We operate from several regional service centres around the world and from there we are always ready to assist you if you have a need.

North American Headquarters
506 S. Wapello Street
Mediapolis, Iowa 52637 USA
Phone: +1 (319) 394-3197
Telefax +1 (319) 394-3977

European Headquarters
Saltumvej 25
9700 Bronderslev, Denmark
Phone: +45 9645 4000
Telefax: +45 9645 4040

Visit us at www.hpct.com

HawkeyePedershaab
Concrete Technologies Worldwide

Accessible, affordable and available to all

The Nigerian government continues to strive to achieve a well-designed health insurance system

Many Nigerians are yet to tap into the enormous advantages of health insurance. Hence, voices were being raised incessantly in Nigeria suggesting that health insurance should be made available to all Nigerians and not only a handful that can pay.

Those in this clarion call were of the view that healthcare of everybody was sensitive and should be first on the index of things not minding religious affiliation, creed, gender or tribe.

Worried by the gap between the Nigerian masses and the healthcare, the former chief medical director of the Lagos University Teaching Hospital, LUTH, Prof Akin Osibogun, in November 2015 outlined the need for mandatory health insurance scheme for all Nigerians in his book titled 'My Life, My Medicine: A Chief Medical Director's Story'.

The professor said that the health insurance would add importance and appeal in balancing payment for personal health services. However, the irony was that governments at all levels were yet to take charge in alleviating certain health goods and services that were supposed to be for public interest.

Health connoisseurs like Osibogun were worried that there were health issues, problems and diseases, which if not managed properly but left for the individual to handle, could widespread. Buttressing his point, it was noted that the model to give access to citizens and protect them from spending much can only be achieved through a workable health insurance scheme.

According to experts, the healthcare system in Nigeria deserved urgent reformation to assist poor people (Photo: Joseph Sohm/Shutterstock)

A call for emergency in the health sector

Checks unveiled that the health insurance, perceivably, was programmed for government sector workers while the mass of Nigerians were not meant to have hope in the government payroll.

In order to arrest the challenges facing the health sector, the federal government launched the National Health Insurance Scheme (NHIS) in 2005. But, regrettably, experts said that the commission was still yet to make a significant impact.

During its recently-held Physicians' Week, the Nigeria Medical Association (NMA) called on General Muhammadu Buhari to declare emergency in the health sector. The reason was that there was dearth of well-designed guidelines for medical practice in Nigeria, because the Medical and Dental Council of Nigeria was wrongly dissolved. The NMA lobbied for the appointment of a chief medical officer of the Federation to superintend and fast-track the urgency needed in the health sector. It also called on the authorities to instantaneously start the discharge of the 2014 National Health Act. It added that there's need for a vivacious primary healthcare system in the states to enliven immunisation and healthcare.

Pharmacist Abiola Olubunmi Paul-Ozieh, chief executive officer of Pharmacy Villa and High Rock Pharmacy, and currently the chairman of the Association of Community Pharmacists of Nigeria (ACPN), Lagos State, and the vice-chairman of Healthcare Providers Association of Nigeria (HCPAN) in Lagos State, told Vanguard Newspapers in an interview in June 2015 that the NHIS was bewildered with constraints such that the law that guided the NHIS was flawed.

"The enabling law in NHIS stated in Section 16 that all Nigerians 'may' attach to it. It was not compelling, for it to be compelling you need to put something like 'it shall be'. When you make something compulsory, everybody knows that they have a stake in it," Paul-Ozieh said.

Paul-Ozieh added that her team was looking at that area. She said, "How do we bring in people in such a way that people no longer

> "Nigerians can register for health services with their mobile phones, access the services available, and choose the healthcare provider they want"

depend on out of pocket expenses when sickness comes, people won't stay in the house for another one day, two days two weeks before they can access health."

She was of the belief that the only one way to ensure that NHIS was accessible, affordable and available to Nigerians would be through the health insurance.

It was evocatively effective that the NHIS in total sponsorship by the government had not been able to meet the health needs of Nigerians. Many Nigerians were worried that there was no profound health insurance scheme, as many had no hope in the scheme, to subsidise the mountainous hospital bills that Nigerians incur in the country.

A source in Vanguard Newspapers reported, "While consumers often accuse healthcare providers of being too profit-conscious, many hospitals complain of non-payment of the bills of patients treated by them. Clients also moan that many diseases are not covered and they are given substandard drugs."

Scarce achievement upon reformation

Gasping for the breath to rejuvenate the health sector, the health insurance scheme became operational in Nigeria in 2005.

This titular scheme was launched in 1999 via Decree (now Act) 35 of the Federal Government of Nigeria, the NHIS, having been first debated in 1962 as the Lagos Health Bill, before it became operational in 2005.

The editorial of Vanguard Newspapers on 8 October 2015 mentioned, "Since it became operational in 2005, the scheme has not been on track to meet its primary target of providing universal coverage for all Nigerians by 2015. Its poor implementation has not justified the years of spadework invested before it became a reality.

"For many years now, the state of the health system in Nigeria has been in jeopardy. Even after 55 years of independence, Nigeria still ranks low among the World Health Organisation (WHO) member nations."

To make the NHIS work

In April 2015, the Nigerian national telecommunications carrier Globacom unveiled mobile health insurance product in Abuja to help boost Nigerians' access to quality health care.

"The mobile health insurance product was formally unveiled in Abuja on Monday by top Globacom officials and senior officials of the National Health Insurance Scheme. Nigerians who subscribe to this scheme will be able to use their mobile phones for pre-defined medical treatment for which affordable premiums are remitted through the subscribers' mobile phones," reported a source of Globacom. Investigations revealed that, that innovation was intended to provide a lot of options when it finally widespread.

"There won't be many excuses like 'I can't go to their office, I don't know the direction to their office' as people can register with their mobile phones, access the services available, people can choose their healthcare provider, health maintenance organisation (HMO), the hospital or clinic, pharmacy, laboratory that they want. These are the options that would be available on the mobile health insurance platform," reported Paul-Ozieh.

How to get out of the conundrum

Experts have opined that the healthcare system in Nigeria deserved urgent reformation to assist poor people. They suggested that the time was ripe for a policy on legal framework, because the era was for Universal Health Care.

They added that the country needed to queue on the formations by industrialised countries and tap into how they set the pace for Utopian execution. They believed that the national health policy on ground only exists on the pages of the newspapers because it does not physically guarantees consumer protection and access to care. ■

Odimegwu Onwumere

Reducing costs with standard gauge rail

How the forthcoming US$3.8bn Mombasa-Nairobi-Naivasha railway could improve freight transport and business travel across East Africa

The ongoing construction of a US$3.8bn Mombasa-Nairobi-Naivasha Standard Gauge Railway is expected to ease freight transport, reduce travel costs boosting businesses in Kenya and the larger East African region. Upon completion in 2017, the 609km line will reduce travel time from Kenya's Port of Mombasa to Nairobi in the hinterland by almost eight hours.

The project, part of Kenya's Vision 2030 project, is funded by the China Exim Bank at 90 per cent with the rest coming from the government of Kenya. Already, over 50km of the line has been laid with most of the construction works that include bridges and culverts completed. The China Road and Bridge Corporation (CRBC) is the main contractor in the project that entails the construction of 609km of single track railway including necessary sidings, tracks, stations, workshops and depots. Also included is the supply and installation of communications, electricity and water supply facilities along the route.

The Kenya Railways Corporation (KRC) is replacing the old line, dubbed the "Lunatic Express", which was constructed by British colonial authorities over a century ago. Over the years, ageing lines, engines and wagons have pushed businesses to use road transportsconsidered more expensive and risky.

"Transport by rail is cheaper and reliable compared to road transport. It can reduce costs by over 40 per cent. It also reduces pressure on road repair costs," observed Eutychus Ndeithi, a cement retailer in Nairobi and one of the persons excited by prospects of the standard gauge railway. According to Mr. Ndeithi, rail transport improves the business margins since businesses need not worry of incessant longhaulage vehicles breakdowns. A study by the East African Business Council (EABC) indicates that businesses are hugely affected by expensive cargo transport in Kenya and the region.

"It takes 28 days to move a 40 feet container from the port of Shanghai in China to Mombasa at a cost of US$600, while it takes 40 days for the same container to reach Bujumbura from Mombasa at a cost of US$8,000," lamented Ms Rosemary Mburu, a consultant with the Institute of Trade Development.

New builds, more capacity

As part of the project, new 40 modern passenger stations will be constructed between Nairobi and Mombasa to improve passenger transport. Freight terminals - one at the Port of Mombasa and an inland Container Depots at Embakazi near Nairobi - are also underway. The SGR line is designed to carry 22mn tonnes of cargo annually. It will also have passenger trains with a capacity of 960 and will travel at average speed of 120km/hour. Freight trains with a capacity of 216 TEUs will travel at an average speed of 80km/hour. China has already supply the first six of the expected 56 diesel locomotives, 1,620 wagons and 40 coaches.

Engineering the economy

Currently, the SGR is one of the key factors driving Kenya's economy which the World Bank projects to attain seven per cent annual growth by 2017. Already, the project has employed over 2,000 Chinese and 25,000 Kenyan workers.

At the Syokimau campsitenear Nairobi, over 400 engineers and over 15,000 technicians and skilled workers are undergoing intense training to handle to locomotives and other equipment upon handover to the Kenya Railways Corporation. The project comes at a time when data from the Kenya Bureau of Statistics indicates that the transport sector has been growing at a steady five per cent. While goods transported by road have grown by 15.2 per cent to US$6bn in 2014, experts say that this grown will decline upon completion of the SGR as more goods are move to rail. Goods hauled by rails expanded by 24.3 per cent from 1.2mn tonnes in 2013 to 1.5mn tonnes in 2014. The Port of Mombasathe main gateway to Kenya and beyond recorded an 11.3 per cent grown in cargo handled from 22.3mn tonnes in 2013 to 24.9mn in 2014.

"The SGR will be a gamechanger. Kenya is transit state that requires a first class infrastructure," said AlyKhan Satchu, a Nairobi-based financial analyst.

While the project is currently connecting Kenyan cities, SGR is to be rolled out from Malabaon the Ugandan border to Kampala and Kigali in Rwanda. A branch will also run from Kenya's city of Kisumu to Juba, in Southern Sudan, easing transport in the East Africa's Northern Corridor. ■

Mwangi Mumero

Booyco wins Bombardier HVAC locomotive contract

Booyco Enegineering awarded a contract to supply HVAC systems for the 240 Bombardier TRAXX Africa, TFR's Class 23E locomotives being built by Bombardier Transportation for Transnet Freight Rail for General Freight Business (GFB). The HVAC systems are an evolution of the previous systems which were engineered for the 15E and 19E locomotives. These systems have an established track record for reliable performance under the harsh operating conditions in South Africa, making them suitable for even the most demanding environments worldwide. "This contract underlines our ability to perform at this level and firmly positions us to participate in the international market on an ongoing basis," said Booyco Engineering managing director, Jeremy Pougnet.

Better by sea and rail

South and East African countries have been urged to improve both ports and railway lines operations so as to boost economic growth in the regions by supporting business links to land locked countries. According to the participants at the second annual port and rail expansion summit conducted in Dar es Salaam, Tanzania, in December 2015, African countries need to look to the opportunities and alternative trade routes to boost business in the continent.

