

TECHNOLOGY

Cloud storage potential for the continent **P27**

LOGISTICS

Container traffic outlook in Africa looks challenging despite improvements **P31**

POWER

Advanced solar farms in Morocco and South Africa **P34**

CONSTRUCTION

Tanzania starts work on flagship 300km railway **P37**

African Review

MAY 2017

of BUSINESS and TECHNOLOGY

P46 LESOTHO'S GLITTERING AMBITIONS

Liqhobong mine yields large diamond find

P38 AFRICAN CONSTRUCTION MARKET ANALYSIS

Investment opportunities remain solid for infrastructure projects despite weak global economy

Alain Nkontchou,
managing
partner of
Enko Capital,
on launch
of Enko
Capital Debt
Fund

P18



52
YEARS
SERVING BUSINESS IN
AFRICA SINCE 1964

I AM THE POWER

19TH ANNUAL
**AFRICA
ENERGY
FORUM**
7-9 JUNE 2017
COPENHAGEN



STAND
074



HIMOinsa
THE ENERGY



Audit Bureau of Circulations -
Business Magazines



Cover Inset: Enko Capital

Editor: Samantha Payne

Email: samantha.payne@alaincharles.com

Editorial and Design team: Bob Adams, Prashant AP, Hiriyti Bairu, Miriam Brtkova, Kestell Duxbury, Ranganath GS, Rhonita Patnaik, Rahul Puthenveedu, Nicky Valsamakis, Vani Venugopal and Louise Waters

Group Editor: Georgia Lewis

Contributing Editor: Martin Clark

Publisher: Nick Fordham

Magazine Manager: Serenella Ferraro

Tel: +44 207 834 7676 Fax: +44 207 973 0076

Email: serenella.ferraro@alaincharles.com

India **TANMAY MISHRA**
Tel: +91 80 65684483
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 **MICHAEL FERRIDGE**
Tel: +44 20 7834 7676 Fax: +44 20 7973 0076
Email: michael.ferridge@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 (0)20 7834 7676, Fax: +44 (0)20 7973 0076

Middle East Regional Office: Alain Charles Middle East FZ-LLC,
Office L2-112, Loft Office 2, Entrance B,
PO Box 502207, Dubai Media City, UAE,
Tel: +971 4 448 9260, Fax: +971 4 448 9261

Production: Kavya J, Nelly Mendes and Sophia Pinto
E-mail: production@alaincharles.com

Subscriptions: circulation@alaincharles.com

Chairman: Derek Fordham

Printed by: Buxton Press

Printed in: April 2017

ISSN: 0954 6782



Serving the world of business

Editor's Note

Welcome to our May issue. Lesotho has made our cover this month after the discovery of a 110-carat gem-quality light yellow diamond at Liqhobong mine – renewing hopes it will be the first of many finds for operator, Firestone Diamonds.

We have a special feature on Africa's construction markets – despite the economic constraints and low commodity prices affecting revenue into infrastructure spending – there are impressive developments taking shape. This is especially prevalent in East Africa, where 43 projects are underway, totalling US\$27.4bn. Kenya's Konza Smart City is the biggest in the region – worth US\$14.9bn, it is set to be completed by 2030.

In logistics, we depict a realistic outlook for Africa's shipping sector. Although statistics show a decrease in container traffic volumes on Asia-Africa routes year-on-year, Southern Africa's containerised imports from Asia have given hope by bucking this trend earlier this year.

Lastly in technology, we examine the factors driving the growth of next-generation storage in Africa and enabling African markets to ignore older technologies and leapfrog directly to cellular infrastructure and cloud-based solutions.

Samantha Payne, Editor

Contents

- 18 Profile**
Alain Nkontchou, managing partner of Enko Capital, talks on the launch of the Enko Capital Debt Fund
- 27 Technology**
Data storage in Africa looks set to grow in the coming years, offering many advantages over traditional digital data technologies
- 31 Logistics**
Container traffic volumes on Asia-Africa routes, particular West Africa, have suffered in recent times with steady declines, but Southern Africa's containerised imports have helped buck the trend, reporting a minor recovery in January
- 34 Power**
A report on some of the world's sophisticated solar farms in Morocco and South Africa
- 37 Construction**
Work on Tanzania's 300km standard gauge railway has started, linking the Port of Dar es Salaam to Morogoro, in the eastern part of the country
- 38** A special analysis feature on construction projects in African markets and the challenges facing infrastructure spending
- 46 Mining**
Operator Firestone Diamonds announced its largest diamond find, a 110-carat yellow diamond, at the Liqhobong mine in Lesotho, prompting hopes for further high quality jewels to be discovered



Swaziland reaches the top in African economic freedom index

The latest rankings in the 2017 Index of Economic Freedom by The Heritage Foundation shows people living in countries with low trade barriers are better off.

Swaziland ranked top of all African countries as having the highest level of free trade, according to the 2017 Index of Economic Freedom.

The country, known as one of the world's last remaining absolute monarchies, scored 88.9, followed closely by Mauritius with 88.7.

Swaziland's economy is closely linked to the South African economy from which it receives more than 90 per cent of its imports and to which it sends 60 per cent of its exports: sugar, wood pulp, cotton, beef and soft drink concentrates.

Sudan, which is due to have its economic and financial sanctions lifted in July, had the lowest global trade freedom score of 50.5, while Hong Kong, Liechtenstein, Macao, Singapore and Switzerland scored the highest in the world with 90.

The trade freedom scores were released by The Heritage Foundation and are based on two variables: trade-weighted average tariff rates and non-tariff barriers (NTBs), from the World Bank's most recent data. The weighted average tariff uses weights for each tariff based on the share of imports for each good. Different imports often face different tariffs.

The report stated, unlike inflation data, some countries do not report their weighted average tariff rate every year. Therefore, countries like North Korea and Somalia were not graded.

The 2017 index, which was based on data from the second half of 2015 until the end of June 2016, demonstrated the important link between trade freedom and prosperity and well-being. It indicated those countries with the most trade freedom have higher per



Swaziland receives more than 90 per cent of its imports from South Africa. (Source: Shutterstock)

capita incomes, lower rates of hunger in their populations, and cleaner environments.

According to the report, since the Second World War government barriers to global trade have reduced significantly. Today, the average world tariff rate being less than three per cent. Countries with low tariffs and few non-tariff barriers promote stronger growth and encourage freedom in general – including the protection of private property rights and allowing people to buy what they want, it added.

“The 2017 Index of Economic Freedom shows people who live in countries with low trade barriers are better off than those who live in countries with high trade barriers. Reducing those barriers remains a proven recipe for prosperity.

Governments interested in higher economic growth, less hunger, and better environmental quality should promote freedom, not pander to special interests who want to restrict it,” it concluded.

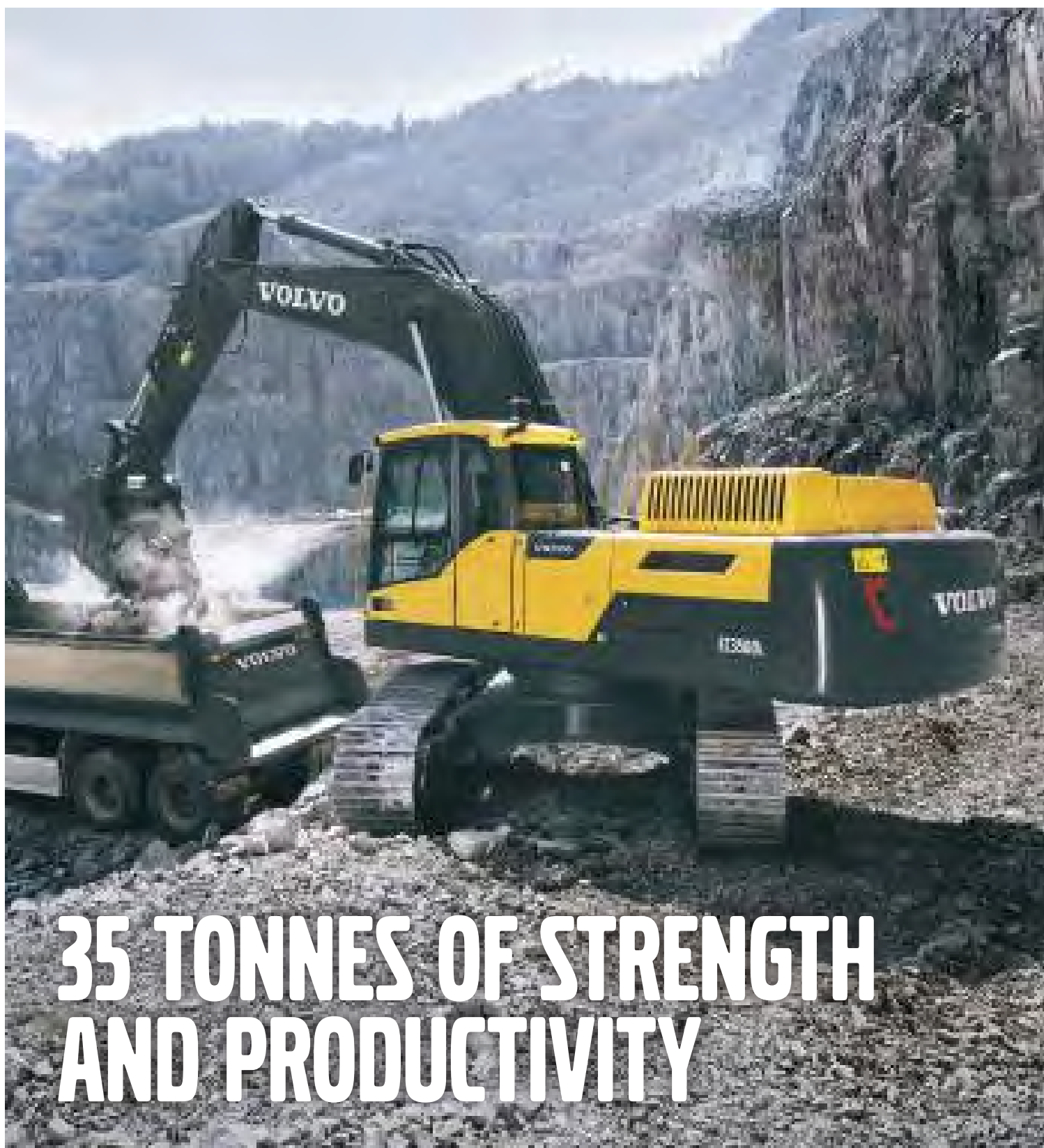
The findings come as current trade policies are being questioned in the USA – where the average tariff rate is just 1.4 per cent but pickup trucks face 25 per cent tariff – and around the world as the volume of world trade is stagnating.

In the report, WTO director-general Roberto Azevedo is quoted as saying, “Out of the more than 2,800 trade-restrictive measures recorded...since October 2008, only 25 per cent have been removed. In the current environment, a rise in trade restrictions is the last things the global economy needs.” ■

2017 Trade Freedom Scores

| Country | Score |
|----------------------------------|-------|
| Swaziland | 88.9 |
| Mauritius | 88.7 |
| Morocco | 84 |
| Botswana | 83.8 |
| Namibia | 83.5 |
| Seychelles | 83.4 |
| Lesotho | 80.2 |
| Libya | 80 |
| Uganda | 78.3 |
| Zambia | 78.3 |
| Madagascar | 78 |
| South Africa | 77.3 |
| Mozambique | 76.7 |
| Tanzania | 76 |
| Burundi | 74.2 |
| Senegal | 73.1 |
| Liberia | 72.8 |
| Côte d'Ivoire | 72.3 |
| São Tomé and Príncipe | 71.8 |
| Togo | 71.3 |
| Malawi | 70.5 |
| Rwanda | 70.3 |
| Egypt | 70.2 |
| Comoros | 70.2 |
| Mali | 70.1 |
| Sierra Leone | 69.4 |
| Eritrea | 69.2 |
| Burkina Faso | 69.2 |
| Benin | 68.7 |
| Cape Verde | 68.2 |
| Kenya | 67.2 |
| Niger | 66.4 |
| Guinea-Bissau | 65.2 |
| Ethiopia | 65.1 |
| Ghana | 65.1 |
| Gambia | 65 |
| Democratic Republic of the Congo | 64.6 |
| Tunisia | 63.8 |
| Algeria | 63.3 |
| Nigeria | 62.3 |
| Mauritania | 62.3 |
| Gabon | 61.8 |
| Guinea | 61.2 |
| Angola | 56.7 |
| Central African Republic | 55.2 |
| Djibouti | 54.9 |
| Chad | 54.7 |
| Equatorial Guinea | 53.8 |
| Cameroon | 53.4 |
| Zimbabwe | 52.8 |
| Congo | 52.2 |
| Sudan | 50.5 |
| Somalia | NG |
| South Sudan | NG |

Source: Heritage Foundation calculations from the 2017 Index of Economic Freedom



35 TONNES OF STRENGTH AND PRODUCTIVITY

When we set out to make our 35 tonne excavator, we wanted to put strength and productivity first. So we put in a Volvo D8 engine to give it high performance yet with superb fuel economy. We gave it a Volvo CareCab – acknowledged as being probably the best operator environment in the market today, with climate control as standard. And we gave it a strong, reinforced undercarriage and frame to help it survive even the roughest of terrains. We believe this makes it the best excavator in its class. We think you'll believe it too. Talk to your dealer.

Building Tomorrow.



East African economy bites back despite effects of drought

East Africa's economy has continued to grow despite the adverse effects of drought, according to the Institute of Chartered Accountants in England and Wales.

In its latest report, *Economic Insight: Africa Q1 2017*, the accountancy and finance body points out that authorities from various East African nations have attempted to mitigate the effects of the drought by stimulating economic activity through fiscal stimulus and loosened monetary policy.

The report, commissioned by ICAEW and produced by partner Oxford Economics, provides a snapshot of the region's economic performance, focusing specifically on Kenya, Tanzania, Ethiopia, Nigeria, Ghana, Cote d'Ivoire, South Africa and Angola.

According to the report, Tanzania is set to hit a real GDP growth of 6.9 per cent, followed by Uganda at 6.8 per cent, Ethiopia at 6.7 per cent, and Rwanda and Kenya at 6.6 per cent and 6.4 per cent respectively, despite the drought. Rwanda and Uganda have loosened monetary policy during the first quarter of the year, while Ethiopia counterweighed the drought effects through substantial fiscal stimulus – the construction sector reportedly expanding by 25 per cent during the 2015/16 fiscal year.

Michael Armstrong, regional director, ICAEW Middle East, Africa and South Asia said, "Overall, economic growth in East Africa remains strong despite the drought. Infrastructure development continues to stimulate industry across the region, while expanding services to the largely un-served markets remains the key driver behind growth."

The adverse effects of the drought have been most notable in Uganda, with agriculture decreasing during the first three quarters of 2016. Poor crop production has also had a marked impact on food price inflation across the region. While not particularly intense in historic terms, inflationary pressures in recent months can almost entirely be attributed to high food prices, with non-food price inflation remaining subdued. Most agriculture in East Africa is highly dependent on the weather, and adverse rainfall is directly reflected in agricultural production and food prices.



Drought does not hinder economic growth in East Africa.
(Source: Shutterstock)

KENYA'S CONSUMER CONFIDENCE DIPS

Kenya's latest Nielsen Consumer Confidence Index score for the last quarter in 2016 has dropped 11 points from the previous quarter to 109.

Capped interest rates, rising food inflation due to drought and unemployment concerns, particularly among the young (nearly one in every five Kenyan youths is unemployed), fuelled the decline in consumer confidence, according to managing director Abhik Gupta of Nielsen East & West Africa.

"Compared with other more volatile economies in Sub-Saharan Africa, the Kenyan economy is growing at a relatively strong and stable rate, with GDP growth of 6.2 per cent, and Kenyans are generally feeling positive about the future," said Gupta, adding that "It's important to realise that the set of factors influencing confidence are multifaceted and go beyond economics and business. There continues to be wide variation in confidence across countries, as confidence is affected more by local conditions than global ones."

UGANDA AND SEYCHELLES ARE POWER EFFICIENT

Uganda and Seychelles have been singled out as the two countries with the most efficient power utilities in sub-Saharan Africa, according to a World Bank report. The study, entitled *Making Power Affordable for Africa and Viable for Its Utilities*, will be presented at the utilities CEO forum at African Utility Week in Cape Town from 16-18 May. It highlighted Seychelles and Uganda "fully covered operational and capital expenditures".

Uganda's power distributor Umeme said it reduced technical and distribution losses to 19 per cent, from 35 per cent in 2008. It aims to reach 14 per cent by the end of 2018.

The report found Uganda, which has 15 per cent of its population connected to the grid and five per cent to off-grid solutions, has fiscal capacity "to charge better-off, large-consumption customers more and cross-subsidise needy households."

Umeme has also introduced pre-metering to help reduce the number of people unable to pay their bills.

The World Bank praised Uganda's initiative to attract smaller independent power projects (IPPs) investments, "including the innovative competitive bids for small hydropower, biomass, and solar projects solicited under the global energy transfer feed-in tariff (GETFIT) program".

