

# African Review

of BUSINESS and TECHNOLOGY



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# Editor's Note

The feature pages of this issue of African Review address business, economy, finance and technology from page 21 to page 36. Between pages 38 and 40, there is coverage of automotive issues. Pages 42 to 49 examine power generation and distribution. Environmental factors are considered between page 50 and page 53. The construction sector is covered from page 64. Mining is addressed between page 66 and page 70. Highlights within these pages include an article on page 21 on Kirloskar Brothers' key role in supplying fluid management solutions to a wide range of African industries. There is, also, a report on the factors affecting economic growth amongst Africa's francophone nations, from page 24. The use of bank verification technology to support security frameworks is covered from page 28. Automation for civil construction projects, with a particular focus on Trimble's solutions, is represented on page 36. And the digitalisation of the automotive sector, from T-System's perspective, is represented on page 40. Ortea's voltage stabilisers to ensure smooth power supply are profiled on page 42. The ways in which Inmesol supports power supply in urban environments is assessed on page 48. A key construction industry event, Intermat, is previewed from page 54. Automation in mining is covered from page 66.

Andrew Croft, Editor



Main cover picture: LiuGong  
Inset, bottom left: Joest  
Inset, top left: CBN

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Editor: Andrew Croft  
andrew.croft@alaincharles.com

Editorial and Design team: Bob Adams  
Prashant AP, Hiriyti Bairu, Sindhuja Balaji  
Thomas Davies, Ranganath GS, Rhonita Patnaik  
Louise Quick, Prasad Shankarappa, Zsa Tebbit  
Lee Telot, Louise Waters and Ben Watts

Publisher: Nick Fordham

Publishing Director: Pallavi Pandey

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

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

India: Tanmay Mishra  
Tel: +91 80 65684483 Fax: +91 80 40600791  
Email: tanmay.mishra@alaincharles.com

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

UAE: Camilla Capece  
Tel: +971 4 448 9260 Fax: +971 4 448 9261  
Email: camilla.capece@alaincharles.com

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

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

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

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

Production:  
Nathanielle Kumar, Nikitha Jain  
Donatella Moraneli, Rachel Neeson and  
Sophia White  
E-mail: production@alaincharles.com

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# BEHIND CONSTRUCTION



Volvo Construction Equipment





# Agenda / North

## Himoinsa generator sets in water treatment plants in Egypt

Generator manufacturer **Himoinsa** has supplied **Acciona Agua** with five generator sets for operation in four water treatment plants in different locations in Egypt.

The objective of this project is to purify 150,000m<sup>3</sup>/day of urban wastewater, which is equivalent to that produced by 500,000 people and reuse the water for irrigation. The Himoinsa generator sets activate the water purification system whenever a power cut occurs - which, as Leopoldo Lainz, Asia Pacific development manager for Acciona Agua, said recently, is "something that happens quite frequently in this area".

The largest plant, with a flow of 82,000m<sup>3</sup> per day, is the Abnoub-El Fath plant where two open generator sets were installed, the HMW-1135 T5 and HTW-2030 T5 models, with **MTU** and **Mitsubishi** motors respectively. These two gensets, with outputs of 1,200kVA and 2,250kVA, will allow supply to reach a population of over 300,000 people.

The sewage plants of Sodfa-El Ghanayem and El Ayat, which have similar characteristics, have been equipped with HTW-920 T5 generator sets which have a Mitsubishi 1,000kVA motor. Both emergency gensets will help maintain activity at each of the plants that will supply more than 200,000 people in total. The plant in Abu Simbel, a leading tourist destination in Egypt, is equipped with a 400kVA generator set, the HMW- 350 T5 model, with a MTU engine, as this is the smallest plant with a daily flow of 6,000m<sup>3</sup> and will supply 20,000 people.

"The generator sets provide power to start all the pumps that activate the operation of the water treatment plant when a failure is detected in the mains, otherwise the plant would be flooded as it would be unable to drive the water out," said Mr Lainz.

Acciona Agua has been responsible for the design, procurement, operation and maintenance of the four plants, which are located in Abnoub-El Fath, Sodfa-El Ghanayem, El Ayat and Abu Simbel.