Landlocked countries depend on its neighbours' seaports and road infrastructure to move their exports and imports. Thus improvements of ports operations will see improvement in businesses and economic growth in the regions. For so long, there have been many complaints on the poor services offered at various ports in East and Southern African ports. Delays to cargo transport, too much bureaucracy and poor cargo security were among many issues raised by stakeholders. Moreover, moving cargo from ports to various destinations by road has been another big problem, in particular causing road damage throughoout Eastern and Southern Africa. Some countries have put plans in place to revive and construct new railways lines, so as to ease cargo transportation.

According to Walvis bay Corridor Group CEO Johnny Smith, Africa needs to focus on building human capacity so that people can be fully involved in implementing various projects including port and rail expansion. He said, "Africa needs to focus on human capacity to be able to do better and implement various projects in terms of port expansion."

Ms Nozipho Mdawe, secretary general of the Port Management Association of East and Southern Africa (PMAESA), said thecontinent is rich in both resources and opportunities and that there is a need for its people to set plans on how to utilise them. She observed, "African countries need to change way of thinking and doing things. In order to end port related problems, we must build a strong foundation. Africa's population is expected to grow from the current 1.1bn to 1.6bn in the next year and that means the trade volume will also increase. Are our ports ready for this growth?"

Mr Paul Wallace, CEO of the Tanzania International Container Terminal Services Ltd (TICTS), which handles cargo at the port of Dar es Salaam, explained how containers have been increasing at the port and called for more investment to tap the potentials while delivering at reasonable times. He said, "I think the solution to decongest our ports is the construction of standard gauge railway which will be connected across the region."

The 2nd Annual Africa Port and Rail Expansion summit was organised by Noppen Group. The summit was attended by more 100 participants from different parts of the World.

Florentine Muga

Meeting urban water challenges

With growing urban populations, the availability of reliable water supplies in urban areas is more crucial than ever

There are many stats associated with how many people have, or don't have, access to reliable and sufficient water supplies in urban Africa from a wide variety of organisations.

The International Institute for Environment and Development, around 300mn people represent the urban population across Africa, of whom at least 150mn do not have adequate water supplies. The IIED also claims that when it comes to overall sanitation, which relies heavily on the availability of good water supplies, some 60 per cent or urban dwellers in Africa have inadequate sanitation.

Even with such stark figures, the overall urban water supply and sanitation situation in Sub-Saharan Africa has improved in the past 10-15 years. But the disparities mean that targets for improvements set under the various development programmes such as the Millennium Development Goals (MDG) for the period 1990-2015, are not being met.

MDGs and JMPs

Monitoring the MDG, WHO/UNICEF have undertaken their Joint Monitoring Programme (JMP) reporting at regular intervals; the 2015 JMP is the last before the MDG term finishes. Some of the main findings of the latest JMP with regard to Africa lay down probably the most accurate and current information on the state of play of water supplies across the region available.

It has found that the number of the world ' s population without access to improved drinking water globally now stands at 663mn, marking the first time this number has fallen below 700mn. It has also found that since the MDG period began in 1990, some 2.6bn people have gained access to an improved drinking water source.

The good news in sub-Saharan Africa is that 427mn people gained access to adequate water supplies during the MDG period, which equates, according to WHO, to an average of 47,000 people being served per day for 25 years. And what appears as a remarkable achievement is that, as of this year, only three countries in the world – Angola, Equatorial Guinea and Papua New Guinea – have adequate water supply coverage of less than 50 per cent, which compares to 23 countries in such a poor state when the MDG period began.

That said, MDG targets were not met by Northern and Sub-Saharan Africa, and while the latter did not meet the MDG target it still achieved a 20 per cent increase in the use of improved sources of drinking water during the period and that includes urban supplies. One of the anomalies shown up by the JMP relates to sanitation and shows that a combination of population growth and slow progress has resulted in the number of people in sub-Saharan Africa without access to sanitation actually increasing since 1990.

The latest JMP also suggests that – and here ' s a stat which does not quite agree with the IIEE figure above – some 319 million people (urban and rural) in Sub-Saharan Africa remain without access to adequate water supplies. Let ' s face it, though, exact stats are pretty immaterial other than as trend indicators; what matters is the numbers in need are huge, the problem remains and the key issue is what governments, international organisations and NGOs, as well as private sector participants are doing about this challenge.

Targets

In a recent report, 'Progress on Sanitation and Drinking Water' from the World Health Organization and UNICEF, several key targets were set down for a post-2015 world, which should impact urban populations in Africa's developing economies. These include:

- An end to the practice of open defecation;
- Safe water, sanitation and hygiene at home should be available to all;
- Water, sanitation and hygiene should be available at every school;
- Water, sanitation and hygiene should be sustainable;
- Inequalities in access should be eliminated.

The details of these targets are further expanded by the entities, where we see 2025 as the target year beyond which no one practices open defecation; a major hurdle in achieving this is also a goal for 2025 - an end to the inequalities leading to the practice of open defecation in the first place.

Then, by 2030, the aim is that everyone should have basic drinking water and hand-washing facilities available for use at home; by the same year basic drinking-water supplies, adequate sanitation, hand-washing facilities/personal feminine hygiene facilities should also be available in all schools and health centres, again with inequalities leading to the current poor situation eliminated.

The overall aim of these WHO/UNICEF global targets – which apply equally to urban Africa – is to achieve progressively affordable drinking, hygiene and sanitation services that are environmentally sustainable and financially accountable for all stakeholders. And that aim is set to be reached after 2040, at which time the specific goals are for everyone to be using adequate sanitation when at home and the proportion of the population not using an intermediate drinking-water supply service at home should, by then, have been reduced by half. In addition, by that time human waste from at least half the health centres, schools and households in urban as well as rural areas with adequate sanitation should be undergoing effective management and treatment.

Private Sector Reality

While the major organisations like WHO/UNICEF, Save the Children, Christian Aid and many other NGOs set ambitious and admirable targets to give some structure for many countries, governments and agencies to follow as a framework, on the ground beyond the talk and meetings, many governments in Sub-Saharan Africa have already set about a process of the decentralisation. This is aimed at passing the responsibility for such services as urban water supply and sanitation to regional municipalities and local authorities. It also allows for the involvement of the private sector.

Many African governments have introduced wide-ranging reforms of their urban water sectors in order to improve efficiency in service delivery that extends access to greater numbers of people, while at the same time doing so using a financially viable and sustainable business model. One of the key aspects in many cases and countries has been private sector participation (PSP) to help central and local governments achieve these aims. The results have been varied across Africa's nations with some good, some bad. That said, in certain regions where inefficient state-run organs have limped along for years, the idea of PSP has been enough for them to re-invigorate their methodologies and breathe new life into their infrastructure and businesses.

Happening as we speak

In July 2015, the African Water Facility (AWF) announced the approval of a €1.9mn grant for the Democratic Republic of Congo (DRC) to help improve drinking water and sanitation services in Kinshasa, as well as for the expansion of water supply services towards Kinshasa-West.

> **"SSA's urban water supply and sanitation situation has improved in the past 10-15 years - but disparities mean that targets set by various agencies for improvements are not being met"**

The project should benefit over 3.5mn people. This is actually a pilot scheme, but it should significantly increase the city's capacity for strategic planning and result in the growth of Kinshasa's drinking water and sanitation services. The AWF will fund the development of a master plan for the integrated urban water management in Kinshasa, and a feasibility study on drinking water supply and sanitation services in the western part of the city.

The project will follow integrated urban water management principles to promote the coordinated management of natural resources and urban water derivatives as a way to maximise social and economic benefits. This approach will have the advantage of turning the management of liquid and solid waste into income-generating activities. It is the aim, once the project is complete, that its results and the lessons learned will inspire other cities in the region, which are also looking to develop their drinking water supply and sanitation services.

The production of drinking water in Kinshasa is currently unable to keep up with an ever-increasing demand. The 'production deficit', as it is termed, has reached 300,000 cubic metres per day. Kinshasa's population reached 10mn people in 2014 and is projected to reach 14-17mmn by 2030, based on a five per cent population growth rate per year. Water needs, as a result, will reach some 1.2mn cubic metres per day in 2027, more than doubling the current rate of production.

The sanitation sector in Kinshasa is also experiencing severe service deficits. Only 14 per cent of the population have access to adequate sanitation services and poor management of sanitation waste has led to environmental degradation. Close to 70 per cent of the city's solid waste ends up in informal landfills, most of them located along the riverbanks.

To address these issues, the AWF will present the Congolese Government with planning and management models to improve the financial profitability and technical performance of Kinshasa's water and sanitation services, and reduce water pollution. The project also proposes to introduce measures to build the city's resilience to climate change, through the provision of water supply and sanitation services designed around the predicted impact of climate change on the region's water resources. The total cost of the project is €2.5mn, of which 76 per cent is covered by the AWF, 15 per cent by the Global Water Partnership and nine per cent by the Government of the Republic of the DRC. ■

Tim Guest

Potentially more powerful projects

With COP21, the continent's renewable energy sector has finally gained the boost it needs to expand

Africa's renewable energy sector could finally be on the verge of realising its mighty potential following the December 2016 UN Climate Change summit in Paris, France. At the summit, over 190 countries agreed to cut their fuel emissions in a bid to reduce global temperature rises to 1.5C above pre-industrial levels. Bodies like Greenpeace have since hailed the accord saying it spells the death knell for fossil fuels in the coming few years.

But African nations did not wait for the formal agreement before agreeing to take action. Indeed, in an unprecedented move a total of 54 African Union (AU) countries unveiled their African Renewable Energy Initiative (AREI) on 1 December - a week ahead of the formal Paris gathering. The aim of AREI is to mobilise US$20bn in investment and to develop at least 10,000MW of renewable energy across the continent by the end of the decade.

This in itself will be the mere prelude to a further ramping up of renewable energy in Africa during the following 10 years. The African Development Bank (AfDB) - which funds both conventional and renewable power plants - is co-sponsoring the initiative and has said it will triple its financing of climate action projects to US$5bn per year by 2020.

Gathering support for change

However, the success of the plan stands or falls on its ability to attract bilateral funding from wealthy donors as well as multilateral funding. France and Germany have already announced their support for renewable energy projects in Africa. After meeting with the heads of state from 12 African countries gathered for the climate in Paris, President Francois Hollande announced that France will commit two billion euro to the sector before 2020. This is twice as much as the country contributed over the past five years.

The German Economic Cooperation and Development Ministry also said it will contribute Euro 3 billion to the project before 2020. The AREI is expected to receive additional funding from the $100 billion pledged by rich countries in 2009 to fight climate change in the developing world.

Although renewable energy projects are springing up right across Africa, it is North, East and Southern Africa that is in the lead. Egypt in particular is taking massive strides. At the end of 2015, the country's Ministry of Electricity signed a cost-sharing agreement with 24 renewable energy companies that have qualified for the implementation of solar and wind power plants in Benban, Aswan through the feed-in tariff (FIT) system. The companies have agreed to pay 30 per cent of the cost of the plants which will eventually have a 1,950MW capacity.

South East of Egypt, Ethiopia has ambitions to become a regional renewable power leader on the continent. The country has an estimated 45,000MW of hydro resources and its economy is growing fast, making it one of the most attractive African destinations for power investment. In 2013, the generation and transmission sectors were fully opened to the private sector when new legislation allowed private investors to compete with the state-owned Ethiopian Electric Power Corporation (EEPCO).