After South Africa, Uganda has the largest number of IPPs in sub-Saharan Africa and the only other competitively bid grid-connected solar photovoltaic (PV) program."

In a statement by Lucio Monarath, the World Bank's director of energy and extractive global practice said, "Less than half of utilities cover operating expenditures while several countries lose in excess of US\$0.25 per kWh sold. In this context, it will be difficult for utilities to maintain existing assets, let alone facilitate the expansion needed to reach universal access goals."

► BRIEFS



Source: Shutterstock

Taxi app launched in Somalia

Waryaa Taxi app has launched in Somalia. It will allow passengers to book taxis from their smartphones for the first time in the country.

"Waryaa Taxi is a creation of individuals who were tired of overpaying for taxis. They were also concerned about the security of many taxis in the region. Waryaa Taxi is safe, cheap and convenient. We are working to make deals with drivers in main cities," said MR Kodah, co-founder and chief executive officer (CEO) of Waryaa Taxi.



The Haykota licence in Eritrea.
(Photo: Ortac Resources)

Andiamo begins drilling programme in Eritrea

Ortac Resources has announced that Andiamo Exploration Limited will begin a reverse circulation drill programme at its Haykota Exploration License Area in Eritrea. "We are very pleased that Andiamo has secured the funds to re-commence drilling these highly prospective targets in their Haykota license area and we look forward to reporting further progress in due course," says Vassilios Carellas, Ortac's CEO.

Scale to greater heights in the dynamic manufacturing environment

Streamline your production process, augment your supply chain and reduce overheads with the ORION ERP Solution for Process Manufacturing.

- ▶ Enables timely production to meet customer expectations
- ▶ Facilitates real-time batch and lot tracking for better planning and decision-making
- ▶ Ensures regulatory compliance for optimum quality
- ▶ Monitors production costs and increases profitability



Call us at: +65 6511 1599/ +60 3 2786 8500/ +66 2 659 5879 | Write to us at: orion.erp@3i-infotech.com



Botswana comes first in latest African investment index

Botswana is the most attractive economy for investments flowing into the African continent, according to the latest Africa Investment Index 2016 by Quantum Global Research Lab.

The country scores highly based on a range of factors that include credit rating, current account ratio, import cover and ease of doing business.



Botswana is Africa's top investment destination factors including its strategic location. (Source: Shutterstock)

Prof Mthuli Ncube, head of Quantum Global Research Lab stated, "Despite considerable external challenges and the fall in oil prices, many of the African nations are demonstrating an increased willingness to achieve sustainable growth by diversifying their economies and introducing favourable policies to attract inward investments. Botswana is a case in example – its strategic location, skilled workforce and a politically stable environment have attracted the attention of international investors, leading to a significant influx of FDI."

The report stated the top five African investment destinations attracted an overall FDI of US\$13.6bn. Morocco was ranked second on the index based on its increasing solid economic growth, strategic geographic positioning, increased foreign direct investment, import cover ration and overall business environment. Egypt was ranked third due to increased foreign direct investment and real interest rates, and a growing urban population. The fourth country on the list, South Africa, scored well on the growth factor of GDP, ease of doing business in the country and significant population. While Zambia was the fifth country on the list due to its significant domestic investment and access to money supply.

| Top 10 and bottom 10 countries to invest | | |
|--|------------------------|---------------------------|
| Rank | Top 10 (best to worst) | Bottom 10 (worst to best) |
| 1 | Botswana | Somalia |
| 2 | Morocco | Eritrea |
| 3 | Egypt, Arab Rep. | Central African Republic |
| 4 | South Africa | South Sudan |
| 5 | Zambia | Sierra Leone |
| 6 | Cote d'Ivoire | Liberia |
| 7 | Algeria | Malawi |
| 8 | Tanzania | Equatorial Guinea |
| 9 | Namibia | Gambia |
| 10 | Burkina Faso | Madagascar |

Source: Quantum Global Research Lab

Ncube added, "With a population of over one billion people and rapidly growing middle class, Africa clearly offers significant opportunities to invest in the continent's non-commodities sectors such as financial services, construction and manufacturing. However, structural reforms and greater private sector involvement are crucial to unlocking Africa's true potential."

AIRSWIFT & EMBRACE EXPAND INTO MOZAMBIQUE

Airswift, the global workforce solutions provider for the energy, process and infrastructure sectors, together with Embrace, a local HR consultancy in Mozambique, has launched a joint venture, Airswift Embrace.

The 50/50 JV forms part of Airswift's ongoing global growth strategy to increase its international reach, enhance its scope of services and provide additional flexibility and scalability to its clients.

Airswift Embrace employs a small team from its main office in Maputo, the capital, with plans to expand into Pemba and Palma, and employ up to 20 local staff members over the next year.

Richard Clay, head of business development for Africa at Airswift, will oversee operations and lead the local team. Clay said, "Mozambique's wealth of energy resources, particularly liquefied natural gas, make it a strategic location for the company. This isn't about one immediate project but a long-term investment in an increasingly important area."

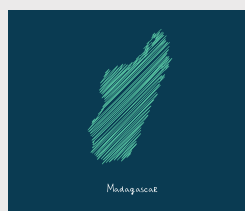
Embrace entered the partnership to access Airswift's international expertise and experience within the global recruitment market, while Embrace's significant knowledge of the Mozambique market will enable both companies to better service clients and contractors at a local level and on a larger, global scale.

Andre Duane, manager at Embrace, added, "We are delighted to be associated with a company that has the global reach of Airswift. Their world-class reputation and impressive client base combined with our local knowledge and expertise, means we will be able to serve the Mozambique market to the highest standards."

A number of investment projects in Mozambique will reach a final decision in the next 12-18 months.

► BRIEFS

Madagascar ministry to attend AEF



Madagascar and Botswana ministries are set to attend Africa's leading energy summit in June.

Madagascar and Botswana are among nine African countries to have confirmed they will be represented at the Africa Energy Forum (AEF), which is set to welcome 2,000 decision-makers in Africa's energy sector to Copenhagen this June.

AEF is the annual meeting point for Africa's energy sector for decision-makers to explore investment opportunities, form partnerships and sign deals. It will see the return of the off the grid village area as a networking hub for the off grid community.

Bank Windhoek announces GoPay mobile solution



GoPay, mobile solution, is launched by Bank Windhoek.

Bank Windhoek has announced the introduction of GoPay, the bank's unique mobile payment solution for fuel in Namibia.

Baronice Hans, managing director, has more than 80 fuel merchants lined up to accept mobile payments, according to local media.

"The GoPay product is an example of our passion and dedication to connect our customers to a positive experience," said Hans.

Payments can be used with any mobile model.

The revolutionary approach to reliability!

Our new
F-series loaders:
**The Reliability
Revolution**



Reliability in Action

With the new F-series wheel loaders, SDLG now takes reliability one step further.

Building on our reputation for outstanding reliability, these new machines feature innovative improvements that work together to provide more power, better fuel efficiency and longer service intervals. Which means you can rely on improving your running costs too!

The SDLG Reliability Revolution is an ongoing project – but our message never changes: SDLG reliability brings you profitability.

 facebook.com/sdlgcn



Public and private investment needed to solve North African water crisis: FAO

Investment by the public and private sector in the agriculture value chain is required to solve North Africa's water crisis, support economic growth and create jobs, with a focus on wheat, sugar, meat and horticulture. This is according to Jose Graziano da Silva, director-general of the Food and Agriculture Organisation of the UN (FAO).

He said that an "urgent and massive response" is needed to improve access to water, which is needed for food security, agricultural development and health. FAO figures indicate that accessible fresh water in the Middle East and North Africa (MENA) region has fallen by two-thirds in the past 40 years, amounting to 10 times less per capita availability than the world wide average.

A study by the FAO found that higher temperatures may shorten growing seasons in the region by 18 days and reduce agricultural yields a further 27 per cent to 55 per cent less by the end of this century.

For Egypt, this is particularly critical with rising sea levels in the Nile Delta exposing the country to the risk of losing substantial agricultural land due to salinisation.

However, the director-general supported the approach taken by Egypt in regard to this issue, adding that the FAO would favour an Egyptian agricultural investment forum being held towards the end of 2017 aimed at boosting public and private investment.

Egypt's future water use agenda is especially challenging as the country "needs to look seriously into the choice of crops and the patterns of consumption," Graziano da Silva warned, pointing to potential water waste in cultivating wheat, a staple of the country's agriculture industry.

In terms of meeting water sustainability goals, the FAO has been involved in multiple projects across the MENA region, including decentralised groundwater governance schemes in Morocco and Yemen, solar pumping in Egypt, and drought preparedness schemes for Lebanon and Tunisia.

Additionally, policy advice and best practice ideas on the governance of irrigation schemes is an essential part of the FAO's Near East and North Africa Water Scarcity Initiative. This initiative is backed by a network of more than 30 national and international organisations, and has been endorsed by the League of Arab States as well as receiving donor support.



Salinisation is impacting on Nile Delta farmers. (Source: camilo g. r./Flickr)

RABAT HOSTS CLIMATE FINANCE WORKSHOP

The Moroccan city of Rabat has played host to a workshop on access to climate finance, organised by the United Cities and Local Governments of Africa (UCLGA).

The workshop brought together Moroccan institutions, such as the Interior Ministry, the General Directorate for Local Governments, the Cadi Ayyad University in Marrakech, and the Communal Equipment fund, as well as pan-African and international groups.

With the goal of initiating a process of implementation for better access to climate finance at local and regional levels, task force was established, as well as a supporting protocol, which was signed between UCLGA and ENERGIES 2050, an NGO focused on low carbon development.

The task force aims to implement a road map for a proposed ecosystem with local stakeholders urged to play a strong role in projects, such as green climate funds and other climate finance instruments. The workshop proposed that UCLGA should be recognised as an implementing agency for a new green climate fund.

During COP22, the last UN climate change conference, African cities requested the establishment of a dedicated window for sub-national governments within a new green climate fund. They expressed hope that a capacity-building programme would be established to help local governments access these funds and move towards meeting carbon reduction targets.

Cities were the main focus of this workshop because of increased urbanisation in Africa and beyond, with cities now housing more than half of the world's population, consuming 60 to 80 per cent of the world's produced energy. Three-quarters of our greenhouse gas emissions are directly associated with urban spaces, and it is estimated that by 2050, 75 per cent of the world's population will live in cities.

EGYPT AND USA TO FUND TECHNOLOGY PROJECTS

Fifteen joint science and technology research projects will be funded by the US-Egypt Science and Technology Joint Fund. The projects were approved in a meeting of the fund's board of directors, which was held in Cairo in April. Grants will be given to projects in the fields of agriculture, energy, health and water, continuing a long tradition of science and technology cooperation between the two countries. Since the fund was established in 1995, the fund has provided grants for more than 500 collaborative projects. These include research which has contributed to creating vaccines for the H5N1 avian influenza virus, the development of highly efficient solar cells, and improved wheat and citrus production which reduces the use of chemical fertilisers. Robert S. Beecroft, US ambassador to Egypt, said the fund has "promoted science collaboration to address development challenges and promote economic growth" and that this has had "a direct and positive impact on people's lives."

► BRIEFS

Hilton expands in North Africa



Hilton's Feras Hasbini. (Source: Hilton)

North African expansion is planned for the Hilton hotel chain with a dedicated development office opening in Casablanca. There are now 15 Hilton hotels across Algeria, Egypt, Morocco and Tunisia. The latest property to open in the region is the Hilton Garden Inn Casablanca Sidi Maarouf. At present, Hilton is developing 5,000 rooms in North Africa, with the majority in Egypt, but the Casablanca office indicates wider regional expansion is planned.

400 MW solar boost for Egypt



Signing ceremony for the solar power agreement. (Source: Scatec Solar)

Scatec Solar and partners have signed power purchase agreements to produce 400 MW of solar energy in Egypt. The electricity will be produced from six plants, all of which are located in the Ben Ban region near Aswan in Upper Egypt. This electricity is expected to replace around 350,000 tonnes of CO2 per year, supporting Egypt's emission targets as per the Paris Climate Agreement, which was signed in 2015 at the UN's annual climate change conference.

"Sanction relief is a 'win win situation' not just for Sudan but for the whole world"

The Trump administration will decide whether or not it will eliminate economic and financial sanctions on Sudan for the first time in its 20-year bloody history on 12 July.

It will be a historic moment as it will mean investors will be keen to take advantage of Sudan's rich oil and gold resource base like never before. There are already oil companies from the Middle East, the USA and Europe uniquely positioning themselves for the years ahead.

Osama Faisal, minister of investment, said if sanctions are lifted, investment opportunities will increase across all industries; in the mining, power and oil sectors [there are still 1.5bn barrels of oil reserves available], as well as in the food and pharmaceutical sectors. There is also massive potential to develop renewable energy like solar and wind to support the economic growth of the country.

He said, "It is not just a 'win win' situation for Sudan but for the whole world. The US sanctions were affecting all the other countries. In my opinion, one of the reasons for the sanctions to be lifted from Sudan, is that some of the companies started rebelling against the sanctions."

He cited Siemens as an example of a company which closed their offices in Sudan because it did not want to compromise their business with the USA. But the German company was keen to do business again in Sudan and agreed last year with the government-owned Sudanese Thermal Power Generating Company to supply five power plant units.

Sudan lost most of its oil reserves after the secession of the south in 2011, but it forced the republic to diversify into other sectors like mining, which he described as a 'big renaissance for Sudan'.

"Luckily, most of our resources remain untapped despite the war and the situation has calmed down in Darfur, attracting investors in Sudan in the future. I'm working with the private sector in the UK and USA to make sure the sanctions are lifted, and I am optimistic that things are going in the right direction," he added.

The lifting of US sanctions depends on the Sudanese government proving it has acted towards ending armed conflict, has improved humanitarian access and cooperated in the fight against terrorism.



Most of Sudan's resources still exist despite the war. (Source: Shutterstock)

GAMBIA'S INVESTMENT PLAN COMES AT RIGHT TIME

Government officials, private sector representatives and development partners participated in the presentation of UNCTAD's Investment Policy Review (IPR) of the Gambia in Banjul.

The report recommends improving the Gambia's legal framework for investment, as well as its approach to promoting foreign investment in the country.

"The IPR is timely and the new government requires visibility to attract new investments," said Naffie Barry, permanent secretary of the Gambia's ministry of trade, industry and employment, adding the ministry is determined to implement the IPR's recommendations to address the supply-side constraints that hinder economic activity in the country.

While recognising the environment in the Gambia is open to investment, the report highlights the fact that the country's potential remains largely untapped.

Improving the environment requires more effective implementation for the laws governing business in the country, and strengthened capacities for government institutions, especially for putting in place a prioritised and focused investment promotion strategy, it stated.

During the presentation on 11 April, Chantal Dupasquier, chief of UNCTAD's investment policy review section, emphasised the role foreign direct investment (FDI) plays in helping Gambia achieve its development objectives if the correct policies are put in place to foster a vibrant private sector.

"Clarity, stability and predictability are vital words for investors," said Dupasquier.

Another policy challenge includes addressing trade constraints.

ABUJA AIRPORT REOPENS AFTER SIX WEEK CLOSURE

The airport in Abuja, Nigeria, has reopened after being closed for six weeks for urgent repairs to its runway. An Ethiopian Airlines flight was the first to land on 18 April. This first plane on the new runway was the latest Airbus A350-900 from Ethiopian Airlines that Africa had welcomed.

President Muhammadu Buhari praised ministries, security agencies and others over the re-opening of the airport. He was impressed with such displays of inter-agency cooperation and efficiency in the operation of the entire federal government machinery. He also thanked Ethiopian Airlines for cooperating with the Nigerian government during the period of the closure of Abuja airport.



Lifting Solutions That Work.

safrench

Tel: +27 11 822 8782 | info@safrench.co.za | www.safrench.co.za



Upcoming Events Calendar 2017

MAY

8 - 11

MASTERING RENEWABLE & ALTERNATIVE ENERGIES

Johannesburg, South Africa
infocusinternational.com/renewable

9 - 12

MACHINE TOOLS AFRICA 2017

Johannesburg, South Africa
www.machinetoolsafrica.co.za

12 - 14

BUILDEXPO ETHIOPIA 2017

Addis Ababa, Ethiopia
www.expogr.com

15 - 17

MINING INVESTMENT AFRICA

Abuja, Nigeria
www.mininginvestmentafrica.com

16 - 18

AFRICAN UTILITY WEEK

Cape Town, South Africa
www.african-utility-week.com

24

SMART BUILDINGS & INFRASTRUCTURE

Johannesburg, South Africa
www.smart-summit.com

29 - 31

INFRA EAST AFRICA

Nairobi, Kenya
www.infraeastafrica.com

30 - 1 June

SECUREX SOUTH AFRICA

Midland, South Africa
www.securex.co.za

30 - 1 June

NICONEX

Lagos, Nigeria
www.niconex.net

31 - 1 June

AFRICA CONSTRUCTION SUMMIT

Munich, Germany
www.africaconstructionsummit.com

JUNE

5 - 7

AFRICA OIL & POWER

Cape Town, South Africa
www.africaoilandpower.com

7 - 9

AFRICA ENERGY FORUM

Copenhagen, Denmark
www.africa-energy-forum.com

13 - 14

AIRPORTS SHOW AFRICA

Johannesburg, South Africa
www.terrapinn.com

13 - 15

CONMIN WEST AFRICA

Abuja, Nigeria
conminwestafrica.com

19 - 20

EAST AFRICA FUTURE BANKING

Nairobi, Kenya
www.fleming.events

CONMIN WEST AFRICA DRAWS NEARER

As ConMin West Africa's opening ceremony draws closer, national and international players and businesses will be gathering in Abuja, Nigeria, to take part in the two-day event.