Following an agreement signed with the **National Organization for Potable Water and Sanitary Drainage (NOPWASD)**, a state-owned company under the Egyptian Ministry of Water and Housing, Acciona chose Himoinsa to supply emergency power to the project, after analysing the proposals submitted by eight other companies specialising in power generation. José Astigarraga Zabala, manager of **Astigarraga Energy (Asener)**, distributor for the Northern Zone of Himoinsa España, reported that the project required the incorporation of supply tanks with automatic fuel transfer pumps. He said, "All the generator sets are designed to work in emergencies and have a AS5CEA7 control unit installed that offers high protection, both for the genset and the equipment and devices it supplies."



# Agenda / East

## TALL Group secures Ethiopian fuel coupon business with OiLibya

Pan-African energy group **OiLibya** has chosen secure paper and payment solutions firm **TALL Security Print** to provide the company's fuel coupons in Ethiopia. TALL Security Print has produced one million coupons for use across all of OiLibya's service stations in the East African country.

OiLibya's fuel coupon system is used by drivers to obtain fuel for company vehicles. Upon winning the contract, TALL Security Print enhanced the design of the coupons that were previously being used by the energy group. In addition, both overt and covert security features were incorporated into the new design, providing a significantly greater degree of protection against fraud.

Before being distributed to its customers, OiLibya overprint the coupons with the name of the customer, denomination and data reference fields. Once the coupons are redeemed for fuel, the service stations send them back to a centralised office to be scanned and processed through OiLibya's accounting system.

A range of security features it could incorporate into the finished product, to help stop fraudulent activity across OiLibya's operations in Ethiopia. Martin Ruda, TALL Security Print MD, said, "TALL Security Print continues to innovate in order to provide customers with the most up-to-date solutions whilst delivering exceptional value."

## Safaricom's new mobile network

Finnish telecommunications network company **Nokia Networks** is working with **Safaricom** to help the mobile operator to modernise and expand its current 2G and 3G network infrastructure, and to help launch the first LTE-advanced (LTE-A) telecommunications network in Kenya. LTE-A is the technology underpinning 4G mobile communications. The network launched in December 2014 will offer peak speeds of up to 100 Mbps, which is more than twice the speed offered on 3G technology.

The new network will enable the Kenyan operator to create larger, virtual carrier bandwidths for services by combining separate spectrum bands, thus boosting network capacity and speed as well as performance. Safaricom's customers will be able to download and upload files faster as well as enjoy buffer free audio and video streaming.

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# Agenda / South

## Promoting pumps, valves and pipes in Africa

The global pump and valve manufacturing industry is showing renewed interest in this year's Pumps Valves and Pipes Africa Expo (PVPA). This well-known exhibition, staged in the industrial heart of South Africa, has provided a versatile product showcase and business networking platform for local and international companies for well over a decade. Early bird exhibitors from Turkey, China and India have already signed up for this year's event, with a flood of new and repeat participants expected to take advantage of countless business opportunities on the go across Africa. PVPA, which forms part of this year's SA Industry & Technology Fair, takes place at Gallagher Convention Centre in Midrand, South Africa, from 20 to 22 May 2015.

### A world of water issues

"World demand for vital fluids - whether water or oil - continues every day," said John Thomson of show organiser

### Exhibition Management Services.

"Pipelines, valves and pumps are the only sure infrastructure mechanisms to control and direct the direction, rate of flow and final destination of these commodities. "These systems are vitally important, whether installed in drought-stricken regions to conserve and manage scarce water - California and rural Africa are good examples - or in flood-ravaged areas, where pipeline systems preserve the integrity of potable water supplies. There are still many regions in Africa and the world where such systems don't exist and are desperately needed - that's where PVPA does the job. Managing Africa's water is a major driver of interest in the region for pump and valve manufacturers and suppliers around the world," added Thomson.

### Lubi Pumps debuts at PVPA

First-time exhibitor **Lubi Pumps** is an Indian

manufacturer of more than 4,500 varieties of water pumps and motors, including submersible pumps, bare shaft pumps, end-suction pumps and pressure booster pumps. It is a market leader in more than 80 countries.