In October 2015 the Africa-focused investment fund Black Rhino, owned by the Blackstone Group, said that it was considering an investment in Ethiopia's renewable power generation sector. This announcement followed the landmark agreement in July when Ethiopia concluded its first power-purchase agreement (PPA) from the 1,000MW Corbetti geothermal power project for 500MW of privately generated electricity. Capacity, is expected to be ramped up to 1,000MW by 2023.

However, there are calls for Ethiopia's tariffs to be increased to provide even greater incentives to private investors. Currently, the country's power tariffs, which are subsidised, average just $0.056 per kWh - making them some of the lowest in the region. This means that Ethiopian Electric Power (EEP) is effectively spending about $0.09 per kWh on electricity generation. The utility's CEO Azeb Asnake has conceded that prices will need to be raised and the utility is understood to be considering increases of up to 50 per cent.

Elsewhere in East and Southern Africa, ZTE Corporation of China has sealed a US$146mn solar energy deal with the Zimbabwe Power Co that will lead to the creation of a solar equipment manufacturing plant. Together with ZPC and Intratrek Zimbabwe, the Chinese company will also construct the 100 MW Gwanda power plant. This solar facility will help to expand the country's power generation capacity that is adjudged to be too small to meet both domestic and industrial demand.

South Africa itself is a major producer and consumer of solar power. Indeed, more than 200,000 homes are said to receive solar power from the world's largest storage solar farm near Upington in the Northern Cape. As at end-2015, the ACWA Solafrica Bokpoort CSP Power Plant was said to be operating at full capacity, just two years after the start of construction.

Meanwhile, in December, the multilateral Climate Investment Funds (CIF) announced that it has endorsed Uganda's Investment Plan (IP) to build on its renewable energy resources. The IP will be implemented with support from the AfDB and other partners, including the International Finance Corporation (IFC). It will enhance the country's policy infrastructure for sustainable energy that is envisioned in the 'Vision 2040' plan for Uganda, which includes increasing energy access to ambitious 80 per cent by 2040.

In Tanzania, UK aid is backing a scheme to bring household solar systems to the country's remote, rural areas. Tanzania is also targeting geothermal power. The Japanese multinational Toshiba recently signed an agreement with the Tanzania Geothermal Development Co. (TGDC) to support the country's geothermal power expansion plans. Tanzania is estimated to have up to 650 MW of geothermal power potential and it is currently preparing a renewable energy policy and a Geothermal Act to expedite the development of new power generation.

The Power System Master Plan (PSMP) estimates that Tanzania will need an additional 9 GW of generating capacity by 2025 to meet the growing demand and to replace its ageing facilities. The forecast is that coal will supply 45 per cent of the country's energy supply. Hydro is expected to provide 35 per cent of Tanzania's energy with oil and gas the remaining 21 per cent, respectively.

In Kenya, the solar company M-Kopa is aiming to deliver solar power to a million homes by 2017. With as little as an upfront cost of US$35 and payment of US$0.50 per day for a year, the company is already delivering power to Kenyans, Ugandans and Tanzanians. And like Tanzania, Kenya is developing its geothermal power potential.

By 2023, the Kenyan utility KenGen is expected to become the world's largest geothermal power generator with an installed capacity rising to 1,500MW. This, according to research don by Renaissance Capital, will leapfrog in size Chevron's plant in Indonesia and Calpine in the US, which produce 1,339MW and 1,250MW, respectively. It is projected that Kenya's new plants will contribute up to US$656.7mn per year to Nairobi's coffers.

The one disappointment is West Africa. The region has - so far - failed to match the sheer vision for renewable energy that is on display in North and East Africa. However, there are hopes that Nigeria is about to become a sizeable player.

In November, developer Access Infra Africa and asset management firm Quaint Global Energy Solutions announced that they are to co-invest in a US$100mn 50MW PV project in Nigeria's Kaduna state. The groundbreaking Abiba solar project will be the first significant solar array in Nigeria. Access executive chairman Reda El Chaar said, "We see this project as a gateway to the widespread adoption of renewable energy in Africa's largest economy."

The following month, Nigeria's solar prospects took another big leap forward with the signing of an agreement between the World Bank's lending arm, the International Finance Corporation (IFC) and Middle Band Solar One for the development of a 120MW photovoltaic (PV) solar plant.

Only 40 per cent of Nigeria's population has access to grid electricity supply and virtually nothing is supplied by solar power. But under the current solar PV programme, the government hopes to increase the share of the technology by three per cent in 2020 and at least 6 percent by 2030.

Also in West Africa, the small state of Liberia announced its first solar project in the second half of 2015. The Arizona-based junior mining firm Sunergy is looking to launch the project that would supply power to the John F Kennedy Hospital in Monrovia over the next 18 months through a 50MW, or larger, solar facility. Sunergy has now received the approval of the Liberian Energy Ministry to start with a small-scale installation. It said it expected that the project would be supported by a power purchase agreement (PPA) from Liberia Electricity and a sovereign guarantee or implementation agreement.

Although its beginnings have been patchy, it is now clear that African governments are starting to realise the developmental potential that exists in solar power. And as installation and running costs come down - and encouraged by the multilateral lending bodies to switch from fossil fuels – the rate at which solar and other renewable projects get launched across Africa will undoubtedly accelerate. ■

Nnamdi Anyadike

Cronimet and DEG agree to fund PV developments in Africa

Cronimet Mining Power Solutions GmbH and KfW subsidiary Deutsche Investitions- und Entwicklungsgesellschaft mbH (DEG) have signed a three-year partnership intended to expedite the parties' individual socio-economic growth and electrification targets in Africa. The public-private partnership's interests are aligned through the advancement of large-scale photovoltaic (PV) and PV/diesel hybrid power plants in over 20 African countries. Funding contributions through the develoPPP.de programme of Germany's Federal Ministry of Economic Cooperation and Development (BMZ) and Cronimet have been made available for early phase PV development activities, technical skill transfer programs during pre-financial close development and on-the-job training and vocational workshops during the construction of large scale PV projects.

Rollie Armstrong, managing director of Cronimet, said, "Having already invested substantial amounts of capital to develop PV in remote parts of Africa since 2013, we feel this public private partnership compliments each party's continued commitment to socio-economic advancement in remote and underserved electricity markets. The funding will support local developers and technical learning and educational capacity building programs applied through Cronimet's PV development projects in over 20 countries throughout East, West and Southern Africa."

Islands of new energy potential

The technologies, projects and opportunities being developed to improve power supply to African islanders

According to the African Development Bank some 30mn people live on islands located either in lakes or alongside Africa's shores. These islanders are paying around US$0.52kWh for electricity, or nearly four times the average price paid by mainland US consumers. Therefore, it is not surprising that islanders are seeking more affordable power generation solutions. This review of island schemes demonstrates that renewables, such as wind and solar, can augment traditional power generation technologies alongside pumped storage and batteries, giving considerable cost savings for consumers.

Cape Verde

In 1994, Cape Verde Islands was wholly dependent on expensive imported diesel to generate electricity. Today, 30 Vestas wind Turbines installed by Cabeolica Wind Farms SA taking advantage of the trade winds belt, provide up to 25MW, or nearly 20 per cent of the power needs of the country's population of 475,000. The scheme, was financed from a public- private investment fund for sub-Saharan Africa. According to the state power company, wind power has cut annual diesel imports by 22,000 tonnes, improved energy security and reduced power cuts. This successful outcome has encouraged its stakeholders to set a target of increasing wind's energy's contribution to 50 per cent of power generation by 2020. Andris Piebalgs, EU Development Commissioner said in February 2014, "Energy in Cape Verde is crucial, for education and healthcare, for growth, tourism and even for the supply of water. In short, renewable energy is the country's main route towards growth and development.

Lake Victoria: source of the Nile

Bugala Island, the largest island in Lake Victoria, Africa's biggest lake, is home to a new hybrid solar- diesel power plant which came on- line in January 2015. The plant accommodates a 0.6MW solar farm and a 1MW diesel generator owned by Kalangala Infrastructure Services Ltd. The diesel plant was constructed by Ugandan firm, Ferdsult Engineering Services and the solar farm by India's Premier Solar which provided the solar thermal hybrid system generators and batteries sufficient to meet the power needs of the area's 50,000-plus residents.
A consortium led by UK-based InfraCo, Nedbank of South Africa and USAID, financed this US$3.3mn project.

Spain's Canary Islands

Meeting the power needs of the 10,000 inhabitants of the remote island of El Hierro , part of the Canary Islands, has always proved a headache for Spain's power company Endesa SA. For consumers, the electricity provided by Endesa's 11.36MW diesel-fired plant was expensive at €0.242/kWh (US$0.26/kWh). A connection with Endesa main power plant on Tenerife some 200 kilometres distant was ruled out on the grounds the difficult seabed typography. July 2015, saw the completion of Endesa's €82mn project encompassing five wind turbines with a total capacity of 11.5MW and two water reservoirs - one of which- lies at 700m above sea level. The two reservoirs are connected by two 3km-long pipes and any water running from the upper to the lower reservoir passes through a series of combined turbines that can either generate electricity or pump water. This hybrid system is expected to reduce the island's diesel use by around 40,000 barrels a year translating into an annual savings of €1.8mn. However, given the vagaries of wind power and periodic need for maintenance, this scheme has not entirely eradicated the need for diesel power generation.

South Africa's Robben Island

In March 2016, the South African government is due to announce the winner of a public tender to install a 400-kW solar power plant on Robben Island, the former prison-home of Nelson Mandela. Backing the use of solar power, Tourism Minister Derek Hanekom stated in his budget speech of March 2015, "A 10 kW PV system could save a 15-room guesthouse more than ZAR 5,000 a month in energy costs, while a 250-room hotel could save more than ZAR 50,000 a month through the installation of a 65 kW PV system."

Putting schemes in place

These innovative schemes, designed to meet the needs of relatively small number of consumers, often located in relatively inaccessible places or remote places from the grid, demonstrate the increasing competitiveness and adaptability of renewable technology for improving generating capacity and reducing consumer's electricity costs.

Investing in sustainable energy initiatives

The demand for fossil fuels such as oil and gas to drive Ghana's energy needs have not been reliable considering years of continuous inadequacy of these energy mix, but such drawbacks cannot be ascribed to renewable energy because of its reliability and sustainability. Some examples of sources of renewable energy are: solar, wind, biomass, tidal wave and geothermal.

Policyy and preparation

Very much aware of the great demand for energy as the years go by, because of expansion of the economy in terms of industrialisation, the Volta River Authority (VRA) worked out a Renewable Energy Policy, a preparation towards installing up to 150 megawatts of wind and solar energy in the years ahead. The VRA had already conducted feasibility studies on solar and wind energy.

In 2010, the Authority approved a Renewable Energy Policy targeting between 100MW and 150MW of wind and solar in the not too distant future.

The Ghanaian government is still keeping to its promise of reducing the power cuts and outages significantly by December 2015 and also increasing the installed electricity generation to 5,000MW by the end of 2016 as it is exploring multiple energy mix for a solution to the challenge. But the renewables are what government is very much convinced that, they will help a great deal in energy addition to ensure sustainable power.

For Dr Kwabena Donkor, Minister of Power, "Renewable energy will provide a major chunk of the country's energy supply to meet the 12 per cent per annum growth, especially for off–grid communities.