The national mining summit on 13 - 14 June will be organised around nine pillars of the 'Africa Mining Vision' action plan. These pillars include: improving mining revenues and mineral rents management, improving geological and mining information systems, building human and institutional capacities, integrating artisanal and small scale miners, improving mineral sector governance, research and development, environmental and social issues, linkages and diversification and mobilising mining and infrastructure investment.

The fall of commodity prices impacting economic growth has heightened the need to fast track the Africa mining vision through revenue base diversification and increase local added-value to minerals produced.

The Federal Ministry of Mines and Steel Development in Nigeria, for example, aims to grow its mining sector to the economy from 0.2 per cent in 2015 to three per cent in 2025 following the collapse in the oil price, which drove the country into recession in 2016.

Third edition of Propak East Africa hailed as the biggest and best yet

Propak East Africa cemented itself as the leading industry exhibition for the wider East African region in the packaging, printing and plastics sector.

Some 3,095 trade delegates from 43 countries in Africa and the rest of the world attended the three-day conference at the Kenyatta International Convention Centre in Nairobi.

During the event themed, 'Proving the efficiency of packaging, printing and processing in East Africa', 123 exhibitors met with regional industry buyers to network and discuss future and existing business, as well as hear talks from major brands, such as Coca-Cola, Robert Bosch and Kenya Bureau of Standards and Tetra Pak.

Boxmore Packaging from South Africa, said, "Propak East Africa worked very well for us. We were able to generate new business and potential leads from a wide variety of different countries, not just within the East Africa region, but the whole world." Another exhibitor, Swedev AB from Sweden said, "Propak East Africa was so much better for us than we anticipated. It was our first time at the exhibition so we took a small stand in the second, smaller hall. However this didn't affect us at all, and after generating new leads in the region, we have decided to re-book for the 2018 show."

Alexander Angus, the East African regional director for Montgomery, the organisers of Propak East Africa, said having finished the event, "We are thrilled that we have run another hugely successful event here in Kenya." The next edition of Propak East Africa will run from 27 February to 1 March 2018.



Trade delegates from 43 countries in Africa and the world attended the conference in Nairobi. (Photo source: Propak East Africa)

BACKHOE LOADER BY BOBCAT®



**POWERFUL
RELIABLE
DURABLE**



Bobcat.

One Tough Animal.



WITH 2 YEAR
STANDARD WARRANTY
ON POWERTRAIN

DOOSAN

Bobcat is a Doosan Company. Doosan is a global leader in construction equipment, power & water solutions, engines, and engineering services, serving customers and communities for more than a century. Bobcat and the Bobcat logo are registered trademarks of Doosan Company in the United States and several other countries. ©2017 Doosan Company. All Rights Reserved.

US\$27.4BN PROJECTS ATTRACT GLOBAL CONSTRUCTION PLAYERS IN EAST AFRICA

The second edition of The Big 5 Construct East Africa on 1-3 November 2017 is expected to exceed the launch event.

Last year more than 8,500 people attended the The Big 5 Construct East Africa.

It is the official exhibition of Kenya's National Construction Week and this year will be bigger with more than 200 local and international exhibitors. "With East Africa being the fastest growing region in the continent, the event is setting itself as the central meeting place for global manufacturers of construction products to network and do business," said Andy Pert, exhibition portfolio director. "Demand of



Workshop at The Big 5 Construct East Africa 2016. (Source: The Big 5 Construct East Africa)

innovative solutions for the built environment in countries like Kenya, Tanzania, Uganda and Ethiopia is booming."

CABLE SYSTEM CONNECTING AFRICA AND THE AMERICA REACHES MAJOR MILESTONE

Angola Cables has announced the completion of the marine survey for the South Atlantic Cable System (SACS).

When it is completed by middle of 2018, SACS will interconnect with the Monet Cable System, connecting the US and Brazil, and WACS, the West Africa Cable System. SACS is a top Tbps cable, 6,165km in length, with four fibre pairs. Each fibre pair is capable of transmitting 100 wavelengths with a bandwidth of 100Gbit/s. "SACS, along with Monet and WACS, provide unparalleled value for which we are seeing very high demand in the marketplace," said Artur Mendes, chief commercial officer for Angola Cables.

DRC TO HOLD IMPORT TALKS WITH ESKOM

The Democratic Republic of Congo (DRC) hopes to import electricity from South Africa soon to

counter a gaping power deficit that has dented mining output. The DRC is Africa's top copper producer. Officials from Congo's power utility and the chamber of commerce plan to hold import talks with South Africa's Eskom.

The DRC is already plagued by energy shortfalls. There are fears that scarce rainfall could cause a near 50 per cent drop in output from the country's main hydropower plants during the dry season which runs from May to September

BOLLORÉ BOOST FOR GUINEA RURAL ELECTRIFICATION

France's Bolloré Group has unveiled a fresh commitment to developing a decentralised rural electrification programme in Guinea.

The announcement was made following a meeting in April between Guinean President Alpha Condé and the French President François Hollande in Paris. During the official visit, several agreements were signed to accelerate the development of renewable energies and improve access to energy in Guinea.

In the first half of 2017, Blue Solutions, a subsidiary of the Bolloré Group, will deploy a pilot project to bring electricity to a village located in Upper Guinea.

Large Mining

www.panafricangroup.com

PANAFRICAN GROUP

Wirtgen Group Products are available in Kenya, Tanzania, Rwanda, Burundi and Uganda. For further information on other territories, please contact your local Panafrikan office. Massey Ferguson is available in Kenya, Tanzania, Uganda and Nigeria. Challenger is available in Kenya, Tanzania, Uganda and Nigeria, Valtra is available in Nigeria.

For more information contact : Tel : +971 4 212 4750 | info@panafricangroup.com

POWER YOUR FUTURE

"AKSA began it's journey as a manufacturer in Turkey in 1984, with the development of it's first generating set. To satisfy the needs of today's customers worldwide, AKSA continues to manufacture a comprehensive range of generating sets from 1 kVA to 3.000 kVA at facilities in Turkey, China and the USA. In addition to it's office in Algeria, in 2015 AKSA opened sales offices in South Africa and Ghana to add to it's worldwide sales & service portfolio, making over 15 sales points to service the African continent."



aksa@aksa.com.tr
www.aksa.com.tr

Follow us on:   



© 2015 AKSA

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

SOLAR ENERGY GETS A 400 MW BOOST IN EGYPT

A new purchase power agreement will deliver 400 MW of electricity to Egypt, replacing around 350,000 tonnes of carbon emissions.

The 25-year agreement was signed by Scatec Solar and its partners in the presence of Egypt's minister for electricity and renewable energy, Dr Mohamed Shaker El-Markabi, and the ambassador of Norway, Mr Sten Arne Rosnes.

Located in the Ben Ban area near Aswan in Upper Egypt, the six solar plants will each produce 870 GWh of solar electricity per year. These plants are part of the 2 GW solar FIT programme, which was launched by

the Egyptian government in 2015. The electricity produced from the plants is expected to replace around 350,000 tonnes of carbon emissions, which will assist with meeting Egypt's emissions targets under the historic Paris Climate Agreement.

KONECRANES AND DEMAG JOIN FORCES

Following Konecranes' worldwide acquisition of Terex MHPS, which in effect is Demag Cranes, Hoists, Material Handling and Ports Solutions, the two global crane brands will be sharing their considerable combined knowledge and technology, becoming a substantial force in the lifting business in sub-Saharan Africa. The

acquisition will improve Konecranes' position as a focused global leader in the industrial lifting and port solutions market. Konecranes will achieve growth opportunities in the service business in which it already has a stronghold in Southern Africa.

Konecranes has a long history of conducting routine service inspections, repairs, and refurbishment of Demag cranes. In South Africa, the merger also extends to the Wolff Cranes brand which was acquired by Demag in the late 1980's. In terms of the port material segment, it includes handling technology with a broad range of manual, semi-automated solutions under the Gottwald and Noell brands.

CÔTE D'IVOIRE JOINS ATI

The African Trade Insurance Agency has announced that Côte d'Ivoire has joined the list of countries who are members of the institution. ATI is a investment insurer whose investment and commercial risk insurance products are expected to help attract US\$2bn worth of inward investments and trade into the country, and to help lower its borrowing costs by up to one per cent annually. "Our country membership in ATI will contribute to creating the economic conditions that will enable us to reach emerging country status by 2020," Adama Kone, Côte d'Ivoire Minister of Economic and Finance said.





-  Experience
-  Reliability
-  Flexibility
-  Speed
-  Research & Development
-  Synergy
-  After-sales
-  Quality



Protect

your home, your office
or your factory with a
high quality voltage stabiliser

www.ortea.com

DIGITAL VOLTAGE
STABILISERS

POWER
TRANSFORMERS

ORTEA SpA | Via dei Chiosi, 21 | 20873 Cavenago di Brianza MB - Italy | Phone: +39.02.95.917.800 | Fax: +39.02.95.917.801 | Mail: sales@ortea.com

POWER FOR RENT



PRAMAC produces, develops and distributes portable and industrial generators from 1 to 2600 KVA in standard and customized solutions, to follow the customers' needs from heavy duty activities to major power engineering projects.



Rental
Generators



Stationary
Generators



Lighting
Equipment



Portable
Generators



Material
Handling



Racing
Team

Enko Capital launches Africa focused debt fund

Alain Nkontchou, managing partner of Enko Capital talks to *African Review* about the launch of the Enko Capital Debt Fund with US\$200mn dollar assets under management.

Enko Capital is an asset management company focused on investing in opportunities across Africa through three distinct platforms: private equity; listed equity and fixed income.

Tell us about the new Enko Capital Debt Fund (EADF). What's the rationale behind it and what are your hopes for it?

The rationale of the fund is to provide investors with high returns available in Africa debt markets. The fund is predicated on the pillars of debt sustainability, value investing and active risk management. It is one of the few funds that exist globally which provides direct access to the African debt market, including both hard and local currency opportunities. We expect the African debt market to continue to expand over time and believe that our expertise and knowledge of the market will lead to creating alpha for our investors. We believe there is capacity to scale up the fund to US\$1bn.

Where will the new fund be investing: any core areas, countries or sectors that will be targeted? Have investments already been made?

Core areas include government bonds as well as corporate debt, both in hard or local currency. In terms of sectors, we are agnostic in general but we anticipate being active in the major sectors including financial services, telecoms, and consumer goods. We have invested 80 per cent of the fund since inception. We are currently invested in 10 countries across Africa. In the corporate sector, we have invested 14 per cent of the fund in financial services, and 30 per cent in African corporates.



Alain Nkontchou, managing partner of Enko Capital.
(Source: Enko Capital)

How does the new fund fit with the rest of Enko's portfolio and what does it offer that's new to investors?

It is a natural addition to the Enko investment platform and complements our product offering. We already offer an equity fund, EOGF, and a private equity fund, EAPEF, hence this fits in with the firm's long-term strategy of becoming a pan-African asset manager. For investors, it offers an opportunity to gain direct exposure to African debt markets, with an absolute return approach.

Any other forward plans for Enko or upcoming developments that you can share with us right now (including any prospect of further funds, or new office locations)?

We are now making plans to move

to new offices as the launch of the new fund is driving increased staffing requirements. There may be additional funds launched in the future, in real estate in particular. However, the focus in the short term is to concentrate fully on the three existing funds.

Enko's ambition is to become the leading pan-African asset manager: how are you making inroads and progress towards this?

The launch of the new fund is a critical part of achieving this target as it broadens the firm's product offering to include a new asset class: debt. This helps the fund to distinguish itself from other firms and also provides investors with a diversification choice when approaching the African market.

What's the current state of play with regard to Africa's investment climate: is it maturing, and do you feel we are in a time of growth and potential? Any key markets to watch?

We believe that the environment is still in its infancy as there is structurally little credit available for the private sector (private credit /GDP is below eight per cent) when compared to other markets. Similarly, there are fewer asset managers that are solely dedicated to the continent. Hence, we believe that as local economies grow, so will the growth in pension funds and insurance businesses. This will naturally lead to the increase in demand for investment products and the expansion of asset management business across Africa. Hence, the sector has grown strongly over the last decade, particularly in the private equity space and there is still room for future growth. Key markets to monitor include Egypt, Ghana, Kenya, Nigeria, South Africa, and Zambia.

Going forward, what's the longer term potential for asset management in Africa and what are the key things to look for in how that unfolds or grows?

The prospects for asset management in Africa are excellent due to the combination of growing desire from international investors to gain exposure to the African continent and as stated above, the expected strong increase in demand for investment products from African pension funds and investment companies. The key things to monitor include economic growth, pension reforms, growth of the insurance sector, growth of market cap over GDP and private savings. ■

“ The prospects for asset management in Africa are excellent ”

ALAIN NKONTCHOU, MANAGING PARTNER, ENKO CAPITAL



Superior tower cranes for any jobsite.

No matter how challenging your construction project is, Potain has a tower crane perfectly suited for your needs.

- Leading global tower crane manufacturer
- More than 80 years of experience
- Proven French engineering
- Full range of aftermarket and financing services
- Special crane design on demand for special applications
- High resale value

> Our range:

- Hammerhead cranes
- Luffing jib cranes
- Self-erecting cranes
- Used Cranes direct from the manufacturer

> Contact your Potain dealer or learn more at www.manitowoc.com

POTAIN®
by **Manitowoc**

► QUOTES

“The Africa Energy Forum focuses primarily on large scale power projects, supporting the public and private sectors to get projects off the ground and connected to the grid. However, given that 600 million people live without access to basic energy in Africa, increasingly investors are looking off grid to the areas not serviced by national grids taken for granted in developing countries,” said Simon Gosling, managing director of EnergyNet.”

SIMON GOSLING

Managing director of EnergyNet



AEF Forum 2016

“We will use technology and a new way of thinking to provide banking services to many people and businesses in Nigeria for whom access to a bank account has previously been impossible. We will offer telephone, mobile and Internet banking underpinned by the traditional banking ethics of probity and integrity.”

MUHAMMED JUBRIN

Managing director and chief executive officer of the SunTrust Bank

“I believe that Africa will emerge to be the third centre of global power, settled in between the worlds of the East and West. The world needs Africa. It needs its resources, its people, its skills and its insights and Africa is rising to meet those expectations. Yes, it

has not been a smooth ride, but the winds of change are blowing in the right direction. This will be Africa's century.”

BRETT PARKER

Managing director of SAP Africa

“We launched the New Deal on Energy for Africa, with a commitment of US\$12bn from the Bank over the next five years, with the goal of leveraging US\$45-50 bn. Our goal is connect 130 million people to the grid, 75 million via off grids and provide some 150 million with clean cooking energy. We've set up a whole new Vice Presidency just for Power and Energy.”

AKINWUMI ADESINA

President of African Development Bank



**ConMin
West Africa**

CONSTRUCTION MACHINERY • MINING • BUILDING MATERIALS

13 - 15 JUNE 2017

INTERNATIONAL CONFERENCE CENTRE, ABUJA, NIGERIA



**The National
Mining Summit**

UNEARTHING NIGERIA'S MINING SECTOR



In partnership with The Ministry of Mines and Steel
Development FEDERAL REPUBLIC OF NIGERIA

**FINAL PLACES
LEFT FOR
DELEGATES AND
EXHIBITORS!**

www.conminwestafrica.com



CONSTRUCTION MACHINERY, MINING, BUILDING MATERIALS EXHIBITION & CONFERENCE

HOST MINISTRY:



MINISTRY OF
**Mines and Steel
Development**

KNOWLEDGE
PARTNER:



STRATEGIC PARTNER:

Deloitte.

BROUGHT TO YOU BY:



fairs
around the
world



Messe München

FOR MORE INFORMATION, CONTACT:

George Pearson, Regional Director - West Africa, AfroCET Montgomery

Tel: +44 (0) 20 7886 3008 | Cell: +234 (0) 809 900 0111

Email: george.pearson@montex.co.uk

**AFROCET
MONTGOMERY**

Is manufacturing ready for the fourth industrial revolution?

Technology is moving so fast that society could soon feel the repercussions of the fourth industrial revolution.

Liquid Telecom examines 3D printing technologies among others that are set to transform manufacturing once again.

In the late 18th century, new manufacturing processes – largely driven by water and steam power – saw major growth in industries such as coal, iron and textiles, leading to profound economic and social change. This is today widely recognised as the first industrial revolution.