"We decided to exhibit at PVPA because we want to investigate markets and business opportunities in Africa, and showcase our energy-efficient equipment," said Vishal Bhesaniya, the company's export administrator. "PVPA is an important platform for us because it focuses on our specific industry, in a region that has potential for growth."

### Turkey targets PVPA

Turkish manufacturer **Sempa**, a leading manufacturer of pumps for firefighting and industrial applications, will also showcase its products at PVPA this year. The company has expanded its product portfolio to include deep well pumps, submersible pumps, booster sets, diesel and electric fire pumps and waste water and sewage pumps.

### Quality visitors attract China

First-time exhibitor **Anhui Sanlian Pump Industry Company** is a trans-industry business group integrating scientific research, manufacturing and trading. It is the largest water pump manufacturer in China, and plans to showcase its full range of pumps and fluid transfer systems. "We decided to come on board as we see PVPA as the most professional pumps show in Africa," said Daniel Liu, an agent for the company. "We are targeting the South African market and hope to see more growth for us; because the event has many high calibre visitors, it will give us a good chance to find the right business partners."

*Learn more about Pumps, Valves and Pipes Africa at [www.exhibitionsafrica.com](http://www.exhibitionsafrica.com)*

## Energy challenges affecting SA mining

The 2015 Mining Indaba recently highlighted the challenges to South Africa's mining companies brought on by load-shedding. According to Arthur Chien, CEO of **Talesun Energy**, the industry needs to look at how best it can increase profits to ensure a sustainable future. In order to cut back on costs the industry should look to renewable energy options, such as photovoltaic (PV) solar energy, as an alternative to power mining sites. In the long run significant costs can be cut by not relying on fossil fuel power solutions, such as diesel-fired generators.

The mining process, which consumes a profuse amount of electricity, involves the hauling, grinding and processing of minerals to supply both the energy and raw material needs of the modern world. Mr Chien recently highlighted the concept that using less electricity by the use of modern energy efficient concepts such as PV solar energy, means that every kilowatt hour saved goes straight to the bottom line.

With the rising costs of traditional energies and the waning costs of renewable energies, renewables are increasingly more resourceful. It is evident, however, that South Africa's mining sector, a major user of electricity, can be more efficient in terms of energy consumption by including emerging renewable energy strategies, and automated renewable energy technologies such as PV solar modules, into their business models.

In doing so, they will promote continuous improvement in energy usage, security of energy supply and long-lasting contributions to the environment, thus covering the increasing energy demand in an proficient and profitable way without increasing carbon emissions.

Large megawatt-scale PV power plants are already providing mining companies with reliable, steady and emission free electricity during the day, that is decoupled from inflation, to reduce electricity consumption used for underground mine refrigeration, ventilation, grinding and more.



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# Agenda / West

## Guinea to gain better food security

Tens of thousands of people in rural areas of Guinea worst-hit by the Ebola epidemic will receive training on how to prevent the spread of the disease and support in producing food and generating income, through an agreement involving the **World Bank**, the country's government, and the **Food and Agriculture Organization of the United Nations (FAO)**.

As part of the initiative, US\$5mn will be invested in FAO's Ebola Response Programme which aims to assist rural households whose livelihoods and access to food are severely threatened by the impact of Ebola.

"The funding is a much needed contribution towards building the resilience of communities whose already precarious situation of chronic food insecurity has been exacerbated by Ebola-related disruptions to farm labour, agricultural production and food markets," said Bukar Tijani, FAO Assistant Director-General/Regional Representative for Africa.

The project envisages a social mobilisation campaign in which a total of 30,000 households will be sensitized on measures to counter the transmission of the disease in rural areas. Experienced rural development and extension field workers will undertake awareness activities combined with the provision of hygiene kits to rural communities.

In addition, some 15,500 vulnerable families will benefit from interventions aimed at safeguarding their livelihoods, including the provision of improved seeds, fertilisers and farming equipment in time for the crucial, upcoming vegetable and cereal planting seasons. The project will also focus on empowering farmers with technical knowledge and skills through farmer field schools.

Beneficiaries include hunters and women who used to sell bush meat but lost this source of income after authorities banned this trade in order to reduce the potential risk of exposure to Ebola through contact with wildlife. The programme will also target women groups involved in rice-processing activities.