"It is expected that come ten to twenty years from now, renewable energy will become a major tool for the country's socio – economic development due to government's sustained efforts toward the renewables sector. We need to harness the vast potential of renewable energy to address the current gap in power supply, as well as tackle the dire threats of climate change in the country."

Indeed, having been passed by Parliament, the Renewable Energy Act, 2011 has made it possible for actors in the industry to scale up their activities in the country's renewables sector such as the VRA's 2.5MW connected to the national grid solar PV system, located at Navrongo in 2013 among others.

Of greater significance is the ongoing solar installation being supervised by the UK-based renewable energy investor and developer, Blue Energy, and being executed by its subsidiary, Mere Power Nzema Limited. The solar plant is located close to a village called Aiwiaso in the Western Region of Ghana. It is a 155MW project and will be the largest solar photovoltaic (PV) power plant in Africa and the fourth biggest in the world. It will connect into the 161KV West African Power Pool transmission line which links Ghana with Ivory Coast, Togo, Benin and Nigeria. After completion, such a facility will increase Ghana's current generating capacity by six per cent and will meet 20 per cent of the government's target of generating 10 per cent of Ghana's electricity from renewable sources by 2020. Such a project is supposed to be fully operational in 2017 and the plant will have 20-year operational life.

The CEO of Blue Energy, Chris Dean, said,, "Ghana's forward – thinking strategy puts it in a strong position to lead the renewable energy revolution in sub–Saharan Africa. Nzema is a case study in how governments can unlock the huge potential for solar energy in Africa. We are delighted that it will make a strong contribution to the national economy, provide much needed generating capacity and help develop the skills of the future."

Emmanuel Yartey

A rosy renewables future

Energy monitoring agency sees a bright future for renewables everywhere, especially here in SSA

Africa is on course to be the world's first continent electrified by clean renewables, according to International Energy Agency (IEA) executive director Fatih Birol. By contrast, the development of OECD countries is essentially based on very dirty coal.

As well as reducing carbon emissions (135 giga tons over the period 2014-2040 according to the IEA) global adoption of renewables is being accelerated to enhance air quality, energy security and global diversity of supply. And here in rural Africa there is often no other source of power available, anyway.

Ahead of the successful COP21 climate summit, the IEA stated that there were clear signs that an "energy transition" was under way around the globe. The agency reported, "Renewables contributed almost half of the world's new power generation capacity in 2014. The world's appetite for electricity lifts demand by more than 70 per cent by 2040."

Nevertheless, around 550mn people will still remain without any access to power by 2040, most of them here in sub-Saharan Africa. The Renewables section of the IEA's World Energy Outlook (WEO), reports:

- Renewables secured their position as the world's second-largest source of electricity in 2014.
- By 2040 they are likely to account for one-third of total power generation.
- Global capacity additions will total 3600GW between 2015 and 2040, more than for all other forms of power generation put together. Investment in renewable capacity will total about 60 per cent of the total.
- Cost reductions are improving the competitiveness of some technologies like solar PV (photovoltaic) panels dramatically.
- Asian manufacturers such as Trina, JA Solar and Hanwha (all China) supplied nine out of every ten of the panels sold around the world in 2014.

African installations

In South Africa, the region's largest single power market, there exists a target for the installation of a million solar water heaters alone by 2030. This will be supported by 17.8GW of new renewables capacity being installed there within 15 years.

"SSA is rich in energy resources – huge renewable resources remain untapped" the previous WEO report had stated in November 2014, pointing out that the sub-region accounts for 13 per cent of the world's population but only four per cent of global energy demand. Biofuels like wood and charcoal – with the adverse environmental and health effects they bring - account for well over 60 per cent of total energy demand. However one-half of SSA's grid-connected power generation remains located in South Africa, and two-thirds of the population still have no access to mains electricity at all.

Scenario are expected to be:

	2015-2025	2026-2040 (bn US$)
Hydro	55	117
Bioenergy	10	21
Wind	15	31
Solar PV	31	107
Other (incl geothermal, concentrating solar)	17	72

Hence, the success we have noted of off-grid solutions such as M-KOPA's innovative pay-as-you-go products in the East.

Back to the IEA's own views. The findigns in the agency's report include the following observation: "The sub-Saharan energy system expands rapidly to 2040, but so do the demands placed on it ... the power system evolves quickly, with generation capacity quadrupling to 385GW. Almost half of the growth in electricity generation to 2040 comes from renewables."

Other points made in the Agency's special focus on SSA includes:

- Through 2040 the 'mix' of generation sources diversifies as the share of renewables more than doubles to 44 per cent.
- Total power-sector investment will average around US$46bn a year, just over half of this in essential transmission and distribution (T&D) activities.
- By 2040 950mn people are projected to gain access to electricity by various means, including off-grid solutions such as the one cited above.
- A successful programme for grid-based renewables was stimulating private investment in SA in particular. The potential in Nigeria was thought to be especially good, too. ■

Power for telecoms

FG Wilson has announced a new range of generator sets, specifically for telecommunications customers. Following consultation with operators, tower companies and hybrid manufacturers, the new range delivers reliable power for extended running periods of up to six months between service and fuel replenishment intervals. To minimise site visits, 600, 1,000, or 2,000-litre fuel tanks and an extended service interval option can reduce operating costs for the generator set by up to 50 per cent.

Using market-leading control modules, including built-in mains sensing and changeover systems, the generator sets are designed to be easily and quickly deployed. Complete with the latest Deep Sea controllers, the new FG Wilson Telecom range can be tailored to meet all technical requirements, from configurable alarms and protections, to remote monitoring, control and preventative maintenance.

Plug-and-play options allow upgrading on site when required. With security in mind, the range conceals all fuel pipework and fuel filling connection protecting against fuel theft and optional security features include lockable door latches and GPS tracking devices. With a new range of acoustic enclosures at different sound attenuation levels, the range is suitable for all applications and locations. And when a generator set needs to be moved to a new location, its modular designed enclosures can easily be upgraded to ensure it meets all local noise regulations.

Customers now have the choice of two reliable products at different price points.

The new range has also undergone rigorous validation testing to ensure it is built to run for many years. The new range comes with class-leading aftermarket support from 370 FG Wilson dealers spread across 150 countries, all fully trained in technical, maintenance and service support, with ready stock of parts and supported by a 59,500m2 parts facility, carrying more than 11,500 product lines and dispatching over three million genuine parts per year. ■

Priorities for industrial power problems

Routine guidance for contractors who are working to large-scale generator maintenance contracts

The primary responsibilities of industrial generator maintenance contractors are to maintain records, learn the manufacturer's technical information, inspect the engines and systems, and take the manufacturer's suggested precautionary safety measures. There are steps to take while carrying out scheduled maintenance to ensure reliable generator operation, including:

- Removing worn out parts.
- Upgrading components as necessary.
- Checking fluid levels.
- Verifying control panel indicators and readings.
- Load bank testing.
- Changing air and fuel filters.

When carrying out routine maintenance on diesel or natural gas power generators, the technician must record each action in the system's log book; various readings and parameters are also logged along with the inspection date and hour meter reading of the generator. With this history, any variation in the readings can be an indicator of a fault within the unit, impacting its performance.

Regular load testing intervals of the automatic transfer switches help keep track of the unit's mechanical and electrical integrity during the mechanical transfer operation. Other factors that should be checked periodically are:

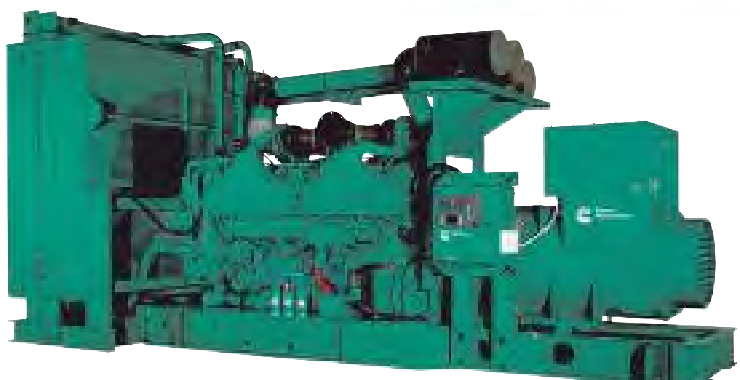
- Timing and starting relays.
- Utility phase sensors.
- Start signal continuity.

Replacing worn components and maintaining a unit regularly are small investments that can save big on expensive and unnecessary upgrades. They can even save you from replacing the entire genset in the future.

Preventative maintenance is the best way to ensure you have an uninterrupted power supply. Diesel generator sets, whether used for back up (emergency) or primary power, must be maintained regularly to provide quality power throughout their service lives. Some larger companies who maintain many generators (or if the generator is being used as a primary power source) may employ an in-house engineer to oversee the maintenance of their gensets. Smaller companies who use generators primarily for backup in emergency outages often have a contracted agreement with a generator dealer or electrical contractor. Either way, the life-cycle of industrial power generators is well known and documented so that routine maintenance of them is fairly straightforward. Best practice for generator maintenance is to follow the maintenance schedule suggested by the generator's manufacturer, such as the documentation provided by companies such as Cummins and Caterpillar.

The history of generator usage helps predict when the generator needs service, or if it will fail. A reliable maintenance schedule can usually be obtained from the manufacturer and can be overseen by electrical contractors/engineers or a local generator dealer. Conforming to these schedules will safeguard the generator units, and ensure proper operation and maximum service time. Larger manufacturers of industrial generators have well-established maintenance routines and will service not only their own generators, but many of the other major brands in the industry as well.

Whatever routine method you choose, it is vital to the operation and life-cycle of your industrial generators to have routine, manufacturer suggested maintenance and to keep that maintenance as well-documented as possible. This attention to detail will add years to your units' lifespans, and will give you integrity and confidence in your operation as a whole. ■



Source: Worldwide Power Products

Domestic demand drives local industry

How the growth in metal packaging manufacturing has been driven by the emerging affluence of Africa's middle class

The importance of Africa as a global packaging centre is growing and it is destined to surpass India and China in the not too distant future. Much of this growth is predicated on the rapid increase in metal food packaging. Food typically accounts for 50 per cent of Africa's consumer packaging industry, though when the beverage sector is added that can increase to 69 per cent.

Demographic dynamics

According to a study by Standard Bank, if current demographic patterns continue for another 85 years, then by the end of the century, Africa could have 4.2bn people, compared with today's 1.1bn today. Nigeria's population alone is expected to rise from 180mn to 910mn.

But it is the sheer explosion in the size of Africa's middle class that it is responsible for the growth in the continent's packaging sector. Africa's middle class (defined by the bank as those earning at least US$450 per month) has tripled from fewer than fivemn in 2000, to 15mn today. In the next 15 years its numbers are forecast to swell by another 25mn.

Growing markets, more demand

All of this demand growth will require more food and therefore more metal packaging. Currently the packaging of local foodstuffs is poorly developed and much produce is still informally packed for sale in 'open markets'. However, this is beginning to change and Africa's domestic metal packaging sector is becoming increasingly adept at handling the surge in demand for local agricultural products from 'farm gate' to household.

The expansion of Africa's packaging sector is exemplified by the link up of two of Africa's metal packaging industry 'giants' - the Nigerian aluminium beverage can maker GZ Industries (GZI) and South Africa's Golden Era Packaging.

The two companies recently announced the establishment of a US$75mn joint venture to set up a 1.2bn cans a year manufacturing plant in Johannesburg to cater to local packaging demand. Called Gayatri GZI Beverage Cans, the venture will commence operations in the second quarter of next year.