By the final third of the 19th century, the second industrial revolution had arrived, and with it came new innovations in electricity, petroleum and steel that led to many important new products and inventions – the most famous of which was the automobile.

The first two revolutions helped create a more affluent and urbanised society. The introduction of computers and automation has accelerated society further and we are currently living through the third industrial revolution, with industry and society becoming increasingly digital.

Manufacturing gets smart

Smart manufacturing is on the horizon, arming manufacturers with data that they can use to increase efficiencies and drive new levels of productivity. Integral to this are disruptive technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), cloud, autonomous vehicles, big data and analytics, 3D printing, nanotechnology and biotechnology.

There is a growing argument that these technologies are evolving so fast that the world is already approaching the fourth industrial revolution.

According to Klaus Schwab, founder and executive chairman at the World Economic Forum, these types of innovation do not merely



The fourth industrial revolution offers the potential to improve living standards globally. (Source: Liquid Telecom)

represent an extension of the third industrial revolution but rather the arrival of a fourth one.

He argues that the speed of current breakthroughs has no historical precedent – even in comparison to any of the previous industrial revolutions. Furthermore, he says, it is disrupting almost every industry in every country, transforming entire systems of production, management and governance.

The latest Cisco Visual Networking Index offers a statistical sneak-peek into the not-so-distant future. It estimates that by 2020 there will be 4.1 billion global internet users and more than 12 billion global machine-to-machine (M2M) connections (up from 4.9 billion in 2015). While in the Middle East and Africa, M2M connections are set to grow from 200 million in 2015 to 536 million in 2020.

The significant rise in connected devices is paving the way for more

widespread and smarter automation in the manufacturing space, which is further accelerated by a new generation of cheaper and safer robots. Over the last century, we have made the transition from people manually building cars to robots assembling cars – and artificial intelligence will continue to be a game changer in an industry typically driven by cost reduction.

Designing the future in 3D

If we examine some of the other breakthrough technologies that could form part of the fourth industrial revolution then 3D printers would also be top of the pile.

The technology has the capability to replace mass manufacturing with products customised for individual requirements.

The use cases for 3D printing are growing by the day.

“Aside from some of the more obvious applications within the

automotive and aerospace industries, we expect to see some innovative and potentially transformative 3D printing deployments among medical suppliers, electronics manufacturers, and tools and components manufacturers,” says Martin Kuban, a senior research analyst with IDC Manufacturing Insights.


In fact, 3D printing technology seems to be constantly branching out into new and uncharted territory. Consider, for example, the potential of 3D food printing.

Some experts believe food printers could help reduce waste through innovative use of hydrocolloids; substances that form gels with water. These could potentially be used to transform alternative ingredients such as proteins from algae or insects into new food products.

The Middle East and Africa is expected to be some of the highest growth markets for 3D printing in the coming years. Spending on 3D printing in the Middle East and Africa market is set to reach US\$1.3bn by 2019, according to research from International Data Corporation (IDC).

Like the revolutions before it, the fourth industrial revolution offers the potential to improve living standards and raise income levels globally. Its success hinges on the application of disruptive technologies across many industry sectors – but it seems manufacturing could lead the way.

High-speed, reliable connectivity underpins digital innovation. To find out more about how Liquid Telecom's network and services are supporting African businesses, visit www.liquidtelecom.com ■



Winning the GTR 2016 Best Deals Award – a testament to doing business better.

We knew we had done better business when our client called to express his joy at the successful closing of an international trade deal in just four hours. That was the true moment of celebration. The trust of our client, and our proven relationships, allowed us to be the first bank in the world to use innovative blockchain technology to close an international trade transaction.

Winning the prestigious 2016 Global Trade Review Best Deals Award was the icing on the cake.

See what we can do for you at absa.co.za/cib

Trade on our innovation. **Prosper.**



Winner of the GTR 2016 Best Deals Award.



Innovation in blockchain trade finance deals

Barclays Africa becomes the first organisation in the world to execute a live trade transaction using Wave blockchain technology

In what will take its place in the history books of the financial services and financial technology (fintech) industry, Barclays executed the first ever live trade transaction using blockchain technology in September 2016. The pilot with start-up, Wave, Barclays UK and Barclays Seychelles marked a world first both in international trade and the blockchain space – ultimately signifying the start of a new chapter in the blockchain community, where experimentation is replaced with implementation.

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

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

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

Building efficiencies in trade finance transactions

Wave's use of blockchain technology makes it highly secure as it records and verifies the ownership of the documents and, therefore, the goods related to the trade. It also makes

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

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

Global trade processed using Wave blockchain technology ultimately enables better data collection. As it currently stands, the fragmented nature of supply chains and registering trade movements between countries manually make current data on international commerce mere estimates. With better data, further efficiencies can be applied – on routes, methods and trade opportunities.

What is most exciting about the deal is that the Wave blockchain journey is currently only in the starting blocks – meaning that there are numerous developments still to come. Barclays Africa's strategy is to conduct multiple pilots with different banks and external parties across various regions in Africa and further afield – and, as a result, gain adoption and uptake of the technology in a more organic manner.

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

Facilitating greater global uptake in blockchain technology

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

What is more, there are plans to incorporate the Wave solution into the letters of credit and collections process. This will deliver an overall more seamless client experience as it creates greater efficiencies in the letters of credit and

collections value chain – primarily because the verification and endorsement involved in the transfer of documents takes between two and five days rather than the more traditional 10 days.

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

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

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

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

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

SunTrust Bank sees profits soar

Nigeria's newest retail bank, SunTrust Bank, posted strong results for 2016, with profits before tax reaching N343.34mn, more than double the N131.9mn a year earlier.

The impressive results follow the launch of commercial banking activities, said managing director and chief executive, Muhammed Jubrin. SunTrust Bank was the first fresh banking licence to be issued by the Central Bank of Nigeria since 2001; the bank started seven years ago as a mortgage bank.

Jubrin said the bank wants to offer its customers high quality retail and commercial services in a modern and innovative manner. "We will use technology and a new way of thinking to provide banking services to many people and businesses in Nigeria for whom access to a bank account has previously been impossible," he said. "We will offer telephone, mobile and Internet banking underpinned by the traditional banking ethics of probity and integrity."

After an encouraging 2016, the bank hopes to continue in the same vein with plans to leverage technology to entice new customers. "Banking is no longer where you go, it is what people do," he said.

According to Jubrin, the bank hopes to eliminate the need for costly brick-and-mortar branches and use agent networks to reach its customers more efficiently. Even its data centre is outsourced.

"That is at the heart of our own vision and strategy as tomorrow's bank today," he said. "Our services will be available 24 hours daily, seven days a week and from anywhere in the world where there is a good Internet service."



SunTrust Bank posted strong 2016 results. (Source: Shutterstock)

KENYAN ECONOMY GROWS

Kenya's economy is edging upwards, the International Monetary Fund (IMF) reported after concluding a visit to the country in April.

It said that GDP growth reached 5.9 per cent in the first three quarters of 2016, up from 5.6 per cent in 2015. Growth was supported by public investment spending and tourism in the first half of 2016.

Head of the IMF team, Benedict Clements, said Kenya's economy continued to perform well. "The banking system has remained stable, and reforms by the Central Bank of Kenya (CBK) to strengthen the financial system continue."

Clements also noted some of the challenges arising from the drought that has blighted much of the region, with inflation up to 10.3 per cent in March, reflecting the reduced supply of vital staple food items. This, he said, is "expected to decline as agricultural production returns to normal levels with the onset of the long rains."

Last year, the IMF approved credit facilities, worth around US\$1.5bn.



ANBAO

Guy Strand

According to ASTM A475, class A coating.
 9/16" (14.29mm) 7x4.78mm (-0.05, +0.05mm)
 Breaking load: ≥155.688KN (EHS grade)
 Lay direction: left "S", Lay length ≤16 times
 Coil weight: 70m/coil (-0, +2%) Surface no greased
 Zn coating: ≥305g/m²



ANBAO Qinhuangdao International Corp.
 Add: No.33 Qinhuangxi Street, Qinhuangdao, P.R.China, 066000
 Tel: +86-335-3893600 Fax: +86-335-3870760
 Email: anbao@anbao.com Website: www.anbao.com

NEW THINKING NEEDED ON INFRASTRUCTURE FINANCING

International investors and commercial lenders need to "adjust their thinking" on a range of issues in order to encourage an appropriate view on acceptable risk allocation and investor returns in African markets, said Andrew Skipper, partner and head of Hogan Lovells' Africa Practice.

The law firm is a sponsor at AFC Live, an infrastructure investment summit hosted by the Africa Finance Corporation, that takes place in Abuja on May 15-16.

Infrastructure development is vital for Africa, added Skipper, but more project financing is required, which means drawing in a new pool of investors. "African-focused DFIs, export credit agencies or foreign grant funds cannot entirely fund the continent's infrastructure needs. International investors and commercial lenders need to adjust their thinking on a range of issues in order to encourage an appropriate view on acceptable risk allocation and investor returns in these sometimes complex markets."

By bringing financiers and investors together alongside project developers and fund managers, AFC Live aims to ensure that more capital, both African and international, can be deployed towards addressing the continent's pressing infrastructure needs.

► BRIEFS

Google doodle in name of Ghanaian entrepreneur

Google rolled out a new Doodle Tuesday in honour of Ghanaian entrepreneur Esther Afua Ocloo. She helped establish Women's World Banking, a global non-profit organisation that provided low-income women with micro-loans to help start their own businesses.

The doodle shows Ocloo "empowering the women of Ghana with the tools to improve their lives and communities," said Google. April 18 would have been her 98th birthday.

THE LEADING GATEWAY FOR BUSINESSES TO ACCESS THE PROSPEROUS NIGERIAN POWER MARKET

Whether you are looking to introduce or grow your business in Nigeria, the Power Nigeria exhibition offers a direct line to government purchasers, construction equipment procurers and specifiers, and regional distributors.

For booking and more information
info@power-nigeria.com
www.power-nigeria.com

Discover more
www.energisingtheindustry.com

Brought to you by



**MIDDLE EAST
ELECTRICITY**



POWER NIGERIA

ENERGISING THE INDUSTRY

5 - 7 SEPTEMBER 2017

LANDMARK CENTRE, LAGOS, NIGERIA

Facebook to raise Africa profile

Facebook is stepping up its profile in Africa, after moving into larger South African premises, a reflection of its strong growth on the continent in recent years. More than 170 million people in Africa now access the platform each month, 94 per cent on mobile devices.

"Since we first established a direct presence in sub-Saharan Africa in 2015, Facebook has grown from strength to strength," says Nunu Ntshingila, Facebook's regional director for Africa. "We have enjoyed working closely with entrepreneurs, partners, developers and small businesses as they have used Facebook as a platform for growth. It's inspiring for us to learn from the continent and to play a role in helping people and organisations connect with the world."

Facebook's Africa team has grown accordingly, now moving into new Johannesburg offices to provide support for further growth, said Carolyn Everson, vice president global marketing solutions

"Facebook is deeply committed to Africa, a mobile-first continent where seven in 10 of all connected people use the platform," she said. "Many people in Africa are coming online for the first time, unleashing new possibilities for people and businesses alike. We're also seeing growth of small and medium-sized businesses that are driving economic development, companies that Facebook wants to help grow locally and regionally across the continent. Our new offices are part of our ongoing commitment to invest in the African market and work with innovators across our key target countries."



Left to right: Carolyn Everson - VP Global Marketing Solutions Facebook, Nunu Ntshingila - Regional Director Africa Facebook, Nicola Mendelsohn - VP EMEA Facebook. (Source: Facebook)

TIGO UNVEILS NEW CALL CENTRE

Tigo has launched a new state-of-the-art call centre in Tanzania. The facility boasts the latest technology and includes embedded data security measures to protect customer information and identity.

"Our investment in this new call centre underscores our commitment to grow and diversify the channels through which we reach our customers," said Tigo's managing director, Diego Gutierrez.



Tigo Launches first state-of-the-art call centre in Tanzania. (Source: Tigo)

Operating 24 hours a day, the new centre will serve around 55,000 customers daily. It is supported by the PCCI Group, which specialises in customer operations and outsourcing across multiple markets. With 20 locations and 7,000 employees, it will offer Tigo customers traditional voice call centre services as well as new digital customer solutions like social media, e-chat and email.

SMART CITIES SUMMIT HITS RWANDA

Rwanda's capital Kigali will host the Transform Africa Summit 2017 on May 10-12. This year's event, the third such summit, will focus on developing 'smart cities'.

Hamadou Touré, the executive director of Smart Africa, which is organising the summit, said in a press statement released in Kigali that Rwanda's president Paul Kagame will attend the event, to be held under the banner, 'Smart Cities. Fast Forward'.

It follows the Smart Africa manifesto, endorsed by African leaders during the Transform Africa Summit in 2013.

Smart Africa was created by around a dozen African leaders – including Kagame – in a move to transform the continent and its economic prospects by 2030 through the roll-out and adoption of new technology. Its manifesto calls on improving access to ICT, especially broadband services, expanding the role of the private sector in its development, and improving accountability, efficiency and openness across the board with the roll out and use of technology.

"These leaders share a common dream to give opportunities to the younger generation to evolve in an environment conducive to technological innovation, self-development and competitiveness, leading to greater job creation," said Touré.

The initiative is also supported by the private sector with members including major ICT firms such as Huawei, Intel, Inmarsat, Ericsson and Econet.

Rwanda has already embraced new and innovative technologies to drive change. In the healthcare sector, this includes operating one of the world's first drone ports to deliver urgent medical supplies to clinics in remote parts of the country.

► BRIEFS

Morocco set to benefit from US\$10bn tech hub



New tech hub to be built near Tangiers. (Source: Shutterstock)

Morocco has announced a US\$10bn project to build a new industrial and technology hub near the northern city of Tangiers in the next 10 years with financing coming from Chinese group Haite, BMCE's Bank of Africa, and the Moroccan government. It follows an initial MoU last year for the 2,000-hectare city, which will provide 100,000 jobs and house 300,000 inhabitants. There will be industrial zones in sectors including aeronautics, automobiles and telecommunications.

Datatec mulls Westcon-Comstor sale



Datatec considers sell-off of Westcon-Comstor's operations. (Source: Shutterstock)

South Africa's Datatec has issued a cautionary statement on a possible sale of a major share of Westcon-Comstor's operations for more than US\$800mn. Datatec operates across three core divisions, controlling technology distribution through Westcon Group. It boasts integration and managed services through Logicalis and consulting and research through another subsidiary, Analysys Mason. The company did not name the potential buyer.

Storage for the future

Barry Mansfield looks at the factors driving the growth of next-generation data storage in Africa.

Businesses operating at the cutting edge of the data storage market are constantly investing in research and development. For example, HP has produced an affordable flash drive that works at very high speed. Smartphones, wearable electronics, and smart city technology – all of these generate data, and they're not limited to Europe, North America and Asia, as Africans update their infrastructure for the 21st century. Once a concern for high tech hubs, such as Cape Town, storage is now a priority for African development.

This trend has brought upheaval to the IT industry, as technicians set their sights on 'next generation' data storage technology that provides a safe place and enables fast recovery of information in a more efficient manner. The conventional data storage technology simply cannot handle the large chunks of data that will be produced in future. Additionally, the proliferation of input-output devices will continue to power the next-generation data storage market in the coming decade or two. Now, data is produced in vast quantities in practically every sector.

Next-generation storage takes the form of cloud-based disaster recovery, all-flash storage arrays, hybrid array, holographic data storage and Heat Assisted Magnetic Recording (HAMR). These emerging technologies will help to store, secure and recover huge volumes of data that older legacy systems would have struggled with. Hybrid array and all-flash array are highly popular storage techniques. At the enterprise level, EMC is working hard on R&D, while Intel and Micron have developed 3D NAND technology to ramp up the data processing speed

in solid state drives.

The overall outlook for storage appears slightly different in Africa compared to other parts of the world. For example, cloud storage clearly offers many advantages over traditional digital data storage in the African setting. Most notably, it is exceptionally flexible, because it allows data access from anywhere and can be expanded as much as required as storage needs grow. It is extremely simple and cost-efficient, since there is no hardware to maintain and no staff to employ. That may explain why start-ups, such as Digital Cabinet, have secured funding for their foray into cloud storage.

Cloud storage

Africa's technical legacy also lends itself to cloud storage as the de facto choice. The continent still contains some of the poorest countries in the world, with power and telephony infrastructure often years or even decades behind first-world countries. However, as Digital Cabinet's Daniel Kritzas points out, there is an ironic twist, because African markets are often in a position to ignore much of the developed world's historical dependence on older technologies (such as fixed-lines and on-site servers) and leapfrog directly to cellular infrastructure and cloud-based solutions.

"Africa is seeing a dramatic rise in innovative entrepreneurial activity, and governments are looking to nurture and promote such activity as vital to enabling their own economic growth," said Kritzas. He believes cloud services offer businesses in developing countries a number of advantages, beyond cheap access to enterprise-grade infrastructure and resources. They offer consistency

from a technological point of view (network and power infrastructure) and protection from political instability (upheavals, changing legislation or civil conflict).