Job opportunities will also be offered to 2,000 young workers through a cash-for-work approach.

The effort to revive the rural economy also envisages the contracting of local seed suppliers including those involved in the World Bank-funded West Africa Agricultural Productivity Program (WAAPP) for certified rice seed.

"We believe that these activities will be key to restore and protect the livelihoods of affected communities and to avoid long-lasting consequences on rural economies, said Ishaia Obama, FAO Representative in Guinea.

## Konecranes to supply 15 RTGs to Bolloré Group

The lifting solutions enterprise **Konecranes** is fulfilling an order for 15 rubber tired gantry (RTG) cranes, to be delivered to three container terminals operated in West Africa by **Bolloré Africa Logistics**.

Two of these terminals are new Konecranes RTG customers: Togo Terminal in Lomé, Togo, is taking four RTGs. Benin Terminal in Cotonou, Benin, is taking five RTGs. Six RTGs will be delivered to Bolloré's container terminal in Pointe Noire, Congo, which already operates Konecranes RTGs.

"We are delighted to be part of Bolloré's growth in Africa, adding the terminals Benin Terminal and Togo Terminal to the list of container terminals operating Konecranes RTGs in West Africa," said Antoine Bosquet, Konecranes' sales director, Port Cranes, region IMEA. "Africa is a growing market for Bolloré and Konecranes."

The 15 RTG cranes will be equipped with the Konecranes' Smarter Cabin offering improved ergonomics, visibility and safety. They will also have advanced Konecranes technology such as auto-steering, which keeps the crane on a pre-programmed, straight driving path, and variable speed engine and Diesel Fuel Saver technology. Taken together, these features help to improve operating safety and increase productivity.

The RTG container positioning systems will be connected to terminal operating systems ensuring correct, real-time container positioning and an accurate inventory. The RTG cranes will also be equipped with Truconnect remote monitoring, enabling remote diagnostics for maintenance purposes.

The hydraulics-free, 16-wheel RTGs will have a lifting capacity of 40 tons stacking one-over-five containers high and seven-plus truck lane wide.

## Mundipharma donates Betadine to help beat Ebola

A network of independent associated companies operating in pharmaceutical markets has partnered with the non-governmental organisation **Direct Relief** to donate supplies of the Betadine range of anti-virals to support efforts to contain the current outbreak of Ebola. The network, operating as **Mundipharma**, is providing more than two million anti-viral hand washes to the Ebola treatment centres of West Africa. Raman Singh, Mundipharma president, Asia Pacific, Latin America, Middle East, and Africa, said, "We hope that our proactive approach will enable Direct Relief to continue to quickly and efficiently provide important preventative measures in limiting the outbreak of this serious and growing health issue."



Raman Singh, Mundipharma president, Asia Pacific, Latin America, Middle East, and Africa



SERIES 2015



3 / 3



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13-15

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15-16

### AITEC Southern Africa ICT Summit

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[aitecafrica.com](http://aitecafrica.com)

17-18

### Agritech

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20-25

### Intermat

Paris, France

[paris-en.intermatconstruction.com](http://paris-en.intermatconstruction.com)

22-23

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27-29

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**PORSCHE**

# Bulletin / Trade

## An Italian agricultural showcase at Africa's Big Seven

Southern Africa is a market with great potential for growth and it's ready to be challenged - so, **Kölnmesse Italy**, organiser of the Anugafoodtec show, and **Fiere di Parma**, organiser of the Cibustec show, are set to stage an Italian Pavilion at the 2015 edition of Africa's Big Seven (AB7) taking place 21-23 June in Midrand, South Africa; the pavilion will focus on agrifood technologies dedicated to food industry products such as raw materials, machinery and supplies.

## Africa Trade Fund to invest US\$1.4mn in new projects

A technical assistance facility hosted by the **African Development Bank**, the **Africa Trade Fund (AfTra)** has committed to funding four projects with over US\$1.4mn to support trade development in Africa; according to AfTra fund coordinator Moono Mupotola, the projects "were all carefully selected to make sure that they achieve the goals of helping African countries trade better with each other and to facilitate their integration into global value chains".