The factory will manufacture two-piece aluminium beverage cans in multiple sizes. According to GZI CEO Motti Goldmintz, it will enable GZI to become "sub-Saharan Africa's largest packaging-solution provider to the beverage industry".

The new plant will give GZI a total capacity of more than 3.5bn aluminium beverage cans a year.

South Africa's packing industry is the most highly developed on the continent. The country's total packaging market, including packaging for exports, amounts to 3mn tonnes of materials with metal accounting for an estimated 400,000 tonnes.

This size puts GZI's packaging ambitions into perspective. It wants nothing less than to jockey for Africa'top spot with the Johannesburg Stock Exchange (JSE) listed Nampak – currently Africa's largest packaging manufacturer and which is also looking to increase its production capacity with new canning plants in Nigeria and Ethiopia.

Nampak has large aluminium beverage cans operations in South Africa, Angola and Nigeria. The company's can division, Bevcan, is the only tinplate beverage can and aluminium ends manufacturer in Southern Africa. Within its home market it has the advantage of being able to source much of its steel and tinplate as well as aluminium, from local suppliers.

But next year, GZI will commission a new metal canning plant in Nairobi, Kenya, which will be the first can manufacturing facility in Eastern Africa. The facility will supply cans to bottlers and brewers not just in Kenya, but also in Ethiopia, Uganda and Rwanda.

Industrial innovators

GZI - a comparative packaging industry upstart – is putting Nigeria's expanding metal packaging industry firmly into the investor spotlight. The private company, which was only incorporated in 2006, is owned by four Nigerian and foreign investors. Production at its third canning plant in Aba to the east of the country commenced in the first half of 2015.

Nigeria's canned/preserved food sector is growing fast. A Euromonitor report estimates its full-year 2014 growth at 12 per cent. And the prospects are for a 2 per cent compound annual growth rate (CAGR), in constant retail value terms, over the coming years.

Elsewhere in Africa, a similar trend is at work. With a population of 90mn and a total of 3,390 food and beverages factories, Egypt's drinks and food canning sector is also a force to be reckoned with in Africa. Packaging equipment for the food processing industry represents 50 per cent of the total market, which this year is expected to grow by 25 per cent.

There are still formidable challenges ahead,. In the first place, Africa's packaging industry is starting from a very low base. And this presents problems with regards to plant location and size. The food packaging industry derives its strength from large volume production. And the inability to produce to 'world scale', outside of Nigeria and South Africa, has limited investment. It has also restricted the local packaging industry's ability to meet international standards. In a report, the FAO says that one way to jump start the food packaging industry in Africa would be to "relax packaging regulations without [at the same time] sacrificing food safety considerations".

Nnamdi Anyadike

Cross-sector stakeholders build economies

How the construction industry can contribute to the development of Africa's infrastructure and economic growth

It is widely known that Africa's infrastructure is in need of investment. A recent KPMG report suggested that Africa needs basic infrastructure investment of around US$100bn per year over the next decade – a third of which is needed just for maintenance. Furthermore, most of the infrastructure developments already in play are concentrated in more developed countries including South Africa, Algeria, Egypt and Morocco whereas the rest of the continent continues to lag far behind in infrastructure provision.

Many have argued that the infrastructure deficit is the continent's single biggest hurdle towards long term economic growth and development. With this in mind, we've seen many African governments look to address this issue and create a more welcoming environment for construction companies. Add to this growing interest in African industry from the international investor community, and the continent is at a turning point, ripe for infrastructure development over the next decade. Here, we look at the opportunity for Africa's construction sector and what trends we see developing.

There has been a surge in demand to improve transport facilities in the region

Growth of private investment

There has been, and to some extent, continues to be a significant funding gap to fulfil Africa's infrastructure needs. Historically, most of the capital has come from the public and third sector with development agencies and African governments allocating funds to develop or repair creaking infrastructure.

Until recently, private investment has been fairly limited, partly due to the challenging landscape for infrastructure development. In a 2012 survey conducted by the Organisation for Economic Co-operation and Development (OECD), several development agencies pointed to obstacles in promoting investment in Africa such as political instability, weak public administration, unreliable legal frameworks, corruption, the low capacity of project promoters, bankability of projects, lack of long-term financing, and insufficient resources for project preparation. These issues created a vicious cycle of limiting the amount of capital available to improve the enabling environment on the continent.

In the past decade though, change has been afoot. There has been a steady rise in foreign private investment coming into the continent and the construction sector has benefitted from this influx of capital. A recent AVCA study revealed that more than US$22bn has been raised for African private equity investment alone since 2007. With a third of all African PE transactions occurring in the energy, industrials and utilities space, a significant chunk of this funding will be directed at plugging the continent's infrastructure deficit.

Investors are seeing opportunities in the construction sector to deliver the large-scale infrastructure projects that Africa needs to fuel her growth. From new roads to drainage systems, forward thinking firms can utilise the influx of capital for infrastructure projects on the continent.

For the last 35 years, Spencon has been a staple in the East African construction industry having been involved in over 200 projects in some of the most difficult geographies including urban and rural Kenya, Uganda, Tanzania, Rwanda, Zambia, Malawi, Mozambique, and southern Sudan. During this time, we've seen the many challenges that project developments face in the region and also experienced the changing construction landscape in East Africa.

Going forward, we continue to identify opportunities for Africa's construction sector in the following key areas –

Power

Power instability remains a key issue in Africa with most governments keen to address the problems to support long term economic growth. Over the last five years, there have been a wealth of new power projects across Africa and in particular, East Africa, awarded to international construction firms. This includes the US$684mn power-plant in Tanzania to plug regional energy shortages which will be built by China National Machinery & Equipment Import & Export Corporation (CMEC) and German engineering group Siemens. As Kenya, Uganda and many other African nations focus on improving their power networks, more of these contracts will be available to international firms with significant expertise. Firms with experience in delivering such large scale projects on time and on budget will prove invaluable to local and national governments who need hand-holding through the process.

Many of these projects are funded by international investors or development agencies like the World Bank, hence the requirements for adequate reporting and corporate governance are substantial and should go some way in improving the quality of service provision within the sector.

Water

Adequate provision of clean water to communities is a priority for many African nations, as well as development agencies investing in the continent. As water and waste management will play a critical role in the near to medium, and long-term future of the continent and world at large, construction firms are well placed to invest in the sector as it is expected the number of projects are likely to grow by two or three-fold.

In East Africa, we've been involved in numerous water and sanitation projects working with international companies for the design, construction, supply, installation, testing and commissioning of water and wastewater treatment plants. Recently, Spencon, in consortium with Degrémont, completed the design and construction of a 90,000 cu/m per day water treatment plant in Lower Ruvu, Tanzania.

Andrew Ross, CEO of Spencon

Transport

Business and economic growth in Africa has driven the urgency for a complete revamp of the continent's crippled transport network. In our 35 years of operation, we've seen a surge in demand for implementing road projects to improve East Africa's transport networks.

Firms across the world are already taking advantage for example, the Portuguese construction giant Mota-Engil, Engenharia E Construcao SA winning the US$64mn contract to construct the second phase of the Kampala Northern Bypass in East Africa.

Regional integration and cross border projects

Whilst many make the mistake of viewing Africa as one indigenous entity, its true potential lies in its diversity and variety. Within the large land mass that is Africa, are varying climates, economies and with that different challenges to overcome.

Many of Africa's 54 countries are small with a population of fewer than 20mn and economies less than US$9.9bn. The Programme for Infrastructure Development in Africa (PIDA) noted in 2011 that most of the continent's present infrastructure are reflections of the continent's colonial past, with roads, ports, and railroads built for extracting valuable resources and aid political control, rather than to integrate territories together economically.

In recent times, countries have realised the benefit of creating regional links and building regional infrastructure in order to create larger, more competitive markets for businesses' rather than operate as smaller, isolated and inefficient ones. Bodies like ECOWAS (Economic Community Of West African States) and the EAC (East African Community) are driving regional integration and thus, creating opportunities for infrastructure projects that span across borders. At Spencon, we've experienced more demand to work across borders and demonstrate flexibility across terrains.

During the last 35 years of our operation, Africa has experienced enormous political, social and economic change and it is likely this period of growth and development will continue for the next few decades. However, the infrastructure on the continent to support this change has been slow to follow mainly due to the lack of appropriate financing. As governments, development institutions and investors look to address the funding gap, the construction sector is ripe for growth and will play an increasingly important part in Africa's development. After a successful three decades on the continent at Spencon, we are looking forward to witnessing and contributing to Africa's progress in the next three decades. ■

Meeting African builders' lifting needs

Lifting businesses group Konecranes provides an extensive range of cranes

From light-duty applications to demanding processes, Konecranes equipment is particularly suited to the harsh conditions in sub-Saharan Africa. Konecranes standard offering includes high-quality basic equipment, while the advanced offering includes the latest high-tech features. Products can also be tailored to specific customer requirements. The product range comprises Workstation lifting systems for lighter loads and overhead cranes with lifting capacities of up to 500 tons.

CLX Chain Hoist crane used at MAN Nederland Dealer truck repair shop. The CLX crane is equipped with travel inverters, which improve accuracy in load positioning during precision tasks like removing and replacing engines

Ergonomy and safety with workstation lifting systems

Workstation lifting systems represent a wide scope of expertise. The products are particularly designed for lighter loads and are flexible and versatile in their use. Products range from hand-held lifting tools to robust hoists with up to 20-ton capacity.

Konecranes chain hoists are ideal for demanding workstation use and cover lifting capacities of up to 5,000kg with the CLX chain hoist and up to 2,500kg with the SLX chain hoist, which includes stepless hoisting speeds. The chain hoist is not only convincing with its reliability but also with its appearance, having received the prestigious Red Dot award for Industrial Design in 2013 and a special mention in the German Design Award competition for design quality in 2015.

Busy workstations can benefit from light and durable XA Aluminium and modular XM Workstation cranes, with lifting capacities of up to 2,000 kg, while Jib Cranes are adaptable to various processes. For lifting processes which require a fast pick-and-place operation, Konecranes' ATB AirBalancer, with up-down control of up to 350kg, enables accurate positioning and balancing control. Other products include a telescopic lifting device called the ATL vertical lifter, which is able to lift loads up to 250kg outside the center of gravity. In addition, manual products are available for environments in which electricity is impractical or unavailable.

Overhead cranes with the latest technology features

Konecranes industrial overhead cranes represent a high-quality product which includes the latest technology features to help increase safety and productivity. Several of these are already operating in South Africa. Konecranes Smart features represent the most advanced crane functionality on the market today. The latest features are Snag Prevention, Hook Centering, and Active Sway Control, which can aid to improve speed, accuracy, and the safety of customers' lifting processes.

CXT Wire Rope Hoist crane equipped with many of our Smart Features, like ESR (Extended Speed Range) and positioning features; the crane contributes to the speed and precision of ATA's production in Finland

Konecranes industrial overhead crane product portfolio is wide, starting from the CLX chain hoist cranes, with lifting capacities of up to five tons. The robust design and smooth controls of the CLX crane make it suitable for various manufacturing processes, while easy service access and self-adjusting magnetic breaks keep maintenance downtime at a minimum.