Another benefit of the cloud approach, says Kritzas, is the possibility of comprehensive data security, backups, and protection from theft or natural disaster. Scalability is a plus point, too, as virtualisation allows for predictable growth models. Then there is the fact of support and maintenance, and that cloud technology allows developing countries to leverage first-world solutions in targeting new markets: "In the document management and storage space... unparalleled efficiencies can be realised through cloud storage and online collaboration."

Kritzas believes that small and medium sized businesses (SMEs) across the region are desperate for affordable technology to help them survive and thrive in an increasingly competitive environment. "The market for simple digital services, particularly document management and business process workflow, is huge and growing at a phenomenal rate throughout Africa," he said. "Software companies with the right products and technology at the right price are extremely well positioned to take advantage of this growing need in emerging markets."

Legal headache

From a legal point of view, national or local online backup often makes more sense than using international providers – even if this turns out to be the slightly more costly option. This is another factor powering the adoption of cloud services on a more local basis. For example, if a

business carries out online backup in South Africa with a South African company, then the laws of that country govern the contract. If doing backup to a cloud backup company located outside of South Africa, then that service is governed by the laws of the country in which they are based.

If a business uses international cloud backup services, then its data could be located on servers in a country whose laws and methods are totally out of sync with expected standards and norms. Local backup frequently offers superior bandwidth in terms of cost, in terms of speed of data transfer for each backup, in terms of speed and efficiency of data restores, and simply the security of knowing where any critical business data resides. By contrast, the ability to speak to top management and get a speedy response can be extremely difficult with an international service.

African businesses may appreciate the presence of a fully staffed call centre operating in their own time zone, and therefore able to provide rapid-fire local support. There is also the possibility of closer in-person assistance from the service provider's dealer network, including actual visits to the physical business premises where necessary. In Australia, the law states that a business must back up data to servers in Australia. Executives from IronTree reckon South Africa will see very similar legislation enacted in the near future.

Even if local cloud storage ends up being a more expensive solution, it is important that companies make an informed comparison between an anonymous service and one where the business owners are assisted at every stage. ■



AFRICAN.

We can keep African manufacturing on target.

We believe the more products made in Africa, the better it is for Africa. It's why we've built the continent's largest fibre infrastructure and provide an award-winning satellite network, ensuring manufacturing is as streamlined and efficient as it can possibly be. Because we are not just a telecoms company.

We are your technology partner.

LIQUID
TELECOM

Building Africa's digital future

IATA certification for Abidjan airport ground handling

National Aviation Services (NAS), an emerging markets aviation services provider, has been awarded the IATA Safety Audit for Ground Operations (ISAGO) certification for its Abidjan operations.

In Abidjan, it provides ground handling at the Félix-Houphouët-Boigny International Airport serving 25 airlines and an average of 5,000 passengers per day.

Hassan El Houry, chief executive of NAS, said the Abidjan ISAGO certification highlights the company's ongoing commitment to safety and security across its network. "As we continue our aggressive network growth and expand our portfolio of products and services, we remain focused on high levels of service quality, safety and security." Its



Amadou Kone, Minister of Transport, Côte d'Ivoire with Cisse Abdoulaye, General Manager, NAS Côte d'Ivoire and Jean-Louis Ekra, Chairman, NAS Côte d'Ivoire. (Source: NAS).

Abidjan operations are supported by more than 800 employees and 300 pieces of ground support equipment.

Ivory Côte d'Ivoire transport minister Amadou Kone said that it is the first time Felix Houphouët Boigny airport has been recognised by ISAGO. "This also grows the very short list of West African airports handled by an ISAGO certified handling company. I urge you to remain focused on high quality services. This is how we can together embrace the challenge of making our airport the hub of West Africa."

Globally, NAS has a presence in more than 30 airports, handles five out of the top 10 airlines and manages 31 airport lounges in 12 countries across the Middle East, India, and Africa. ■

ESSENTRA MESAN SUPPLIES ACCESS SOLUTIONS FOR TRANSPORTATION

Essentra Mesan Access Solutions has been servicing multiple industries since 1979 globally. The company provides industrial locking systems, closing systems, hinge systems, sealing and accessories, such as handles and cover stays. Areas of expertise include zinc die casting, injection moulding, machining, stamping, powder coating and

assemble. Along with many standard parts we also have design engineering and custom solution teams. This is facilitated by 35.500sqm modern manufacturing facility with high technology.

In particular, the company supplies the transportation industry across multiple sectors. These include: railway, truck trailer, bus, marine and highways.

Essentra Mesan Access Solutions supplies products dedicated for power generators, IT racks, data centres, outdoor cabinets, HVAC, industrial machining, transportation and many other industries. Company values include:

- Products with superior quality



Left: Electronic lock system and other Essentra Mesan Access products. Far right: Essentra Mesan Access handles.

- A lean manufacturing approach to identify and eliminate waste
- Continuous development of processes
- Providing a modern, safe and peaceful working environment for employees
- Leading the industry with innovative concepts
- Designing and manufacturing high value-added products, delivering on time
- Ethical values and being sensitive to environment.

The certifications achieved by the company include: ISO 9001-2015, OHSAS 18001, ISO 27001-2013, ISO 14001-2015, ISO 50001-2001.

Choppy seas for shipping

Leading shipping companies and consultants agree it's been a tough time for the sector, globally, since the economic downturn. For container traffic and tonnage into Africa, the outlook continues to look challenging for 2017, despite expectations of some improvements. Tim Guest reports.

Container traffic volumes on Asia-to-Africa routes, particularly to West Africa, have had a hard time in recent years, resulting in steady, double-digit percentage declines each of the past three years.

According to analysts at leading shipping consultancy, Drewry, carriers active on these routes are likely to experience continuing declines in 2017, too. That means players such as K-Line, MOL, China Cosco Shipping Corp and others active on these routes are all likely to continue to be affected by this downturn. The actions of some of these major players recently, to consolidate and take part in major collaborations and mergers, look to be part of strategic efforts to consolidate, reduce unnecessary competition and effectively protect against this ongoing global shipping malaise.

Figures reported from Drewry show a 20 per cent drop in trade traffic since 2014 on the Asia-to-West Africa route, with steady ongoing decreases in southbound container shipments during 2015/16 amounting to a new low of 1.2 million TEU shipped by the end of the year. The consultancy projects in 2017 will see this trend continue, a view supported by January southbound container traffic figures, which showed an 18 per cent decrease compared to the same period last year. In fact, according to the Drewry consultants, half-full vessels on the southbound legs of their Asia-Africa voyages indicate no let-up is likely in declining tonnage for several months. On the same route, after some unexpected ups at the end of 2016, spot rates per 40-ft container fell to some US\$1,600 at the start of March, but it is likely with improving Southern African economic conditions that carriers will be able to raise this cost of transporting containers in the months ahead.

On the upside

However, all is not doom and gloom as the same consultancy reports that Southern Africa containerised imports from Asia are potentially on the road to a minor recovery in 2017. The 'unexpected up', mentioned, was a



OOCL's use of the Port of Mombasa is crucial to Asian trade with eastern and Central Africa.



SPEDAG INTERFREIGHT
Logistics connecting continents®





BUILT FOR
EFFICIENCY

A dependable supply chain, based on highest quality and maximum efficiency, is a key ingredient for success. We are your dependable partner for transport and logistics solutions.

Spedag Interfreight Ltd.
4132 Mulfenz / Basel
Switzerland

+41 58 677 77 77

**Worldwide Network.
Skilled Professionals.
Logistics connecting continents.**

www.spedaginterfreight.com



Active on Asia-Africa routes, MOL is emerging with two other Japanese shipping companies.

peak rate of US\$2,250 in January, according to Drewry's Container Freight Rate Insight, Shanghai to Durban representative route. Although the rate has now come down, these fluctuations and highs indicate a healthy and improving demand for containerised imports from Asia; at the same time, they have also been influenced by improving capacity management among the container fleets. And while 2016 saw the lowest volume of such imports since 2012, the levels of decline on this route per quarter slowed in the final months of last year and Drewry predict likely growth will, once again, be the order of the day somewhere down the road in 2017. Once again, positive encouragement from a stronger rand and improving South African economy may also influence and encourage higher levels of imports.

One development over the past year or more has been an increased inclusion of wayport calls in Southern Africa made by vessels heading for West African final destinations. Maersk and CMA CGM's combined Asia-West Africa route now has vessels as large as 9,200 TEU stopping in Cape Town, and Drewry analysts expect such a trend to continue as carriers turn their services into 'multi-trade operations'. CMA CGM has a fleet consisting of more than 445 vessels and serves 400 of the world's 521

commercial ports. Through its 170 shipping lines, the company operates on every one of the world's seas and is said to be the third largest container shipping company in the world.

Carriers to Africa merge

One of the leading carriers active on the Asia-Africa routes over the years has been Mitsui O.S.K. Lines, (MOL), which is reported to have the world's largest ocean shipping fleet operating specialised bulk carriers, tankers and LNG, car carriers, containerships and more. It announced late last year that it would be merging its container operations with the other two largest Japanese shipping companies, K-Line – Kawasaki Kisen Kaisha Ltd and Nippon Yusen KK to fight the global slump in container operations. All three company share prices surged following the news.

For its part, K-Line, ranked as the sixth largest container shipping company in the world, operates some 54 routes between the Far East and Central Asia, South East Asia, and Africa, as well as other routes, running a fleet comprising 449 vessels, including many of the very latest containership build. Its containers number 344,000.

The new Japanese joint venture is slated to be formed by 1 July 2017 and expects to start operations by April 2018. According to a company

statement it will have 256 vessels and become Asia's biggest box carrier after China Cosco Shipping Corp, which also runs the Asia-Africa routes. This merger is expected to be a positive move for Asia-Africa trade; it was only last January that MOL Liner announced that it was enhancing its existing Asia-West Africa service (its WA1 Service) by adding new ports of call, effective from last February. The new rotation added new Malaysian and Sri Lankan calls to MOL's existing WA1 service and is now providing better coverage and direct connections between markets in Malaysia and Sri Lanka to West Africa. MOL vessel/WA1 port rotation in West Africa has now been upgraded as follows: Lagos Apapa, Mon/Wed; Lagos Tin Can Island, Wed/Sun; Tema, Mon/Fri; Contonou, Sat/Sun; and Abidjan Tues/Tues.

Other Asia-Africa players making major changes to cope with the declines are world leader, Maersk, which is underway with a major restructuring programme; buying out smaller rivals to consolidate the industry, much like the Japanese, are France's CMA CGM and Hapag-Lloyd.

Other players crucial to African trade

The world's fourth largest container company is also active on the Asia-Africa routes. Evergreen Marine Corporation, a Chinese shipping line

headquartered in Taiwan with Far East services that reach to Mauritius, South Africa and beyond. Its 201 container ships call at 240 ports in over 80 countries worldwide.

Chinese shipping and logistics company, Orient Overseas Container Line (OOCL) is another key player in Africa. It has major operations in the East Africa region in Kenya and Tanzania coordinated out of its OOCL (UAE) LLC team located in Dubai, where it serves as the regional office for East Africa and coordinates various functions for the region. OOCL is also represented locally in Kenya by Merlion Shipping (K) Ltd in Mombasa. The port is a major trade centre and regional cultural and economic hub; as Kenya's busiest and largest seaport it serves the hinterland by exporting important agricultural products and is a major foundation stone for the whole Kenyan economy. In addition to serving Kenya, the port serves countries in inland Africa like Uganda, Tanzania, the Democratic Republic of the Congo, Southern Sudan, Rwanda, Sudan, Ethiopia, and Somalia.

OOCL's strategic use of Mombasa is critical to Asia-Africa trade; the port is halfway between the Port of Durban in South Africa and the major Middle East ports, acting as a gateway to East and Central Africa. For Chinese trade into Africa, OOCL and Mombasa are precious entities. ■

Renewable energy vital to Kenya's Vision 2030 goals

The future of renewable energy in Africa was discussed at the first Africa Renewable Energy Leaders Summit (ARELS) in Nairobi in April.

The two-day-long summit brought together industry leaders and government representatives from Kenya, Ethiopia, Burundi, South Sudan, Tanzania, Rwanda and Uganda.

Principal Secretary of the Kenyan ministry of energy and petroleum, Joseph K Njoroge, told the conference that renewable energy formed a pillar of the country's strategic vision for the future. "Our compass for the socio-economic development of this country is Vision 2030. One of the main catalysts to make Kenya an industrialising nation is renewable, sustainable, competitively priced and affordable energy. Indeed, it is impossible to achieve the goals of our Vision



Deo Onyango (GE Renewable Energy's onshore wind regional executive for Sub-Saharan Africa), Phyllis Wakiaga (chief executive of the Kenya Association of Manufacturers (KAM), Vahid Fotuhi (managing director, Project Origination, Access Power), Andrew Amadi (secretary, Association of Energy Professionals Eastern Africa).

2030 without energy defined the way I have."

It comes at a time when rapid population growth and urbanisation is boosting energy demand across eastern Africa.

According to Isaac Kiva, the director of renewable energy at Kenya's ministry of energy and petroleum, the country needs an investment of US\$52bn to meet its 2015-2035 generation and transmission master plan, with power demand expected to rise to 4,732MW by 2030.

"Having adequate power from renewable sources will not only ensure security of supply and cost effective tariffs; it will enhance the competitiveness of Kenya, and facilitate its socio-economic transformation," he stated. ■



ESSENTRA

For Generator Cabinets
Paddle Latches, Hinges, Gaskets,
Handles, Accessories, Stainless Steel products



REQUEST YOUR
CATALOGUE TODAY







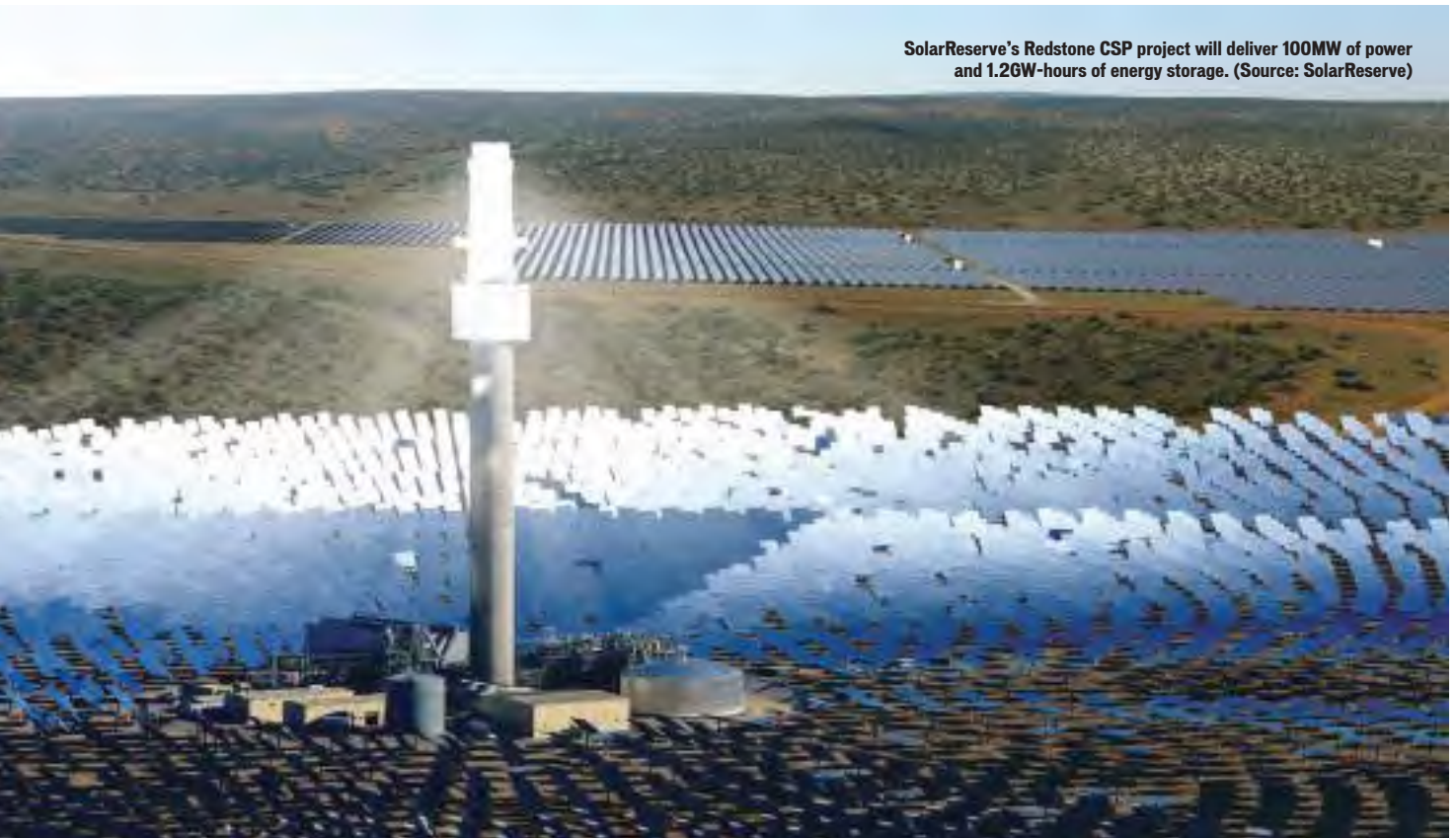
www.essentraaccesssolutions.com

ESSENTIAL SOLUTIONS DELIVERED

Harnessing the sun's power

Solar energy production is growing across Africa with some of the most sophisticated and advanced solar farm projects in the world, including Morocco, South Africa and Rwanda. Tim Guest reports.