## Commerce in cotton showcased in Addis Ababa

An event and an on-going effort dedicated to improving African cotton, textile and apparel trade, Origin Africa will take place 21-23 October in Addis Ababa, Ethiopia; more than 400 participants from 11 countries participated in this high-profile, international event in 2014, including 15 regional and international buyers, with strong representation from across the cotton, textile and apparel value chain.

## An industrial 'hotspot' for trading in machines

For the first time, from 13-15 April, USETEC 2015 features a TradeMachines Auction Hotspot, a special zone dedicated to shedding light on every aspect of industrial

auctions; as well as auction houses, exhibitors include suppliers of support services, such as financing, transport, export transactions, customs clearance, valuation.

## Trade event organiser EMS promotes petroleum industry

Twenty petroleum corporations comprising membership of the **South African Petroleum Industry Association (SAPIA)** are 'fuelling' the impetus of Petro.t.ex Africa 2015, a major mid- and down-stream exhibition and conference aimed at the African petroleum and petrochemical industry, which focuses on promoting products, services and business opportunities within Sub-Saharan Africa; Petro.t.ex Africa, which forms part of SA Industry & Technology Fair, takes place at Gallagher Convention Centre, Midrand, 20-22 May 2015.

## Emirates expands African trade network with Boeing 777F



Emirates SkyCargo operates a Boeing 777 freighter aircraft on the Dubai-Ouagadougou-Dakar-Frankfurt-Dubai route

Air freight firm **Emirates SkyCargo** has bolstered its operations on its African trade route network with the introduction of a weekly freighter service to Ouagadougou in Burkina Faso; Ouagadougou is the 27th African destination to join the Emirates SkyCargo network, further enhancing bilateral trade links already in place between the UAE and Africa.

## EA groups argue that Africa's future is in free movement

The **East African Trade Union Confederation (EATUC)** and the **East African Employers Association (EAEO)** are calling

for the removal of all barriers to trade and to the free movement of workers in the region; EAEO chairperson Rosemary Ssenabuluya said, "Given the importance of free movement of labour, EATUC and EAEO have embarked on a process to provide joint recommendations to the governments of the EAC Partner States in order to speed up this process for the people of East Africa to feel the direct benefits of the regional integration, while respecting the need for a timeframe with adequate transitional mechanisms."

## Fastjet supports efforts aimed at boosting intra-African trade

Low-cost budget aviation firm **Fastjet Zambia Plc** says its low-cost fares are set to boost intra-Africa trade within the sub-region. The airline, which established itself in the Tanzanian market in 2012 as Fastjet Tanzania, established Zambia as its second African base in 2014 following receipt of an air service permit (ASP) from the Zambian government.

The airline is, however, still awaiting assurance of an air operating certificate (AOC) to enable full commencement of operations.

According to Fastjet Zambia commercial manager, Patricia Zimba, its low-cost fares, priced as low as US\$20 for scheduled domestic routes and US\$50 for international routes, have already made a significant impact for traders within the sub-region who can now afford to fly to strategic destinations.

"The low-cost model is something that is new on the Zambian aviation market and what is exciting is that we are providing low-cost fares. So, for a trader in the **COMESA** market, this actually works for them and they don't feel disadvantaged. Our presence in the market is going to boost trade in the region," explained Zimba. *Nawa Mutumweno*



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# Bulletin / Investment

## Equity-backed Lekela Power to serve Africa with renewables

**Global wind** and solar company **Mainstream Renewable Power** and private equity firm **Actis** have launched **Lekela Power**, a pan-African renewable energy generation platform, to provide between 700 and 900 megawatts of wind and solar power across Africa by 2018; Barry Lynch Mainstream's managing director, onshore procurement, construction and operations said, "We are delighted to be working on our third collaboration with our financial partner Actis, which once again draws on Mainstream's world-class portfolio of wind and solar projects and our track record of delivering them into commercial operation on time and on budget."

## Tackling critical business challenges for African investors

Cherie Blair CBE, QC, founder and chair of **Omnia Strategy LLP**, is among the 16-strong Programme Steering Committee for the 2015 Global African Investment Summit in London, in the UK, 24-25 November; Mrs Blair and high-level industry experts are sharing key insights on doing business in Africa to develop a topical programme agenda addressing the most critical issues and questions facing investors seeking to be part of the numerous opportunities the African continent has to offer.