The CXT wire rope hoist cranes can lift up to 80 tons with one hoist and can be scalable for various lifting requirements. One of the benefits of utilising a CXT wire rope hoist crane is the efficiency of space used under the crane and the excellent hook approaches which make the CXT crane suitable for nearly any industrial setting.

For lifting capacities of 500 tons, Konecranes provides open-winch cranes, SMARTON and UNITON, which are strong links in production processes and for demanding uses.

Konecranes' standard offering already includes a wide range of options but can also provide tailor-made cranes for processes that require customisation.

Cranes for hazardous environments

Konecranes' product portfolio is also available in explosion-proof applications and includes industrial cranes, jib cranes, and manual cranes, as well as electric and manual hoists, with lifting capacities from 125kg to 160tons. Konecranes follows strict quality and safety regulations, which is substantiated by multiple certifications of IECEx and ATEX

A 20-ton SMARTON crane operating in the coil storage area of a steel mill

Industry knowledge built into every product

Every industry requires something different. For instance, steel manufacturing needs protection from heat and dust. Fuel and energy production often require specialised grabs, and the automotive industry uses special cranes for coil handling, stamping, and assembly, while mining and primary metal processing often occur in special environments, with special requirements for cranes. By working on the production frontline of industrial customers on every continent, Konecranes' experience is reflected in a deep industry knowledge that is built into every Konecranes product. All key crane components are manufactured and designed in-house, in order to function flawlessly in various lifting applications and industries.

Extensive service network

Through its global service network and feedback from over 600 branches around the world, Konecranes offers specialised maintenance and modernisation services for all types of industrial cranes. These services can be applied to a single piece of equipment or across the entire operation, boosting the productivity and safety of industrial processes. Excellent, proactive, and real-time service is one of Konecranes' strategic priorities. With 634 service locations in almost 50 countries (ten in Southern Africe alone), the company has the largest service network in the industry and provides high-quality service 24/7. ■

Made in India, for the world

Indian off-highway tyre specialist Balkrishna Industries Ltd inaugurated its latest manufacturing plant in Bhuj, Gujarat in December 2015, establishing its presence in the tyre manufacturing business

The Bhuj facility's testing track is used to test BKT products, as well as being approached by other tyre product companies in India for similar testing purposes. (Image source: BKT)

The vision of BKT is to become a leader in the global off-highway tyre market, which is why they decided to build a manufacturing unit in the state of Gujarat.

The company's Bhuj plant is located about 100 km from Pakistan and around 60 km from the port of Mundhra, which is on the Arabian Sea - making it convenient to tap into lucrative business opportunities.

Spread across 300 acres, the US$500mn plant, by the time of formal inauguration, had already achieved a daily production capacity of around 150 MT. It is expected to touch 325 MT a day, according to Rajiv Poddar, joint managing director of BKT.

While the first tyre was rolled out in March 2012, the entire project will be completed by 2016. The tyres currently being made at the plant include 22 sizes of the Maglift solid tire, various measures of Liftmax LM 81 tire (both for forklifts), Portmax PM 93 in size 280/75 R 22.5 for straddle carriers and the giant Earthmax SR 45 Plus tire for dumpers.

Construction of the plant began in 2011. Company officials, at the press conference, recounted the various hardships they had to endure during construction including harsh weather conditions and presence of wild animals at the project site. BKT needed a continuous expanse of land for sustained construction of the plant and related facilities such as a power plant and a reservoir. Shortly after construction of the plant began, an eight km-long pipeline for drinking water as well as 13 km of electricity lines were laid out.

Lucia Salmaso, managing director of BKT Europe, said, "The Bhuj production site is a milestone in BKT's growth, not only for its high levels of technical and quality standards, but also because it is the BKT plant that is situated at the closest distance to a port – a decisive factor to speed up delivery time. Likewise, this is a great benefit for companies that have chosen BKT tires as original equipment."

Like all BKT plants, Bhuj has obtained the ISO 9001: 2000 Quality Certificate. As far as production parameters, quality control and environmental regulatory requirements are concerned, BKT adheres to the strictest international standards.

In addition to being a world-class manufacturing facility, the Bhuj plant also has a host of amenities such as a testing track, an R&D centre, thermoelectric plant and water reserves. BKT's testing track is supposedly one of the best in the country, and is in demand by several Indian tyre manufacturers for testing purposes.

A specific and handy aspect of the BKT plant was a fire station – considering how far out the plant is from city limits, having a fully-loaded fire station is a matter of assurance for the thousands of workers.

According to Arvind Poddar, chairman and managing director of BKT, primary resource for the growth and success of any business is its staff. "More than six hectares of the Bhuj site a small town for the employees was built including modern flats for 406 families, a mall, a green area, a recreation centre, a medical centre and a fire station," he revealed.

The launch was attended by media representatives worldover, who got a chance to witness the various production aspects and processes at BKT's plant. Through this milestone, BKT feels ready to embrace challenges and become a game changer in the market. ■

Improving inspection

Caterpillar is taking the paper out of the machine inspection process with Cat Inspect, an easy-to-use mobile application that allows users to download machine-specific inspection forms and capture actionable information during their walkarounds.

Inspection types include Technical Analysis (TA1) inspection forms and Preventive Maintenance (PM) checklists. The checklists are serial-number specific, which gives users guidance specific to the Cat equipment they depend on every day.

Users can add ratings, make comments and take pictures during the inspection. Subsequent inspection reports lists items requiring attention, from immediate to normal. If users are inspecting machines with optional equipment not listed on their checklists, they can document that equipment and add the information to the form.

Besides eliminating the need for paper, Cat Inspect allows typed or dictated notes, off-line inspections, forwarding to the Cat dealer, and PDF distribution. Important alerts are also sent to VisionLink, so users can get an even better overall view of their fleets.

Cat dealers and technicians have tested, improved and used Cat Inspect over the past year, ensuring an outstanding experience for all customers, especially those using a mobile device on inspections for the first time.

Cat Inspect is available at no charge through Google Play, the App Store on iTunes and the Windows Store.

'Concrete market exists for pipes'

Concrete pipes are an important part of any country's infrastructure. And in many years to come there will, all over the world, remain a big need for concrete pipes, manholes and related products.

One major reason is the growing urbanisation, which means people moving to the cities, and this will grow the demand for infrastructure development like housing, transport systems and services like water supply systems, drainage systems and sewage systems. Also climate change will play a big role in the future demand for infrastructure development. The precipitation patterns are changing and many existing drainage systems will need to be upgraded and expanded to accommodate the changes. As concrete is the strongest, most flexible and economic building material for infrastructure products, these circumstances inevitable will maintain or increase the need for concrete pipes. This also lead to companies will be looking to invest in new production plants for these products to cover the market demand and to be competitive.

The traditional concrete pipe products are drainage pipes, i.e., culvert pipes

Key is proper planning

So what should a potential investor in concrete pipe production consider in order to be able to meet the demands of the future? A good idea would be to also check out the trends in infrastructure development in other countries. An expert like HawkeyePedershaab that has built concrete pipe plants all over the world can be relied on their experience and know-how to invest in pipe production.

Torben Morch, director of global marketing at HawkeyePedershaab, explains, "In most markets there are existing specifications for concrete pipes in place, and it is relatively easy to configure a pipe plant that will honour these specifications. But most markets go up and down and you probably would like to have some flexibility in your plant to be able to diversify into other products if the markets shift. And this is where we know we can add a lot of value to our customers.

"First, we have the widest range of machines in the industry so we have a solution to every customer and every situation. Secondly, from our experiences around the world we can bring information about new products and new trends in the industry to the table so that the pipe producer would have an idea of what direction the market could be going. These two things put together give any investor the security for their investment they are looking before putting a lot of capital into a new plant."

Where could the market be going

The traditional concrete pipe products are drainage pipes (culvert pipes) and sewage pipes (spigot and socket pipes) together with manhole products. Products growing in popularity are also jacking pipes or micro tunnelling pipes for applications where it is not possible to install pipes in open trenches. All these products are circular and have traditionally been manufactured with spinning technology. In more and more places, the spinning technology has been — or are being replaced — with vertically drycast production technology because this, compared to spinning technology, offers clear advantages such as higher productivity, lower production costs and safer production environment.

Other products growing in popularity are HDPE or PVC lined concrete pipes for applications where the environment is more aggressive and also concrete box culverts, which are used for road underpassings of water, pedestrians or even electrical installations. All these products can also be manufactured with the vertically drycast production process, but cannot be manufactured using the spinning process.

"It is very important to be aware of the trends in the infrastructure markets when chosing the production technology for a new plant", Morch explains.

"We have seen markets change many times and we will without any doubts experience it again. Then it is nice to see companies who are able to adapt to the changes using our equipment and put new products on the markets. It also makes us proud when our customers are successful". ■

Mining Indaba looks to boost ailing industry

The annual conference will bring in top global experts to provide extensive insight on how to improve mining sector and mitigate financial and operational risks

Mining Indaba will see an array of global and regional industry leaders and experts for the 2016 Investing in African Mining Indaba that will take place from 8-11 February in Cape Town, South Africa.

The speaker line-up is set to reflect investment opportunities available as well as those beyond the current mining cycle. The four-day conference programme will take a close look at how the industry can improve operational efficiencies, evaluate how to best mitigate risks associated with investing in the sector, and to identify the critical partnerships for ensuring the development and future sustainability of mining in the years to come.

Some of the key speakers include Oliver Andrews, executive director, Africa Finance Corporation; Tendai Biti, former finance minister, Zimbabwe; Harry G Broadman, director, Council on Global Enterprise and Emerging Markets, Foreign Policy Institute, Johns Hopkins University; Mark Cutifani, CEO, Anglo American PLC; Alan Davies, chief executive, Rio Tinto; Makhtar Diop, V-P, Africa, World Bank Group; Robert Friedland, executive chairman and founder, Ivanhoe Mines Ltd; Srinivasan Venkatakrishnan, CEO, AngloGold Ashanti Ltd, among others

"Setting the benchmark as the world-class mining investment event and presiding as the convener of global and influential deal-makers to provide the platform that channels billions of dollars in capitalising the African mining value chain remains our core focus and we intend to deliver on this promise for the 2016 annual conference," says Jonathan Moore, managing director of Mining Indaba. "The programme will include international speakers providing visionary keynotes, insightful panel discussions, personalised networking elements, and unparalleled deal-making across Africa's mining industry."

Mining companies in Africa are grappling to improve productivity in order to address the demanding global and local mining environment. (Photo: NooScapes/Shutterstock)

According to a recent study by PricewaterhouseCoopers, the 2015 financial year has proved to be extremely challenging for South Africa's mining industry. Local cost pressures, labour action, and a continuing downswing in commodity prices have resulted in shrinking margins and impairment provisions. Mining companies are grappling to improve productivity in order to address the demanding global and local mining environment.

These are some of the findings from PwC's seventh edition of 'SA Mine', a series of publications that highlights trends in the South African mining industry..

Michal Kotze, PwC African mining industry leader, says, "The message to miners is clear — Continue to focus on costs, refocus on your core business and carefully evaluate growth opportunities. It certainly will make for some interesting planning and forecasting discussions in the coming year."

Market capitalisation

The 2015 financial year saw the declining trend in market capitalisation continue with few, if any, companies left unscathed. Market capitalisation for the top 35 companies declined to US$25.14bn mid-last year as compared to US$41bn in June 2014.

Although iron ore and coal prices were the most severely impacted, platinum and gold mining companies have not escaped the continuing downward slide in commodity prices. South Africa's main revenue generating commodities haven't experienced real prices as low as those experienced in 2015 in ten years, and it is not certain yet if or when the prices will start to recover.