SolarReserve's Redstone CSP project will deliver 100MW of power and 1.2GW-hours of energy storage. (Source: SolarReserve)



Moroccan ambition

With plans to use solar power and other renewables to generate 14 per cent of its energy requirements by 2020, Morocco has set itself a further ambitious 2030 timeframe by which it aims to be producing 52 per cent of its own energy from alternative power systems. It has ambitions, after meeting its domestic needs, to export some of its solar-energy-generated power to Europe sometime in the future.

Last year, on the path to meet its goals, the Moroccan Agency for Solar Energy (Masen), implemented a flagship solar-energy project at the base of the High Atlas Mountains some 10km from the town of Ouarzazate, 60 per cent funded by the European Union. With hundreds

of concave mirrors covering some 1,400,000m² of desert, the huge facility makes use of the region's 330+ days of sunshine each year and is said to be one of the biggest solar plants in the world. Indeed, Africa is home to several similar solar projects, with even larger projects now operational in South Africa.

By the end of 2016, the Ouarzazate project – also known as the Noor Solar Power Station – had exceeded its initial energy-production targets. The facility's powered mirrors move with the sun, as it rises and sets and reflect its rays, focusing them onto a network of pipes that carry a synthetic oil. As this reaches temperatures up to 350°C the heated oil is used to produce high-pressure steam that

drives turbines to generate electricity. Superhot molten sodium and potassium nitrate salt reservoirs store excess energy enabling the facility to go on generating power for several hours after sunset.

One of the next phases of the Ouarzazate solar farm project will eventually use a tower, filled with molten salts, that absorbs and stores the rays reflected at a receiver on the top of the tower by 7,000 flat mirrors. Less real estate is needed for such an installation and it is said to be more efficient in generating and storing power, also negating the use of oil in the process. South Africa's future Redstone facility, which will be operated by SolarReserve, will also use such a system.

South African prowess

Keeping Morocco company in the solar power stakes, Rwanda opened a facility in 2014 and Ghana and Uganda are planning their own solar farms. It is South Africa, however, where the continent's largest and most advanced solar projects have made the nation one of the top 10 solar power producers in the world. In October 2014, leading solar power player, SolarReserve, flicked the switch on its 96-MW photovoltaic (PV) Jasper solar power project at Postmasburg in the Northern Cape, Africa's largest solar installation. The plant's more than 325,000 PV modules deliver 180,000MW-hours of renewable electricity annually for South African residents, enough to power 80,000

households, which is delivered through a 20-year power purchase agreement with Eskom.

Talking with *African Review*, CEO of SolarReserve, Kevin Smith said that 'Africa's excellent solar resource can be a strong part of the continent's energy diversification plan' to help meet growing energy needs, adding it will 'reduce reliance on finite sources of power generation that produce carbon emissions and it will provide a very cost-effective solution to energy supply'.

Smith said, "South Africa's IPP Procurement Programme is a world-class programme that continues to prove to be a global standard for renewable energy procurement. Through this well-structured and thorough programme, the continually declining cost of renewable energy is at parity with the cost of new built traditional generation. Renewable energy today can actively contribute to a country's generation mix, replacing aging fleets as well as supporting a growing demand for generation capacity stimulated through economic growth." He added that in addition to helping South Africa (and Africa) meet its critical electricity needs with clean and affordable solar power, the projects bring long-lasting economic benefits. "All our projects ensure robust local participation and technology transfer and are structured to exceed the minimum requirements for Black Economic Empowerment (BEE) equality on job creation, local content, ownership, management, procurement and enterprise development. A great deal of resource is applied to training local workers who can then take those skills and apply them to other industries or projects in the region. And all the projects set aside a percentage of total project revenues for enterprise development and socio-economic development for the benefit of local communities."

Project growth

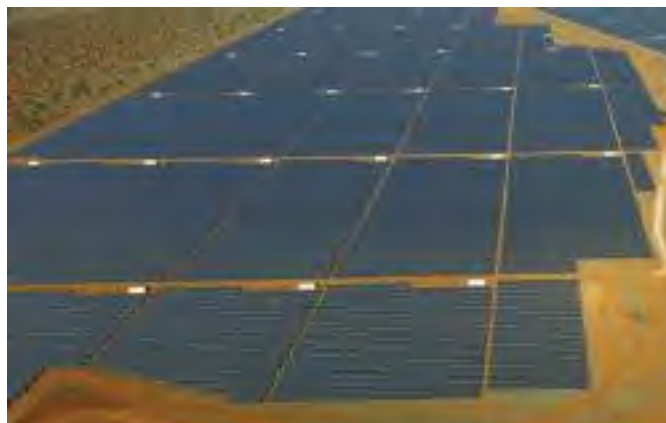
Smith said SolarReserve initiated its energy development activities in SA in 2010 and now has 246MW of solar capacity already in operation,

with an additional 100MW awarded by the Department of Energy (a future Redstone project), 650MW bid into round 4.5 of South Africa's Renewable Energy IPP Procurement Programme (REIPPPP) and a pipeline of over 2,000MW. Many of these projects, such as Redstone, include the company's innovative molten salt energy storage, to provide SA homes and businesses with power when they need it most, even after sunset.

"Our three solar PV projects in operation, the Lesedi, Letsatsi and Jasper projects, had a combined capital cost of more than R8.15 bn," Smith said. "The three projects are all delivering above expected levels, reliably providing about 200,000 South African homes with clean, emissions-free electricity for the next 20 years. Combined, the three projects are reducing carbon (CO₂) emissions by over 460,000 tonnes per year.

"Our Redstone project is the lowest priced concentrating solar power (CSP) project awarded in the country to date and will include 12 hours of full-output energy storage. The Redstone project will deliver 100MW of power as well as 1.2GW-hours of energy storage in order to reliably meet South Africa's peak demands for electricity, which occur well into late evening," Smith said. Redstone has secured more than R2.4bn of equity financing and R5.6bn of debt. It is ready to go into construction pending final government approvals.

As for the challenges for a private entity like SolarReserve establishing its position in the energy ecosystem of a country such as South Africa, Smith said, "We, as investors, are guided by policy and regulatory certainty when considering investment opportunities, particularly where our investments have a life-cycle of 20 years or more. Arguably, the most important arrangement under the REIPPPP is the assurance of a 20-year Power Purchase Agreement (PPA) with the IPPs selected as preferred bidders. The PPA provides firm revenue projections, which, in turn,



SolarReserve's Jasper solar power project at Postmasburg in the Northern Cape, Africa's largest solar installation. (Source: SolarReserve)

comprise the single most important criterion to render a power generation project bankable and appealing to investors. In addition, long-term regulatory and political stability are an important part of our investment philosophy, whether our investment is in Africa, the USA, or elsewhere around the world."

What next?

According to Smith, SolarReserve is not only developing utility-scale solar PV power projects in Africa but is recognising the need for long-term, large-scale renewable energy solutions with energy storage that will help mitigate intermittency problems, deliver power into peak demand periods and support transmission systems reliably. The company's diverse portfolio of solar projects includes advanced solar thermal technology, such as CSP with integrated energy storage, PV technology, as well as hybrid systems – combined CSP and PV technology. "Solar PV plants are cost effective and can be built quickly, providing Africa with additional, critically-needed power that is emissions-free and renewable. In combination with CSP plants with energy storage, solar has the potential to provide reliable, cost-competitive, 24/7 base-load power to meet Africa's growing energy needs and become a strong component of the energy mix. As renewable energy penetration grows, the need for utility-scale renewable generation with

storage technology will become increasingly important."

As for the influence of the ever-changing political landscape, Smith said that, "The president in his state of the nation address specifically stated that the IPP PPA's would be signed and that the programme would continue to be supported." He added that the new finance minister has publicly stated that there will be no change to policy decisions. "The international investment community is, naturally, following the progress of the IPP programme, closely." ■

- In total, SolarReserve's operating and awarded projects in South Africa will invest over R1.3bn in ED & SED [Enterprise Development & Socio-Economic Development], with future round 4.5 projects investing over R1.9bn - benefiting schools and hospitals; helping develop small businesses; supporting early childhood development; and bringing solar power to homes that for the first time will have electricity.
- Our projects in operation generated over three million man-hours during construction and the six projects we bid into round 4.5 would create 18,000 direct, indirect and induced jobs.

Mini-grids have huge potential

There is a trend towards decentralised power networks in Africa. With around 50 per cent of people on the continent not having access to the electricity grid, there is a great challenge to electrify the continent.

Off grid solutions are not new on the continent. Many factories and homes rely primarily on diesel based power generation. Disconnecting from the grid and deploying a captive power plant can help prevent production problems associated with an unreliable national power distribution network. Gas is also a fuel of choice for captive power, with Clarke Energy having an installed base of in excess of 350MW of facilities in Nigeria alone.

Mini-grids, working on a fraction of the scale of a normal utility, are part of this solution to bringing access to power to millions of Africans. These grids will struggle to run on wind and solar energy, as they are intermittent and do not necessarily generate power when it is needed. A method of balancing out demand and supply across the network is required to ensure the stability of the system.

Diesel generators such as those provided by SDMO Kohler are the most established way of providing stability. Diesel is a flexible source of fuel, which is well established, however, gas is a viable alternative in a growing amount of Africa. Gas has the benefits of being cheaper and emits less carbon emissions

than its liquid alternative.

Where there is no access to pipeline natural gas using compressed natural gas (CNG) across a 'virtual gas pipeline' is now an established technology at a number of sites on the continent. Companies, such as Nestle, and educational institutions, such as the University of Port Harcourt have proved the concept in a sub-Saharan African context. Gas is flexible and can be used either for base-load generation, or alternatively can be used to generate power when needed, such as widely demonstrated in the greenhouse industry for peaking plants and in the UK's recent capacity market auctions.

Taking this to the next step and

creating a fully renewable solution, one can couple solar and wind technology with anaerobic digestion.

Biogas has the potential to be transported in a compressed form as well.

Battery technology is quickly reducing in cost and efficiency too, therefore coupling all these technologies together could form the backbone of stable mini-grids across the continent. Less investment would be needed in electricity transmission networks, although as African countries develop, these can be linked with the main grid to provide added stability. ■

Alex Marshall, group marketing and compliance director, Clarke Energy



**QUALITY CONCRETE
ROOF TILES FOR
BEAUTIFUL HOUSING**

Create your new **business**
with **Vortex**



UNO EVOLUZIONE RANGE OF 'START-UP' PLANTS
from **500** up to **16,000 tiles** per 8 hour shift.



Easy to operate – Easy to maintain
Easy to upgrade to higher volume plant
Broaden your product base with
Decor wall and floor tiles





www.vortexhydra.com

Vortex Hydra

Vortex Hydra S.r.l. - ITALY - Tel. +39 0532 879411 vh.sales@vortexhydra.com

Construction starts on Tanzania railway

Tanzania has commenced construction on a flagship 300km standard gauge railway project that will initially link the Port of Dar es Salaam to Morogoro, in the eastern part of the country. The line is expected to be extended to Port Mwanza on Lake Victoria to link Uganda and expand intra regional trade.

The standard gauge railway, as well as new roads and expanding the ports, are among vital construction projects supported by government funding set to boost infrastructure and drive economic growth. In total, Tanzania wants to build a 2,561km standard gauge railway network connecting Dar es Salaam with eastern and southern Africa's hinterland.

The initial 300km stretch is expected to take around 30 months to complete. A contract for the line, worth US\$1.2bn, was awarded to Yapi Merkezi of Turkey and Mota-Engil of Portugal in February this year. The railway will be able to transport 10,000 tonnes of cargo at once, while its passenger trains will travel at around 160 km/h.

Launching the construction phase on 12 April, Tanzania's President John Magufuli said: "This is an opportunity to grow and excel in our industrial revolution drive which is the current national focus as we set our eyes to become a middle income country."

And eastern Africa's second-biggest economy is spending big in a bid to meet its goals on the basis that poor infrastructure undermines economic growth.

Magufuli said that future railway passengers will be able to travel between Dar es Salaam and Morogoro in around 1 hour and 25 minutes, while the project itself could generate as many as 600,000 jobs, providing a huge boost to the national and regional economy.

The president also noted that the new rail line would improve conditions on Tanzania's crowded roads. "Most of our roads are ruined by heavy truck loads, thus railway transport is highly recommended to preserve them."

Longer term, there are hopes that the new railway will be rolled out to link Dar es Salaam with neighbouring landlocked countries,

The 300km railway will link the Port of Dar es Salaam to Morogoro. (Source: Shutterstock)



as part of a major regional infrastructure upgrade.

The African Development Bank has been courting potential investment in a bid to attract as much as US\$7.6bn overall to bankroll up to 2,200 km of potential new line.

Potentially, the Tanzania line will run from Dar es Salaam port to Rwanda's capital, Kigali. Two other lines will branch off to Musongati in Burundi and to Mwanza port on the shores of Lake Victoria to service Ugandan shippers. The line to Kigali is also expected to ultimately connect

to the eastern Democratic Republic of Congo.

Last year, Moody's Investors Service said that the proposed railway would reinforce Tanzania's position as a logistics hub for eastern Africa.

It faces competition though with Kenya also keen to build a similar railway network that seeks to connect landlocked countries to Mombasa, its main port.

Certainly for construction companies in the area it means no shortage of new work. ■

Do you use a **Proximity Detection System** that can cover up to **7 different machines** and **20 people** all at the same time?



Benefits of using the Booyco Proximity Detection System:

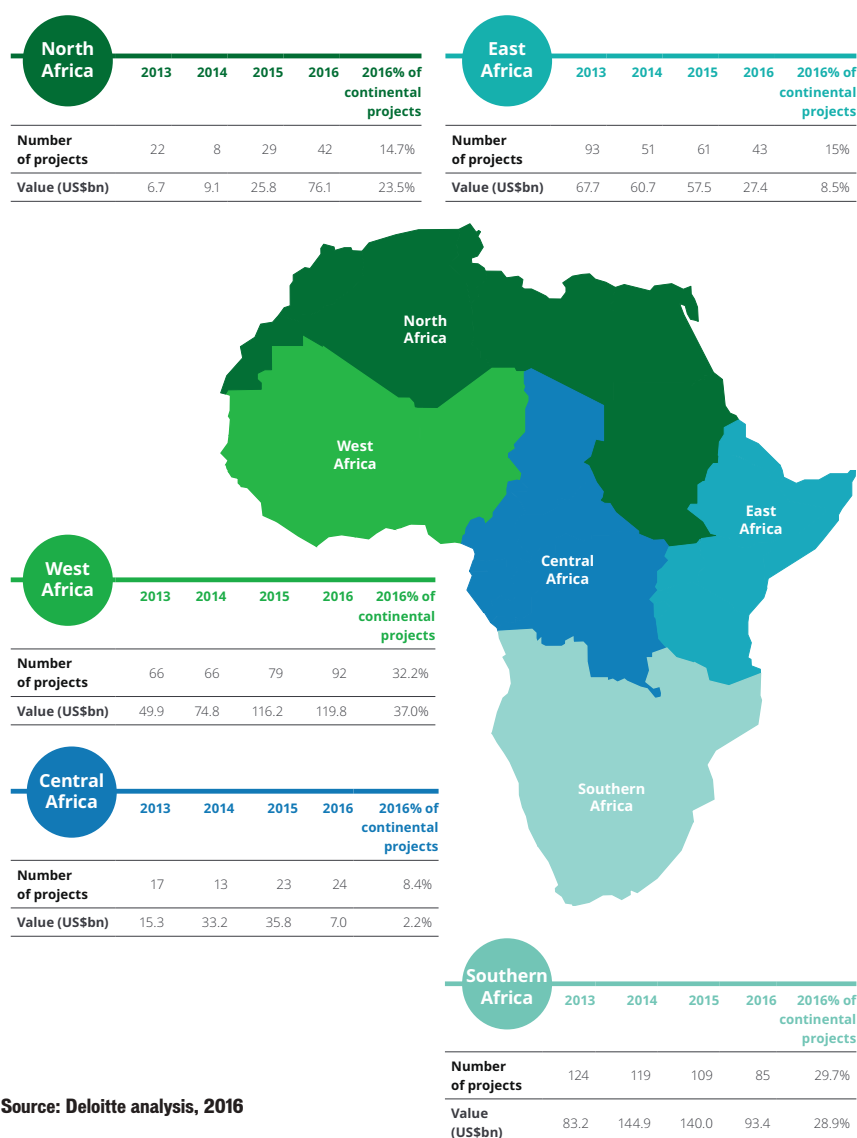
- Proven fit-for-purpose technology
- Proven in underground and surface applications
- Can be integrated into a single solution for both underground and surface
- Substantial South African reference base across commodity sectors and operations
- High OEM acceptance, collaboration and integration
- Skilled support teams with regional footprints



0861BOOYCO (0861 266926)
+27 (0)11 823 6842
info@booyco-electronics.co.za
www.booyco-electronics.co.za

Construction in Africa continues to gather pace despite economic gloom

Investment opportunities exist in African infrastructure but rate of construction projects continues to decline five per cent year-on-year. Samantha Payne reports.