## Africapitalism Institute discusses local value creation

The **Tony Elumelu Foundation** research and policy arm, the **Africapitalism Institute**, held its inaugural global advisory board meeting in Abuja, Nigeria, recently, to review the Institute's recent work and to discuss the methodology behind the Africapitalism Index, a unique, annual analysis of the way African economies are growing that places emphasis on local value creation; economist Africapitalism advisory board member Dr Jim O'Neill, said, "Africa's economies are growing but in order to ensure that this growth is sustainable, countries

must focus on policy; from property rights to education, governments need to deliver an enabling environment."

## Armor Africa seeks to build business at Propak East Africa



Roland Pinz (left) and Andrew Fosbrook (right) are creating new business for Armor Africa in East and Southern African markets

Thermal transfer technology specialists **Armor Africa** will launch its product range to the region at Propak East Africa 2015 exhibition, taking place in Nairobi, Kenya, in March, following the recent opening of a ribbon manufacturing plant in South Africa; the company is also looking to use the event to expand its reseller network.

## LuSE turnover rises

The **Lusaka Stock Exchange (LuSE)** has recorded significant growth levels with turnover shooting to a colossal K1.1bn (US\$159mn) by end-December 2014, compared with incomes of K211.2mn in December 2013 and K360.7mn in December 2012. According to 2014 year-end statistics report released to the media in Lusaka recently, a total of over 318.80mn shares were transacted in 5,373 trades yielding K1,101,542,932 in 2014. The statistics indicate that **Lafarge Zambia** accounted for the bulk of trading activity after it posted a turnover of over K553.75mn followed by **Zambia Sugar** which earned over K114.84mn and **Zambeef Products** which registered K75,394 in turnover. However, the

## Intersec offers opportunities to invest in East African security

Further to the partnership formed by event organiser **Messe Frankfurt** and **Trade & Fairs Consulting** and **planetfair** are organising SecProTec East Africa to be held 9-11 July 2015 at the Kenyatta International Conference Center (KICC) in Nairobi, Kenya; Skander Negasi, CEO of Trade & Fairs, confirmed that SecProTec East Africa powered by Intersec "offers manufacturers in the security sector direct access to East African markets and allows exhibitors and visitors alike to expand their business activities."

## Indaba realises mining investment opportunities

The mining community met recently in Cape Town, South Africa, for the annual Investing in African Mining Indaba; much of the focus at the event was on realising investment opportunities for the extractive sector through shared value and partnerships, collaborative business relationships for inclusive and sustainable development, and equitable models for mining economies.

statistics indicate that there was a sharp slump in turnover between 2012 and 2013 of over K141mn from K360.7mn in 2012 to K211.2mn in 2013 Overall trading activity occurred in all the listed firms last year. The graphs further indicate more domestic participation with a turnover of K633,120,315 than foreign participation which accounted for K468,422,617 during the year under review. Meanwhile, the LuSE All -Share Index has maintained a steady increase over the last three years to 5,396.32 points recorded as at January 2014 from 3,649.99 points in January 2013 and 3,714.61 points in January 2012.

Nawa Mutumweno



# Bulletin / Corporate

## Qatar Airways and Aspire Academy select youth from Senegal to play in Spain

As the whistle blows indicating the end of the football match, 35 young boys run and jump, full of energy and adrenaline, celebrating not just their stellar performance on the pitch, but also, being one step closer to turning their dreams into reality. This year, **Qatar Airways** is proud to have partnered with **Aspire Academy's** Aspire Football Dreams programme, and were on hand to welcome the youngsters as they arrived at Aspire Academy in Senegal for their final assessment in hopes of getting one step closer to a career in professional football. Aspire Football Dreams coaches, staff and more than 4,000 volunteers, assessed 400,000 13-year-old football players, at approximately 650 football fields, in 14 countries over the last year. Those selected to enter the Academy this



Qatar Airways and Aspire Academy host the Football Dreams Africa initiative, as this year's team hopefuls celebrate after their final match against RCD Espanyol

year, will form the Qatar Airways & Aspire Academy – Football Dreams Africa team, and will be flown to Barcelona to play against FC Barcelona's youth team, courtesy of the airline. Launched in 2007, Aspire Football Dreams provides young football players from developing countries with the opportunity to reach the heights of international football through training and development at their Academy located in Senegal. Each year, the programme selects up to 20 13-year-old boys

who go through a rigorous assessment process in the hopes of being selected to attend the Academy where they train, compete, study and learn to manage their lives and careers successfully, with the goal of one day playing for a professional club or their respective national teams. Having already tested two million football players since the beginning of the programme eight years ago, Aspire Football Dreams is the largest-ever talent search in football.