Contribution by commodity

Despite a continued reduction in prices, coal remains the highest earning commodity in South Africa. Coal had a solid performance over the last decade, with marginal increases in production in the last few years. The long-term decline in gold production was temporarily halted in the last two years. This decline is indicative of the ever-increasing depths of existing mines, technical difficulties experienced by start-up operations and a continually growing base. Platinum group metal (PGMs) production has been severely impacted by industrial action since 2012 and by mine enclosures in the low-price environment. In the absence of a meaningful price increase, it is unlikely that platinum production levels will increase from the current lower base.

Financial performance

"Financial performance for the South African mining industry in 2015 was extremely challenging and downcast," says Andries Rossouw, PwC Assurance Partner. This year's cash flow is the worst since the financial crisis in 2008 and reflects the margin pressure and liquidity concerns experienced by the industry.

Revenue rise by a mere four per cent

Operating expenses increased by 14 per cent, which is higher than the 13 per cent of the previous financial year. However, when companies affected by the platinum strike are excluded, the increase climbs to 15 per cent. Labour costs still remain the biggest cost component in the local mining industry in the continent. The share of labour costs decreased marginally from 47 per cent to 45 per cent in the current year.


Labour costs still remain the biggest cost component in the local mining industry

Integrating risk into business strategy

When one compares the risks facing the mining industry from the prior year to the current year, overall they have not changed. What has changed is the priority of rankings allocated to the different risk exposures. In the current year, most companies increased their focus on environmental compliance and liquidity risk. Rossouw adds, "Many mining companies are in the process of renegotiating the terms of their debt facilities with financial institutions, or will be doing so in the near future. Given the current environment of low commodity prices and high production costs, it seems inevitable that some companies may not be able to make large terminal repayments from profits and may have to enter into negotiations with loan providers in order to agree on more workable agreements."

In addition to the high-profile risks identified, the study also anticipated other aspects and risks that are likely to arise in the coming year. Some of these include: uncertainty on the Mining Charter reporting outcome, water scarcity, and productivity challenges at selected mines. ■

Supporting the Global Aspirations of Africa's Mining Industries

Situated in the English Channel, the Island of Jersey has emerged as an increasingly popular location for the headquarters of mining and natural resources companies. With representatives of the Island attending events around the forthcoming Mining Indaba, Mike King, Chief Executive of the Government of Jersey's Economic Development Department, who has over 20 years' experience in the mining sector, offers his thoughts about Jersey's rise in the mining sector.

Q What sort of growth has Jersey seen in the mining and natural resources sector in recent times?

Mike King (MK): There has been considerable growth in the sector, most notably in recent years. The first natural resources company was established in Jersey in the mid-90s. Since then a significant number of mining and international oil and gas E&P companies have established their headquarters in the Island.

At the end of last year, there were more than 20 such businesses located in Jersey. In early 2015, Digby Wells Environmental, a South African environmental services business with global operations opened a Jersey office in order to bring its business closer to its current and prospective clients in Europe and Africa.

Q What is driving this growth?

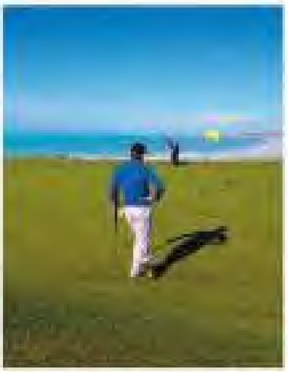
MK: Firstly, in terms of location, Jersey is well positioned for the major investment markets and operating regions in Africa. For executives, particularly those in Africa, Jersey offers professional support and high quality financial and corporate expertise within a stable jurisdiction. This is of great value as in the development of multi-jurisdictional business strategies.

As a leading offshore finance centre with one of the most attractive tax regimes in Europe, Jersey is well placed to deliver the kind of services international mining and natural resources companies demand. In addition, overseen by the Jersey Financial Services Commission, Jersey's regulatory standards are rated highly by institutions such as the World Bank, IMF and OECD.

In addition, Jersey company structures offer access to capital markets with around 110 Jersey companies currently listed on major exchanges worldwide, with a combined market capitalisation of £216bn. From a time-zone point of view, Jersey is also conveniently positioned for the major investment markets and operating regions in Africa.

+ Jersey is well positioned

- Direct flights to key UK airports, with easy access to Europe
- Direct flights to London Gatwick and London City, Birmingham, Bristol, Exeter, Glasgow, Liverpool, Manchester and Southampton
- Ferry links to the UK and France



Q Are there strong links with Africa's mining and natural resources industries?

MK: Jersey has focused on building positive relationships with Africa's natural resources community for some time. As a result we have seen a number of firms from Africa or with strong African connections selecting Jersey as their main European headquarters. This year's Mining Indaba event, for instance, is the fifth year a delegation from Jersey is attending, including a cross-section of finance and business professionals as well as government representatives.

It's worth noting a report published by Capital Economics last year, 'Jersey's Value to Africa', calculated that extractive industry companies with a presence in Jersey are responsible for around £50 billion of investment into Africa in the form of the construction of sites, equipment, and related infrastructure.

A further report published by Capital Economics this year analysed Jersey's contribution to global Foreign Direct Investment (FDI). It found that 18 'Greenfield' projects, largely in the mining sector, were undertaken in Africa with Jersey-originated FDI between 2003 and 2014, valued at $4.9bn in total.

Q How do you see Jersey supporting Africa's mining and natural resources sector in the coming years?

MK: The direction of travel is one of greater partnership between Africa and Jersey. Businesses seeking to relocate their headquarters' operations will continue to need a simple and transparent corporate and personal tax regime, first class regulatory and legislative frameworks, a simple and fast no-nonsense approach to business from government, and a safe business environment – all areas where Jersey excels.

For executives and their families it is important that a location offers first class education and health systems and a good quality of life, facets in which the Island can justifiably claim to be world class.

Locate Jersey is the government organisation responsible for promoting, attracting and retaining inward investment for Jersey. As part of the Department for Economic Development we advocate economic growth, development and employment within the Island.

We provide comprehensive, confidential and free advice to facilitate, support and guide companies through the process of moving and setting up their businesses in Jersey.

Jersey. For business. For life.

For further information please contact Locate Jersey on +44 (0)1534 440604 or email locatejersey@gov.je

locatejersey.com/ar16

Locate Jersey

Decreasing total cost of ownership in coal plants

Weir Minerals coal dewatering solutions focus on machine durability for processing

In the coal processing industry, the total cost of ownership model is heavily dependent on strategies that lower the initial capital cost of replacement screen machines. Coupled with this is an emphasis on an improvement in the overall durability of the traditional coal dewatering screen, which will then facilitate lower operating costs.

According to Kurt O'Bryan, Weir Minerals global product manager for screens and screen media, achieving these goals is possible by carefully and strategically matching solutions to specific customer needs and applications. He notes that the company's latest developments in coal screen machine technology are focused on increasing the size and mechanical durability of its coal duty vibrating screen line. The Enduron product range (formerly known as Linatex) from Weir Minerals concentrates on increasing throughput and decreasing downtime.

The supply and installation of Linatex screening equipment in the coal industry spans a number of decades. The first Linatex dewatering screens were supplied in 1983 in a coal application in South Africa to Anglo American Coal's Kleinkopje operation. Linatex dewatering screens have since been successfully supplied for fine coal applications where they have significantly reduced the moisture content of the fines product, O'Bryan adds.

Over 450 Linatex banana and horizontal screens in single and double deck format, sieve bend static screens and horizontal rotary screens have been supplied to the coal industry for applications ranging from primary and desliming to dewatering for final product. The customer list includes Anglo Coal, BHP Billiton (now South 32), Exxaro, JHDA and Portaclone.

Winchester Maphosa, Weir Minerals Africa product manager for comminution and screens, says, "Weir Minerals Africa continues to provide support for these screens and, in a number of installations, the screens have operated for in excess of 10 years without any replacement necessary."

The Enduron product range (formerly known as Linatex) from Weir Minerals concentrates on increasing throughput and decreasing downtime

Another brand within the Linatex range from Weir Minerals recently launched in the North American coal market is the high performance Fusioncast polyurethane screen media panels. The material is designed to maximise service life through superior abrasion resistance, a critical factor in coal dewatering. The product's properties and wear characteristics make it ideal for use in a number of coal applications including raw coal refuse screens and fine screening.

"In field trials it was confirmed that the product exhibits wear life advantages of up to 50 per cent when compared to injection moulded polyurethane screen media panels. This results in a significant time and cost saving for customers. Added operational flexibility is provided by the product being supplied with a wide range of openings for separations as coarse as up to 25 mm," says O'Bryan

In 2014 Weir Minerals Africa aligned its screens brand with Enduron comminution equipment, allowing the company to provide three to 4.3 metre wide screen designs for large modular coal plants. O'Bryan notes that the Enduron VD dewatering screen range has been designed to ensure that maximum efficiency and lowest cost of ownership is achieved. Enduron products are manufactured according to ISO 9001:2010 standards.

Featuring an innovative 45° feed section, the Enduron screen's feed profile increases the screening area and the dewatering capacities, using high feed end velocities to aid in the dewatering process. The main deck of the screen slopes upwards to maximise solids retention and dewater the cake bed.

The lightweight Enduron VD dewatering screen is suited to applications in the sand and aggregates, and mining and minerals processing industries and can be supplied in variations from 0.3 to three metres wide.

O'Bryan concludes by saying, "All coal dewatering screens in the Weir Minerals range across the globe are backed by the technical expertise of our team, together with a pre- and aftermarket support system." ■

55 carat diamond found in Guinea

London-listed diamond development company focussed on West Africa Stellar Diamonds plc has mined a 55 carat diamond during trial mining at its 75 per cent owned, five-hectare Baoulé (Project) kimberlite pipe in Guinea.

According to the company, the recovery confirms the presence of large stones in the pipe and there has been a continued recovery of high quality gems of up to 12 carats. The trial mining has yielded a total of 8,043 carats to date at an average grade of 12.7 cpht

The revenue from Baoulé diamond sales to date of US$700,644 from 5,173 carats and the objective to mine and process 100,000 tonnes of kimberlite is currently at 63 per cent complete.

Stellar Diamonds plc chief executive Karl Smithson said, "We are extremely encouraged to have recovered this 55 carat stone as it confirms that the Baoulé pipe is a possible source of the large diamonds, which have been mined in alluvial deposits downstream of the pipe for many years. We will carefully examine the stone which appears to have a 'boart' exterior and a potentially better quality diamond on the interior. Gem quality diamonds continue to be recovered from the Baoulé kimberlite up to 12 carats in size.

"With approximately 63 per cent of our trial mining and processing at Baoulé now complete, subject to the company having sufficient working capital, we are currently on track to finalise the trial mining and processing of 100,000 tonnes in Q3 and look forward to providing further updates in due course."

Trial mining of the Baoulé kimberlite pipe resumed in late November 2015 after the rains, with stripping and mining of the western lobe. The kimberlite material remains predominantly weathered, with increasing amounts of friable harder primary kimberlite at depth.