Source: Deloitte analysis, 2016

Low commodity prices and a weak global economy are putting the brakes on a number of construction projects across Africa. However, there is still a wave of optimism being felt from public and private investors despite the risks involved.


In April, the Africa Finance Corporation (AFC), boosted confidence after issuing a US\$500mn seven-year Eurobond towards investment in African infrastructure. The Eurobond is represented by 231 investors across the Middle East, Asia, Europe, United States and the UK.

"AFC has been committed for the last ten years to investing in projects that drive sustainable growth and development in Africa," said chief executive officer Andrew Alli. "In that time, we have invested




PMSA
Concrete Equipment
Solutions and Technology


Self-Loading
Concrete Mixers




D8 460 CBV



**TAKE
CONTROL OF
YOUR CONCRETE**




Easy-to-Manoeuvre
Four Wheel Drive
True Batching Plant



PMSA supplies the all new Fiori
CBV (Concrete Batching Vehicle).
Make Certifiable Concrete,
Anywhere, Anytime.

Contact us today

Tel: +27 11 578 8741
sales@panmixers.co.za



www.pmsa.com

over US\$4bn in 28 African countries. Key to delivering this are our fundraising activities around the world, promoting the very real investment opportunities that exist in African infrastructure.”

But the reality is Africa holds approximately US\$35bn in Eurobond debt, which represents a ticking time-bomb for those Sub-Saharan African countries unable to meet payments amid economic constraints and will likely have an impact on future infrastructure spend.

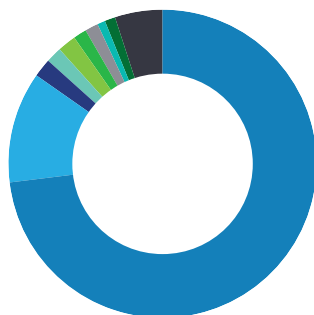
In Deloitte's Africa Construction Trends Report, it indicated there were 286 construction projects to have broken ground by 1 June 2016 compared to 301 in the previous year. It stated the number of projects had fallen by five per cent year-on-year across the continent. The only country to buck the trend was North Africa with the number of its projects having increased by 44.8 per cent, due in part to a more settled political situation in countries such as Egypt and Algeria.

Researchers found West Africa had the most number of projects with 92, and also the most in terms of value at US\$120bn. The number of projects in East and Southern Africa decreased to 43 and 85 respectively as did the value of their projects fall to US\$27.4bn and US\$93.4bn respectively. In Angola, however, it accounts for the two largest projects in Southern Africa, namely the US\$16bn Kaombo, Block 32 project in the oil and gas sector and the US\$8bn Lobito Refinery in Benguela.

The report also highlighted the value of projects in Central Africa decreased by 80 per cent due to the suspension of the two largest projects in the region, the MbalamNadeba Iron Ore project in Cameroon and the Zanaga Iron Ore Project in the Republic of Congo. However, the biggest project underway in Central Africa is the Katanga Copper Mine in the Democratic Republic of Congo.

Who owns?

| | | |
|------------|--------------------|--------------|
| G | Government | 73.1% |
| PD | Private Domestic | 11.5% |
| UK | UK | 2.1% |
| ZA | South Africa | 1.7% |
| US | US | 1.7% |
| CN | China | 1.4% |
| FR | France | 1.4% |
| NG | Nigeria | 1.0% |
| UAE | UAE | 1.0% |
| O | Other ² | 4.9% |



Source: Deloitte Analysis, 2016

Similarly to the trends last year, most projects fell into the transport sector, (33.6 per cent), followed by Real Estate (22.4 per cent), Energy and Power (21 per cent) and Shipping and Ports (8.4 per cent). Due to the fall in commodity prices, it was not a surprise that mining projects more than halved to 2.8 per cent, affecting government revenues for infrastructure projects. Africa's largest mine and associated rail and port construction projects, the US\$20bn Simandou Iron Ore project in Guinea, was halted in July 2016 due to the lack of demand in the global iron ore market. Worryingly, the report also noted despite Africa's rapid urbanisation growth, very little investment was being paid into the water sector (1.3 per cent) and even less into healthcare (0.3 per cent), education (0.1 per cent) and social development (0.1 per cent).



CONCRETE ROOF TILE EQUIPMENT USED WORLDWIDE SINCE 1985

**THE ONLY EQUIPMENT MANUFACTURER IN THE
SOUTHERN HEMISPHERE PRODUCING HIGH SPEED
CONCRETE TILE EXTRUSION PLANTS**



**EXTRUSION MACHINES
CAPABLE OF MULTI-PROFILE
PRODUCTION**



**OVER 100 CONCRETE ROOF
TILE PLANTS INSTALLED
IN AFRICA**

**OVER 1000 DIFFERENT SPARE PARTS SUPPLIED
DIRECTLY FROM OUR STORES IN SOUTH AFRICA**



**Manufactured by
Jessop & Associates (Pty) Ltd**
Tel: +27 16 421 2521 Fax: +27 16 421 2539
WWW.PROTILE.CO.ZA

The top five sources of funding for projects stemmed mostly from governments (28.3 per cent), private domestic firms, (14 per cent), international development financial institutions, (DFIs) (13.6 per cent), China, (12.6 per cent) and African DFIs, (9.8 per cent).

Interestingly, East Africa's average Gross Fixed Capital Formation (GFCF), the percentage of GDP for construction of infrastructure, has been over 20 per cent according to Deloitte's report. While the largest two economies, South Africa and Nigeria have underspent on infrastructure, spending on average 19.9 per cent and 11.9 per cent respectively, the report added.

East Africa developments

There are 43 mega projects underway in East Africa, with a value total of US\$27.4bn. Kenya's Konza Smart City, worth US\$14.9bn is the biggest project in the region, which is expected to be completed by 2030. The city will include a CBD, a university campus, residential community and parks covering more than 5,000 acres of land. The Lamu Port-South Sudan-Ethiopia Transport and Development Corridor program is the region's largest and most ambitious infrastructure project bringing together Kenya, Ethiopia and South Sudan. Three out of 32 berths are expected to open at Lamu Port by 2020, estimated value of US\$689mn. The government plans to build the



Main boulevards in Konza Smart City.
(Source: Konza Techno City Kenya)

additional 29 berths, valued at US\$5bn.

The 1900km road between Lamu Port in Kenya and Douala Port in Cameroon will be completed later this year and will connect a population of 160 million people across the three countries. The US\$1.39bn project is financed by China Roads and Bridges Company, China Communications Construction Company, SEW and HAWK.

Other big developments include the US\$3.8bn Mombasa-Nairobi Railway project, due for completion in December, and the US\$900mm Lake Turkana wind farm, extending over 40,000 acres, with a 310MW power generation capacity.

In March, the African Development Bank Group (AfDB) approved US\$253mn of loans to Kenya (US\$147.3mn) and Uganda (US\$105.7mn) for the upgrading of the 118km road connecting the two countries as well as the construction of the 32 km Eldoret town bypass, in Kenya. Once completed in 2021, the project will improve the living standards of the 1.4 million people.

According to the International Quality and Productivity Center's report: the Growth of East African Road Networks, the Ugandan government is seeking funds from South Sudan for the US\$310mn road link between Rwekunyie, Apac, Lira and Acholibur. The report highlighted the US\$151mn Busega to Mpigi expressway – the largest highway ever constructed in Uganda

– will be built in 2018 by the AfDB and the China Communications Company. It added the Ethiopian Roads Authority is a stakeholder behind the country's most expensive road project in its history, linking a 7.4km stretch of road between Melka Jebdu to Dire Dawa. The US\$20.5mn project is due for completion in July next year.

Tourism is another important sector for Africa's economy. More than 330 hotels are in the pipeline for Africa, with Egypt expecting more than 50 new hotels in the future, according to research from TopHotelProjects.

Hyatt Regency hotel at Houari Boumediene Airport in Algiers is expected to open late 2018. "The Hyatt Regency Algiers Airport will be the first Hyatt-branded hotel in Algeria and demonstrates the company's commitment to growing its brand in Algeria and throughout Africa," said Peter Norman, Hyatt's senior vice president, acquisitions and development – Europe, Africa, and Middle East. ■

Made in Germany
since 1931.

Modular systems

Complete conveyors

Special constructions

Accessories and

Spare parts service



BERTRAM®
Förderanlagen | conveyor-systems

bertram-hannover.de

Experience the Progress.



Liebherr Wheel Loaders L 524 - L 580

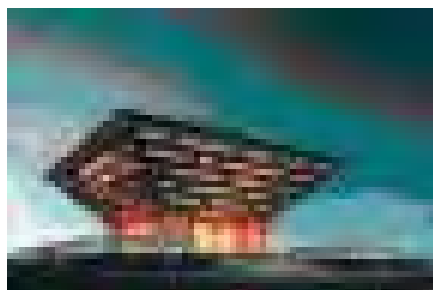
- Minimal operating costs due to economical fuel consumption and low tyre and brake wear
- Higher productivity and stability achieved through the unique position of the engine
- Significantly fewer wear components due to innovative drive concept
- Optimum service accessibility for all important components

Shanghai LIYU at forefront of steel making solutions

Shanghai LIYU Steel Technology (Shanghai LIYU) is a technology-advanced steel structural engineering management company in China.

Shanghai LIYU is affiliated with many of the largest steel fabricators in China, providing technological support and product solutions for steel fabricators, engineering trade and requested customers in more than 100 countries and regions. In addition, the company provides assistance with steel fabrication from project conception to project completion. Owing to the professional steel structural engineering and technological consulting services for years, Shanghai LIYU has become a renowned service provider in engineering management of steel structural industry.

Shanghai LIYU is one of the earliest companies to become involved in the field of steel structural engineering support and technological consulting in China. It provides assistance for the customers



Shanghai LIYU is affiliated with many of the largest steel fabricators in China. (Source: Shanghai LIYU)

outside China to target the steel structural fabricators that are mastering international standards in China. Steel verification inspection and technological consulting services aim to connect Chinese steel structural fabricators with the world, helping them to seek the commercial cooperation opportunities in different countries and continents. The company also helps customers to monitor and control the overall

quality and risk status of engineering projects, and thus promote the engineering management standard through engineering quality-improvement and risk-reduction.

With the establishment of the website LIYUCSF.com, Shanghai LIYU operates in other three offline development areas in steel construction: LIYU Steel Engineering Trade, LIYU Steel Verification Inspection and LIYU Steel Technology Consulting. Relying on the exquisite professional skills, scientific enterprises management, rich industrial experience and dedicated team members, Shanghai LIYU has been in the pursuit of providing an excellent, quick, quality-guaranteed and high-efficient services for customers.

In the coming years, Shanghai LIYU plans to work towards sustainable progress for global steel structural industry, and positively respond to the fast-changing challenges occurred in the global steel structural engineering service. ■

YOUR EVERYWHERE MOBILE BATCHING PLANT

CARMIX 3500TC EVERYWHERE CONCRETE

- ✚ NEW CARMIX CONCRETEMATE: THE ULTIMATE ELECTRONIC SCALE, EASY TO USE AND EXTRA ACCURATE FOR ANY KIND OF MIX
- ✚ NEW PROMIX: OUR NEW IN-DRUM PROBE, TO ANALYZE YOUR CONCRETE RIGHT IN THE CAB
- ✚ NEW CAB: CONFORT, SAFE AND VISIBILITY MATCHING EDGE DESIGN

NEW





4x4 mixers & dumpers

METALGALANTE S.p.A. - Via A. Volta 2 - Noventa di Piave (Venezia) ITALY - T. +39 0421 65191 - F. +39 0421 658838

carmix.com

BETONSTAR®

CONCRETE PUMPS



New H47-5RZ

*Hydraulic Power
Regulation for
low fuel
consumption*

*Easy Installation
for narrow job
site conditions*

*140 m³/h
concrete output
capacity*

*New
generation
5 arm boom*

*High Force
for Hard
Mixed Concretes*



www.betonstar.com

US\$150mn upgrade puts Victoria Falls International Airport on map

Zimbabwe's tourism and hospitality minister Walter Mzembi said that Ethiopian Airlines launching direct flights to Victoria Falls Town showed the confidence it had in the country's aviation industry. Humphrey Nkonde reports.

New terminal building at Zimbabwe's Victoria Falls International Airport. (Photo source: Humphrey Nkonde)



Zimbabwe's Victoria Falls International Airport has continued attracting Africa's major airlines following its US\$150mn upgrade.

The airport is located 21km south of Victoria Falls Town, a strategic regional tourism hub, which President Robert Mugabe's government has turned into a special tourism economic zone. It can be reached within two hours by plane from Angola, Botswana, Democratic Republic of Congo, South Africa, Namibia, Mozambique, Malawi and Zambia.

Ethiopian Airlines, Africa's largest airline, started direct flights to Victoria Falls International Airport from Addis Abba's Bole International Airport using the latest B737-800 New Generation aircraft on 26 March.

Zimbabwe's tourism and hospitality minister Walter Mzembi said that the inaugural flight to Victoria Falls Town by Ethiopian

Airlines showed the confidence it had in Zimbabwe's aviation industry. He said Africa's biggest airline had continued servicing the Harare route at a time when other bigger airlines withdrew their flights to Zimbabwe, and he called on African airlines to code-share their ticketing systems so Africa can improve its stake in the global aviation industry.

Ethiopian Airlines

Meanwhile, Esayas Woldemariam Hailu, Ethiopian Airlines' managing director for international services, was one of the passengers on Ethiopian Airlines' new aircraft to

Victoria Falls International Airport. He said most of the tourists were attracted to the Victoria Falls, shared by Zimbabwe and Zambia on the Zambezi River, and described the natural phenomenon as "the magnet of African tourism".

With close to 100 destinations worldwide, Ethiopian Airlines is at a competitive advantage compared to other airlines in regard to accessing Victoria Falls Town.

A new international terminal building with a capacity to handle 1.5 million passengers per year are among the improvements to the airport. It includes work on its old terminal with a capacity of 500,000

passengers per year, which has been turned into a domestic terminal.

Extra improvements

Large planes in the Code E category such as B747 and A340 can now land on the upgraded runway, which is 4,000m long and 60m wide.

Air traffic control and meteorological services are based at the airport's new control tower. The airport also boasts a new fire station equipped with E-One fire (foam) tenders. Some of the fire (foam) tenders cooled down the Ethiopian Airlines' B737-800 plane with water jets immediately after it landed on its inaugural flight.

The airport has CCTV coverage, instrument landing and airfield ground lighting systems, automated baggage handling as well refuelling facilities for Avgas and Jet1 fuel.

Non-aeronautical facilities incorporated into the landing facility are banks, restaurants, duty

“ CAAZ is working on connecting Victoria Falls to regional tourist destinations such as Walvis Bay in Namibia ”

free shops as well as offices for immigration and customs.

Ethiopian Airlines will be followed by Kenya Airways this month and South Africa's Airlink in July regarding flights to Victoria Falls International Airport, according to the Civil Aviation Authority of Zimbabwe (CAAZ).

"CAAZ is working on connecting Victoria Falls to regional tourist destinations such as Walvis Bay in Namibia and Mombasa in Kenya," said CAAZ in a statement.

Ethiopian Airlines will fly non-stop from Addis Ababa at 08.35 hours and arrive in Victoria Falls Town at 12.15 hours on Tuesdays, Thursdays, Saturdays and Sundays. Return journeys to Addis Ababa on the same days would include stopovers in Gaborone, Botswana's capital.

Other international airlines servicing Victoria Falls International



Ethiopian Airlines managing director for international services Esayas Woldemariam Hailu and Zimbabwe's tourism and hospitality minister Walter Mzembi. (Photo source: Humphrey Nkonde)

Airport are Fastjet Zimbabwe, Air Zimbabwe, South Africa Airways, South Africa's Airlink, Air Namibia and British Airways operated by South Africa's Comair. Among domestic airlines, the airport is

served by Rainbow Airlines as well as various charter operations.