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# Bulletin / Economy

## The need for credible, sustainable growth in Africa

Failure to reduce poverty is affecting the credibility and sustainability of economic growth African states, according to researchers from the **Institute for Security Studies (ISS)**; at a seminar in Nairobi, Kenya, recently, ISS executive director and head of the **African Futures Project** Jakkie Cilliers argued for the goals of reducing extreme poverty in Africa to below 15 per cent by 2030, and to below four per cent after 2045 to be included in the **African Union's Agenda 2063**.

## BA promotes regional integration at TOC-West Africa

**Borderless Alliance** executive president Ziad Hamoui, participating in the first Terminal Operations Conference (TOC) for West African Countries in Tenerife, Spain, gave a presentation on the role of advocacy in promoting regional integration in West Africa; the conference offered a platform to share knowledge and information from shipping, containerisations and logistics operations in the region.

## Making connections to boost West Africa's entrepreneurs

One hundred young social entrepreneurs from Ghana, Benin, Burkina Faso, Cote d'Ivoire, Liberia, Nigeria and Togo gathered recently to engage in hands-on capacity building, and networking with the region's leading government, academic, civil society and business experts, at TechCamp West Africa in Accra, Ghana; the TechCamp West Africa programme is a public-private initiative has been spear-headed by the **US Embassy Ghana** and the **GhanaThink Foundation** to encourage cross border collaboration, inspire entrepreneurship, and promote increased trade across borders.

## Angola and Zambia agree on bilateral development

Agreements on water and railway transport are set to enable improved trade between

Zambia and Angola, with many projects now in prospect to raise the standards of living for the two nations; one agreement is expected to operationalise the development of the Shang'ombo-Rivungu Canal, which is a 10-km waterway linking western Zambia to the south-eastern part of Angola, while another agreement will see the connectivity of the 600-km North-Western Railways of Zambia from Chingola up to Jimbe in Angola.

## SA's Chamber of Mines to revitalise mining towns

The **Chamber of Mines of South Africa** has welcomed government plans to revitalise distressed mining towns in the country; "We believe that the industry can better assist government when infrastructure and basic services planning is a shared responsibility so that we begin to see the critical mass change in so far as addressing human settlement and other community needs," said Chamber vice president Khanyisile Kweyama.

## American initiative makes power for more people

**US Agency for International Development (USAID)** administrator Rajiv Shah delivered a keynote address at the Powering Africa Summit in Washington, DC recently, to highlight the ways in which US President Obama's 'Power Africa' initiative is helping to increase the number of people with access to power in sub-Saharan Africa; Power Africa represents USAID's new model of development, grounded in innovation, local leadership, and public-private partnership.

## World Bank pushes for revival in West African agriculture

In a concerted push to revive agriculture and avert hunger in Ebola-hit countries, the **World Bank Group** has mobilised up to US\$15mn in financing to provide a record 10,500 tons of maize and rice seed to over 200,000 farmers in Guinea, Liberia and Sierra Leone in time for the April planting season;



Makhtar Diop, World Bank vice president for Africa

"Agriculture is the lifeline of the economies of Guinea, Liberia and Sierra Leone," said Makhtar Diop, World Bank vice president for Africa.

## AU hosts ACRIIS to address need for resilient infrastructure

On 27-29 April 2015, the **African Union Commission (AUC)** will co-host the Africa Climate Resilient Infrastructure Summit (ACRIIS) in Addis Ababa, Ethiopia; ACRIIS will be a forum for catalysing action to deal with the challenge across the industry sectors of ICT, energy, water, agriculture, food security and transport infrastructure, across the African continent, which will be most affected by climate change, and need resilient infrastructure to deal with the changes.