The overall objective of the trial mining exercise is to extract and process up to 100,000 tonnes of kimberlite in order to determine with confidence the diamond grade and ultimate value of the pipe. The company has remained on track to achieve this objective, having processed over 63,000 dry tonnes of kimberlite, thus far. ■

CSMI plans to develop a cross-disciplinary programme on mine closure and post-mining land use (Photo: Vladimir Nenezic/Shutterstock)

Out of Eden

South Africa's SMI Centre helps institutions, companies and others promote responsible practice in mining – including post-closure issues

Just over a decade ago, South Africa's Centre for Sustainability in Mining and Industry (CSMI) was established, funded in part by BHP Billiton amongst other majors.

CSMI has an excellent reputation for training and research on sustainability issues affecting mining.

Prof Caroline Digby took over as the director in January 2014. As a dedicated development economist, she had spent the previous nine years at the world-renowned Eden Project, a multi-purpose regeneration scheme for a huge pit left redundant by china-clay extraction operations. Eden is already one of the UK's leading visitor attractions, but offers a lot more than that.

She describes her work as 'Post-mining regeneration and how to build partnerships and collaborations that deliver grassroots community development and 'green economy' jobs.'

On her recent appointment she says, "We are currently working on a plan to develop a cross-disciplinary programme on mine closure and post-mining land use, which will allow us to draw in a whole range of different disciplines."

Digby notes that the CSMI endeavours to properly define what sustainability means to the mining industry and its stakeholders, as people often attach personal connotations to the term.

So the 9th International Mine Closure Conference was hosted by Wits University, where the centre is located, in Johannesburg a year ago. CSMI was commissioned by AngloGold Ashanti to address some of the research and training issues outlined in the annual report. As a result, the company's head of sustainable development David Noko is quoted on some of its ongoing activities.

"Times are becoming ever more challenging for the mining sector," says the director, listing adverse factors such as low prices and declining productivity. "So there is a huge agenda, many contested issues and much work to be done. We have now focused our work programme under three headings." The centre concentrates on health/safety (H&S) issues, environmental policy/governance/management, and socio-economic development both locally and globally. Prof Digby adds that within South Africa particular attention has to be paid to the transformation of society, still impacted by the country's unfortunate past. "A new future direction" is described for the centre by Prof Cuthbert Musingwini, head of the Wits School of Mining Engineering, which also oversees the Centre for Mechanised Mining Systems. New themes of CSMI's overall programme include —

- Analysis of the contribution of mining to development throughout Africa, within the context of wider growth
- The role of local H&S regulations
- Post-closure land use issues
- The role of small-scale mining in SSA as a whole, including inter-connections with operations on a larger scale.

Research in this area includes the effectiveness of outcomes-based OHS legislation in South Africa, a review of the implementation of mineworkers' right to refuse dangerous work, the efficacy of health and safety officials in promoting worker participation in OHS principles and a review of OHS performance data in South Africa.

The second area of applied research and training comprises environmental policy and governance, which is concerned with the impact that mining has on the biophysical environment. This research field highlights different regional approaches to managing the environment around mining operations and measuring the mining industry's environmental footprint.

The third area of applied research and training studies socioeconomic development, which is concerned with how mining impacts on local communities, regional prosperity and the national economy.

This type of applied research project highlights the changing socioeconomic and industrial relationships in South Africa, as well as regulations on artisanal and small-scale mining operations in Southern Africa.

Further, the projects propose ways in which the local mining industry can contribute positively to broad-based black economic empowerment and social development in South Africa; they also deal with best practice with regard to mine closure.

Training is a key part of the centre's activities, and already this year it has been working with the Mine H&S Council as a local source of expertise. In 2014, CSMI formed a partnership with Synergy Global to develop interdisciplinary courses in company/community relationship development, specially designed to cope with the operational risk-management issues faced by the extractive industries. Participants have already attended from more than a dozen sub-Saharan countries, including Ethiopia and Ghana.

Kabanga Nickel's Theophil Celestine (Tanzania) says, "It was very productive training. We can change our routine style of working as community relations practitioners."

Conferences play a key role in extending and disseminating the Centre's research findings. Two years ago it had helped organise Southern African Institute of Mining & Metallurgy's first Mining, Environment & Society event. And in 2014 it was involved in the special Mine Closure gathering hosted by Wits on behalf of the Australian Centre for Geomechanics, on the theme of 'Leaving a positive legacy'. A list of its latest conference presentations is included in the latest report.

"We actively seek exchanges and the sharing of experience and perspectives with other African universities and centres of excellence across the globe," the document says, citing recent collaborations with both CSIR and Mintek.

It concludes, "Responsible mining is pivotal to Africa's emerging economies as it fosters social cohesion and development while ensuring acceptable returns on investment." CSMI's "Holistic approach transcends individual mines to address both sectoral and regional application." ■

Training

Caterpillar's free e-learning website for future technicians in Africa

Caterpillar has launched the pilot-phase of the Technicians for Africa Project, an e-learning website for people who aspire to become a technician in Nigeria, Mozambique and DR Congo. The website, which is available in French, Portuguese and English, is leveraging Caterpillar's existing, state of the art e-learning solutions and makes them available for anyone in the three countries that has the ambition to develop a career as a heavy equipment technician.

"There is a vital need for skilled labour across these sectors in Africa. We are proud to see the launch of this initiative," said David Picard, regional manager responsible for Caterpillar's distribution in Africa.

The pilot websites in English, French and Portuguese have already been launched and during the pilot stage they will be available in Nigeria, DR Congo and Mozambique. The access to the basic Caterpillar Technician curriculum is free.

The new free e-learning curriculum contains 18 modules of easy-to-understand, technical insights about safety and basic fundamental systems

"Many school leavers are unable to enter the job market because they have been unable to receive enough technical knowledge. In schools, the latest technical information isn't always available," explained Maurice Manders, Caterpillar's learning and development manager and also team leader of the e-learning project. "Offering an Internet-based basic learning curriculum that is available to schools and students is an efficient solution to this challenge."

The new free e-learning curriculum, which contains 18 modules of easy-to-understand, technical insights about safety and basic fundamental systems like electrical, hydraulics and powertrain, complements the paid-for e-learning platforms that are available to Caterpillar's dealers and customers. Paying customers get access to a wider range of e-learning and more functionality of the learning management system.

Machining

Precision calibration for screw connections

An estimated twelve kilos of screws are used to build a medium-sized vehicle. The safety risk 'danger to life and limb' applies to 15 per cent of these. Precision and stability are vitally important for these components. In order to ensure the quality of screw connections, the tools responsible must undergo regular tests and calibration procedures. Usually these services must be carried out by the manufacturers. **Deprag Schulz GMBH & Co** also offers a diverse range of service options relating to calibration and since January 2015 the company has been offering on-site calibration with its mobile service unit.

"Since the introduction of this option, around 30 per cent of all calibrations have been provided on-site at the customer's facilities," said Tobias Dirrigl, application technician, EC screwdriving technology, at Deprag. The trend is increasing. Many well-renowned clients have already tested the calibration service, one of which is **Valeo Schalter und Sensoren GmbH**.

Deprag service test-drive

Valeo is an international supplier in the automobile and commercial vehicle industry, with subsidiary operations in Morocco and Tunisia. Within the business sectors of comfort and driver assistance systems, drive systems, thermal systems and sight systems, Valeo has developed innovative solutions for improvements in comfort and safety for vehicles.

"The calibration of individual measurement devices and measurement components in our automated systems and manual production systems is an essential service. It provides reliable functionality and totally replicable accuracy for tools (such as the Deprag screwdriver), which directly influences the quality and function of our products," explained Philipp Geyer, production planner for Valeo Radar Systems.

It is only by using precision tools that false measurements, production problems or even claims for compensation can be prevented.

New start/stop feature for vehicle engines

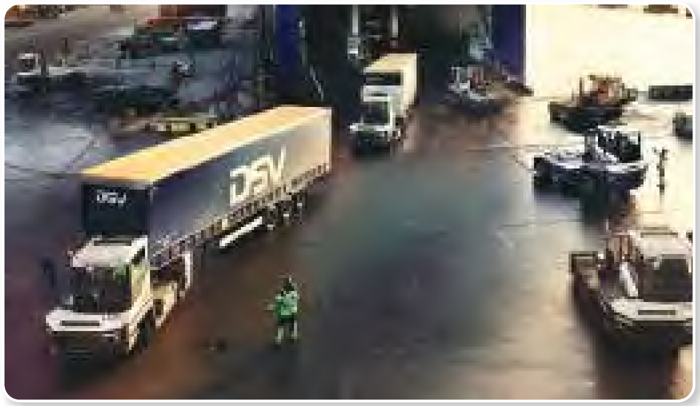
Volvo Penta has launched the second generation of its fuel-saving start/stop function for industrial engines. First introduced in 2013, the feature is now available for Stage IV/Tier 4 Final D5, D8 and D11 engines, as well as Stage III/Tier 3 D11 engines.

For owners and operators, the benefits of the start/stop function include reduced fuel consumption, noise and emissions.

The feature works by shutting down the engine during extended idle periods and turning it back on when the equipment needs to resume its operations. This is increasingly common in automobiles, and Volvo Penta was one of the first companies to integrate the function into industrial off-road engines.

The system provides owners with a good return on investment by saving between five and 15 per cent in fuel costs – depending upon how much idling there is in a given application.

Emissions are also reduced, while a reduction in idling keeps the engine-aftertreatment system at a better working temperature. This leads to a more efficient conversion in the SCR-catalyst and lower NOx emissions. With the engine turned off when it's not needed, excess noise is also reduced.



New benefits

The latest generation of start/stop has been updated with new features. The hardware has been integrated into the engine ECU for greater reliability; a stronger, more robust starter motor is now incorporated which ensures durability; and a battery voltage monitor allows the system to check the battery status and ensure that there is always enough capacity for a re-start.

As with all Volvo Penta off-road industrial engines, those fitted with a start/stop system are covered by the company's full two-year, 3,000-hour international or North American warranty.

David Hanngren, product planning manager at Volvo Penta, said, "Start/stop is one of our latest innovations for the off-road market. We developed this feature in close cooperation with our OEM customers. With our approach, they benefit from using start/stop as an integrated part of our offer, providing a proven solution that is fully protected by our warranty coverage. It is a winning combination."

Advertiser's Index


Hello Tomorrow
Emirates SkyCargo
Our vision realised.
Your ambitions made possible.
We dreamt of a world leading dedicated freighter facility, and we've delivered. Emirates SkyCentral (DWC), our recently inaugurated facility and home to our 15 state-of-the-art freighters, has set a new benchmark in the industry, supporting your global ambitions.
70,000m²
ONE OF THE WORLD'S LARGEST INTERNATIONAL CARGO OPERATIONS
1 MILLION TONNES
TOTAL CAPACITY
P 12 AIRCRAFT STANDS
DIRECT ACCESS
40 AIRSIDE GATES
= 10
CUSTOMS AND POLICE
REAL TIME MONITORING
CENTRALISED SCREENING AND INTEGRATED POLICE FACILITY
ONE OF THE WORLD'S 1st
CONNECTING DWC & DXB IN UNDER 5 HOURS ALONG A VIRTUAL BONDED CORRIDOR
47 TRUCKS
12 REEFERS
SUPPORTING A SEAMLESS COOL CHAIN
15,000m²
TOTAL COOL CHAIN AREA
3 TEMPERATURE CONTROLLED ZONES
72 COOL CELLS
144 ULD POSITIONS
50 COOL DOLLIES
Find out more about our newly inaugurated facility at skycargo.com/DWC