The US\$150mn loan to revamp Victoria Falls International Airport came from China's Export-Import Bank in 2013. Victoria Falls Town

and neighbouring Livingstone, across the Zambezi River and named after the Scottish explorer, were co-venues of the 20th United Nations World Tourism Organisation General Assembly in 2013. ■

EMO Hannover

The world of metalworking



INFO:
VDW – Generalkommissariat EMO Hannover 2017
Verein Deutscher Werkzeugmaschinenfabriken e.V.
Corneliusstraße 4 · 60325 Frankfurt am Main · GERMANY
Tel.: +49 69 756081-0 · Fax: +49 69 756081-74
emo@vdw.de · www.emo-hannover.de



Big diamond discoveries ignite Lesotho hopes

Lesotho's first diamonds were discovered back in 1957, but the small mountain kingdom is still full of surprises. Martin Clark reports.

Lesotho's diamond mining ambitions are on the up once again. At the Liqhobong mine, operator Firestone Diamonds announced its largest gemstone find yet, sparking optimism that there could be much more to follow.

The 110-carat gem-quality light yellow diamond was recovered during the ramp-up phase at the mine.

"I am delighted to announce that we have recovered Firestone's largest diamond to date," said Firestone's chief executive Stuart Brown, announcing the discovery on 5 April.

"The 110-carat gem-quality light yellow diamond recovered during

Liqhobong's ramp-up phase is a very exciting and encouraging accomplishment. It confirms our long-held belief that Liqhobong has large stone potential and I hope this is the first of many to come."

The London AIM-listed company has diamond mining operations in Lesotho and Botswana.

It is by no means the biggest find made in the mountain kingdom of Lesotho – far from it – but it fuels hopes in the Liqhobong development, now taking shape.

Lesotho's gemstone wealth is already well-known among the mining industry.

A decade ago, the Lesotho Promise, a 603-carat diamond stone of exceptional colour was unearthed in 2006 at the Letseng diamond mine.

It is believed to be the largest reported find this century, and one of the 15 largest diamonds ever to be found.

The Letseng mine is owned by another UK-based company, Gem Diamonds Limited, in partnership with the Lesotho government.

Not to be outdone by Firestone, it announced a separate find on April 7 – just two days later – with the recovery of a 114-carat, D colour Type II diamond of exceptional quality from the mine.

Indeed, Letseng has become well-known for the production of large, top colour, white diamonds, making it the highest dollar-per-carat kimberlite diamond mine in the world.

Since Gem Diamonds' acquisition of the mine in 2006, it has produced four of the 20 largest gem-quality white diamonds ever recorded.

This includes the sale of a 357-carat stone for US\$19.3mn just two years ago.

Nonetheless, the new find is a much-needed shot in the arm after the company noted a decline in 2016

in the recovery of diamonds larger than 100 carats, which "had a disappointing impact upon revenue and cash flow", in its full year results.

Whether Firestone's belief that its diamond recovery confirms the significant larger stones potential that exists at the Liqhobong site remains to be seen.

What is certain is that these experienced operators are determined to find out more about Lesotho and its underground treasures.

The Liqhobong mine, owned 75 per cent by Firestone and 25 per cent by the government, is now starting to yield strong returns already for the two shareholders.

Earlier this year, in February, Firestone announced the first sale of diamonds recovered from the site.

All of the 75,936 carats offered for sale were sold, realising an average price of US\$107 per carat, resulting in total proceeds of US\$8.14mn.

The strong sales competition amply highlights appetite for Lesotho's diamond output.

The best stone from the February auction – a 37 carat Type 2a internally flawless white stone – was sold for well over US\$1mn.



D&J Exports LTD
Procurement Specialists

Leading the way in Smart Procurement Solutions within
Oil & Gas | Power | Construction



We offer New and used Quality Vehicles and Machinery
Genuine or Non Genuine Parts delivered direct to your works

T: +44 (0)1702 348 340, E: sales@d-jexports.com
www.d-jexports.com



The 110 carat gem-light yellow diamond was discovered during the ramp-up phase at the mine. (Source: Firestone Diamonds)



The Liqhobong mine is owned 75 per cent by Firestone and 25 per cent by the Lesotho government. (Source: Firestone Diamonds)

“We look forward to better results as we gradually increase our mining to all areas of the pit and increase our run of mine production over time,” added Brown.

It means development works continue with renewed confidence, both at Liqhobong, and elsewhere.

At the Letseng mine, Gem Diamonds continues to focus on

improving its performance, with an emphasis on reducing diamond damage through the use of new state-of-the-art technology.

Its chief executive Clifford Elphick said he remains “confident that Letseng will continue to produce exceptional diamonds” going forward.

Firestone Diamonds only reached full commercial production at

Liqhobong in October 2016, after a US\$185mn development project, although the site was discovered back in the 1950s.

The new mine therefore carries high hopes for the kingdom’s future diamond hopes.

Elsewhere, Australia’s Lucapa Diamond Company is also looking to redevelop the Mothae mine in a phased project.

It says the economics of developing Mothae improved following the devaluation of Lesotho’s currency, the Maloti - which is pegged to the South African Rand - against the US dollar since 2013.

Certainly, with two big diamond finds in a single week during April, Lesotho’s diamond mining industry is buzzing once again. ■

RELIABLE ENERGY SOLUTION

for the entire mining sector.

- 1 Power Transformers
- 2 Tiger RMU
- 3 Overhead Lines
- 4 MV Switchgear
- 5 Mini Substations
- 6 Mobile/Containerised Substations
- 7 MV Motors
- 8 E-Houses
- 9 Distribution Transformers
- 10 Motor Control Centres
- 11 MV Slipring Motor
- 12 MV Drive
- 13 Automation Control Room
- 14 Invicta Vibrator Motors
- 15 Diesel Generator
- 16 Electrical Construction
- 17 LV Motors & Drives

The Zest WEG Group, a subsidiary of leading Brazilian motor and controls manufacturer WEG, started out as a South African company and maintains its strong commitment to contributing to the development of the African region.

The Zest WEG Group has been servicing the mining sector for more than 35 years and by leveraging best practice engineering and manufacturing capabilities, the group is able to offer a range of standard off-the-shelf products as well as end-to-end energy solutions.

An in-depth understanding of the harsh conditions found within the mining sector and years of experience on the African continent, have ensured that the Zest WEG Group service offering is fit-for-purpose.

From single product installations to individually customised solutions, which are application specific, the latest technology is used to ensure optimum performance and reliability without compromising on energy efficiency.

WEG products are engineered to facilitate a safe and reliable mine and plant with operational stability and the highest possible production levels as an objective. Reduced maintenance and ease of serviceability assist in lowering the total cost of ownership for the mine.

Supporting customers is key and the Zest WEG Group operates a strategically situated network of branches and distributors across the continent. This ensures the highest levels of technical support as well as easy access to product and parts.

SCAN HERE
for more about
our offerings in the
mining sector

ZEST
WEG Group

Tel: +27 11 723 6000 www.zestweg.com



Power quality in one complete package

FG Wilson and Master Power Technologies bring value to customers with one high-quality integrated system.

Just sit for a moment and think back 20 years, to the way you worked then, how you communicated, how easy, or difficult it was to find information. And if you're lucky enough to be too young to remember that far back, imagine no instant communication, using pen and paper, faxes, letters, floppy disks, unconnected computers.

In 1999, Menno Parsons was working in the UPS division of an electronics company, watching the birth of the internet. He could clearly see the growing need for stable, high quality electric power for businesses which were becoming dependent on IT and fast communications.

Putting his thoughts into action, that year Parsons decided to strike out and form his own business, Master Guard. At first, focus was on static UPS (Uninterruptible Power Supply) products, usually for customers in telecommunications, banking and industry.

Soon, however, the product range began to grow. Parsons recalls, "Back then, the elements of a power system often came from many different suppliers and this made it difficult

for customers to make the right decisions. Also, because the different components of power systems were all integrated, if something went wrong, customers often needed to call out suppliers of all the components to figure out one problem. Generator sets and UPS systems all work hand in hand, so we started offering them together as one integrated and fully supported system."

From there, it was a short step towards offering changeover control panels together with distribution boards which switch from the utility supply to the generators when power goes down and in reverse, when utility power is restored.

Five years later in 2004, Menno saw the boom in data centres, but what was fast becoming clear was the traditional planning model for a data centre, now sometimes called the snowflake model, had no chance of keeping pace with rapid growth in internet traffic. His solution – now commonplace – was a modular data centre, where servers and cooling systems are held in containers. When more capacity is needed, it is as simple as bringing in more

modular containers.

Now Master Guard had a complete turnkey data centre package: energy and hardware with rapid deployment.

But there was something else. Parsons says, "When you're managing a data centre, or any critical environment, you want near zero risk of downtime, which means rapid service for hardware and power systems. That means close monitoring and predictive maintenance by people who are complete specialists in all aspects of the operation. Issues need to be resolved well before they become problems."

So, in 2007 Parsons opened the Life.NET remote monitoring centre, which gave Master Guard the ability to monitor critical equipment and the entire data centre environment. This meant high efficiency was maintained for customers at lower costs than hiring their own internal specialists. And it meant that technicians were often on-site before anyone at the data centre was even aware there was a potential problem. The data centre operators could now focus on their business without needing to troubleshoot on operational issues.

Reflecting the major changes in the business, in 2010 Master Guard was reborn as Master Power Technologies.

By 2014, it was time to find a strong brand of generator sets with a reputation for reliability and at the very same time FG Wilson, who have been making generators for more than 50 years, was looking for

a strong partner to add value to their brand. To sell and support the FG Wilson range of generator sets, Master Power Technologies established a new Blue & White Division covering South Africa, Namibia, Botswana, Zambia and Mozambique. Parsons says, "FG Wilson generator sets are a perfect match for customers who have critical power needs. The products are reliable, tested and supported by a world-class parts and service infrastructure. And it's a brand which has a long track record."

That track record is more than 600,000 generator sets sold since 1990 alone. It is a relationship which works well for both: FG Wilson are masters at simplifying complexity and for any project, Master Power Technologies can count on a team of 300 engineering specialists at FG Wilson's main UK facility to support with generator set design and project management. Together with Master Power Technologies's world-class remote monitoring and support capability, it is a strong package.

But Parsons has not stopped for breath. He says, "We've now over 200 employees and coverage right across sub-Saharan Africa. We're looking at all the bigger telecoms, banks, mines, commercial infrastructure and manufacturing companies to market FG Wilson generator sets, solutions and services. The value we can bring is one high-quality integrated system supported by one experienced specialist vendor." ■

“FG Wilson generator sets are a perfect match for customers who have critical power needs.”

MENNO PARSONS, MASTER POWER TECHNOLOGIES



 *EKO Signature*  EKO SUITES  EKO HOTEL  EKO GARDENS

Plot 1415 Adetokunbo Ademola Street, PMB 12724
Victoria Island, Lagos, Nigeria, Tel: +23412772700-5
(ext,6124) +23414606100-29 Fax +234 1 2704071
sales@ekohotels.com, reservation@ekohotels.com
banquet@ekohotels, www.ekohotels.com

...nesting international standards with African hospitality



ENERGAS TECHNOLOGIES SUPPLIES HIGH FUEL STORAGE FACILITY FOR DDWESTERN CAPE PHOSPHATE MINING PROJECT

DRA Global has commissioned Energas Technologies to design a high fuel oil (HFO) storage facility for the Elandsfontein phosphate mining project in the Western Cape.

Energas Technologies engineers oversaw the design, manufacturing and testing of the facility, which included two 80 cubic metre tanks (manufactured by Petrotank SA) and an off-loading pump skid as well as a pump and heating skid, manufactured by ERD Fabricators in Sasolburg.

Marianne Lourens, Energas Technologies project engineer said, "Energas commissioned work in the Elandsfontein phosphate project was delivered by the contractual delivery date and within budget. The value of Energas' contribution to the project



High fuel oil storage facility for Elandsfontein phosphate project. (Photo source: Energas Technologies)

is approximately R10 mn. The success of the project will highlight our reputation of providing excellent service."

Elandsfontein is home to the biggest-known sedimentary

phosphate deposit in South Africa and ranks second in the country, with the igneous Phalaborwa deposit occupying top place. South Africa imports 60 per cent of its fertiliser requirements,

which makes access to phosphate vitally important to the future of food security in the country.

Kropz, miner of fertiliser feed minerals (mainly phosphates), is the majority shareholder in the Elandsfontein phosphate project on the West Coast and is investing R1.35bn developing the project. Upon completion the affected area will be returned to a functional ecological state as part of the Elandsfontein Nature Reserve.

Mining started at the site in March and 50 per cent of the workforce is employed locally. Energas Technologies's was at the helm of delivering a similar project involving a heat skid and heat exchanger for a HFO depot in Pretoria West (Sasol Oil).

Advertiser's Index

| | |
|--|----|
| 3i Infotech Limited | 7 |
| Afrocent Montgomery Exhibitions and Event Ltd | 20 |
| Aksa Jenerator Sanayi AS | 15 |
| AnBao QinHuangDao International Corp. | 24 |
| Astec | 52 |
| Barclays Africa | 22 |
| BBVS/Allied | 51 |
| Betonstar Makina Sanayi ve Ticaret A.S. | 43 |
| Booyco Electronics..... | 37 |
| D&J Exports Ltd | 46 |
| Doosan Infracore | 13 |
| Eko Hotel and Suites | 49 |
| Gustav Bertram GmbH | 40 |
| Himoinsa, S.L. | 2 |
| IIR Exhibitions (Power Nigeria 2017) | 25 |
| Jessop & Associates (Pty) Ltd | 39 |
| Liebherr Export AG | 41 |
| Liquid Telecommunications..... | 28 |
| Manitowoc Crane Group | 19 |
| Mesan Kilit A.S. | 33 |
| Metalgalante S.p.A. | 42 |
| Ortea S.p.A. | 16 |
| Pan Mixers South Africa (Pty) Ltd | 38 |
| Panafrican Group | 14 |
| PR Middle East..... | 17 |
| SA French (Pty) Ltd..... | 11 |
| SDLG - SWE | 9 |
| Spedag Interfreight Ltd | 31 |
| VDW Verein Deutscher Werkzeugmaschinenfabriken | 45 |
| Volvo Construction Equipment AB | 5 |
| Vortex Hydra s.r.l. | 36 |
| Zest WEG Group Africa | 47 |

Subscription Form

I wish to subscribe to
AFRICAN REVIEW OF BUSINESS AND TECHNOLOGY
for 1 year (11 issues) starting with the next copy.

Europe a 107, Kenya Ksh 2400, Nigeria N4400, South Africa R299, United Kingdom £73, USA \$140

Enclosed is my cheque/draft ☐ Please send us the invoice ☐

Please debit my: Amex ☐ Visa ☐ Mastercard ☐

Card number:

Expiry date: / Security Code:

(Please note that we will debit your account in sterling).

Name Position

Organisation

Telephone Fax

Address

Country Signed

Email: Date

Send this subscription form by airmail together with cheque payable to:

Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place London, SW1W 0EX, UK

Subscription order can also be placed via the web: www.alaincharles.com
or email at circulation@alaincharles.com

YOUR JOB TITLE/FUNCTION

- | | |
|---|---|
| <input type="checkbox"/> Corporate Management | <input type="checkbox"/> Government Municipal, Public Services Executives |
| <input type="checkbox"/> General Management | <input type="checkbox"/> Technical Management |
| <input type="checkbox"/> Others, Please specify | |

YOUR BUSINESS

- | | |
|--|---|
| <input type="checkbox"/> Government/Public/Diplomatic Services | <input type="checkbox"/> Infrastructure |
| <input type="checkbox"/> Educational/Research Institutes | <input type="checkbox"/> Industry/Manufacturing |
| <input type="checkbox"/> Agricultural & Agro Industries | <input type="checkbox"/> Commercial Services |
| <input type="checkbox"/> Building/Construction/Mining | <input type="checkbox"/> Import/Export Agents, Distributors |
| <input type="checkbox"/> Commercial Transport | <input type="checkbox"/> Others, Please specify |



Locate
Jersey

Jersey.
For business.
For life.

Looking to move your future global or European operations offshore?

Jersey welcomes enquiries from businesses engaged in high-value activity or with high-growth potential.

+ Pro-Business

- Independent government with a strong and stable economy
- Robust yet pragmatic approach to regulation
- Proactive support for inward investment with aftercare
- Jersey ranks as one of the top offshore finance centres in the world
- Skilled, professional workforce

+ Low Taxation

- No corporate tax for non-financial services businesses
- 10% corporate tax for financial services firms
- No capital gains tax
- No inheritance tax
- Low personal tax rates for individuals

+ Quality of Life

- An enviable work-life balance
- Strong sense of community with an international outlook
- Beautiful island setting with stunning beaches, coast and countryside
- Extensive leisure and sporting facilities with an outdoor focus
- Excellent, modern services in education and healthcare
- English speaking, British culture

Locate Jersey provide free advice and support to you and your business in relocating to Jersey. Please call the Inward Investment and International Trade Development team on +44 (0)1534 440604 or email locatejersey@gov.je



locatejersey.com/ar17



**TOGETHER, PROVIDING
GLOBAL PROCESSING SOLUTIONS**



ASTEC AGGREGATE & MINING GROUP

700 W. 21st ST. • YANKTON, SD 57078 USA • 605.665.9311 • FAX 605.665.8711 • astecworld.com



© 2017 Astec Aggregate & Mining Group, Inc.