## EAC begins programmes with EALA budget backing

The **East African Legislative Assembly (EALA)** has recently passed the **East African Community (EAC)** Supplementary Appropriation Bill 2015 providing a supplementary expenditure to the tune of US\$2,040,520 out of the budget for the Financial Year ending 30 June 2015; of this sum, US\$99,840 is derived from the EAC General Reserve Fund while US\$1,940,680 is to sourced from development partners.



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# 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](http://www.africanreview.com)

## Gigawatt Global launches 8.5MW solar farm in Rwanda

Renewable energy company Gigawatt Global has launched a US\$23.7mn solar energy plant in Rwanda, which has become East Africa's first utility-scale solar project to go online.

The 8.5MW solar plant is located at the Agahozo-Shalom Youth Village (ASYV) – a residential community farm east of the Rwandan capital Kigali. It has become one of the largest solar facilities in Africa, along with existing facilities in South Africa and Mauritius. Chaim Motzen, co-founder and managing director of Gigawatt Global, said the project could potentially serve as a catalyst for many more sustainable energy projects throughout the region.

[africanreview.com/energy-a-power](http://africanreview.com/energy-a-power)



Yosef Abramowitz, CEO of Gigawatt Global, at the launch of the solar project in Rwanda. (PHOTO: Gigawatt Global)

## Kenya Airways becomes first African carrier to fly to Vietnam

Kenya Airways has announced the start of services to Vietnam, becoming the first African airline to fly to the Southeast Asian country, with three weekly flights scheduled from Kenya to Hanoi. Mbuvi Ngunze, CEO of Kenya Airways, said the airline would use a



Kenya Airways will partner with Vietnam Airlines to gain access to other Southeast Asian countries. (PHOTO: John Taggart/Flickr)

Boeing 787 Dreamliner on the route, providing "strong connections to key markets".

"Vietnam has shown stable economic growth in recent years,

including an increase in trade with Africa. As the first airline to directly connect Vietnam to Africa, we are sure to leverage on this growth."

[africanreview.com/transport-a-logistics](http://africanreview.com/transport-a-logistics)

## First Bank of Nigeria completes acquisition of FBN Bank DR Congo

First Bank of Nigeria has completed the acquisition of FBN Bank DR Congo as part of plans to expand its presence across the continent. FBN Bank DR Congo, formerly known as Banque Internationale de Credit (BIC), is strategically positioned to foster collaboration between public and private sector clients as well as serve the general public better, stated First Bank officials. It is now a subsidiary of First Bank of Nigeria.

Bisi Onasanya, CEO of FirstBank, said, "The launch of FBN Bank DR Congo fulfils one of the critical stages of our ambition to steadily broaden and build a more diverse footprint across Africa. We are committed to

## Maersk to help build 'biggest African port'

Danish shipping and energy company Maersk will invest US\$1.5bn into the expansion of the Port of Tema in Ghana, said to be the largest in Africa.

Nils Anderson, CEO of Maersk said that the funding arrangements were already in place and that the concession agreement between Meridian Port Services (MPS) – of which Maersk is a key partner – and the Ghana Ports and Harbours Authority (GPHA) was waiting to be signed.

Maersk was also in early talks with Asian shipbuilders to order up to 10 container megaships worth around US\$1.5bn.

[africanreview.com/transport-a-logistics](http://africanreview.com/transport-a-logistics)

## Nigeria signs power infrastructure deal with Chinese firm

Nigeria has signed an MoU with China's TBEA Co Ltd to fast-track the development of sub-stations and transmission lines in the West African country.



Nigeria's power infrastructure will receive a boost from the country's government and Chinese company TBEA. (PHOTO: Gyulavári Csaba)

Due to an increase in the number of power cuts and the irregular supply of electricity, the Nigerian government has laid out plans to strengthen existing infrastructure and improve the supply of electricity in Nigeria.

Mohammed Wakil, minister of state for power in Nigeria, said that after the infrastructure development has been completed, continued support would be crucial in driving the development of the country's power sector and urged TBEA to fulfil its earlier promise of developing a transformer manufacturing facility in Nigeria.

[africanreview.com/energy-a-power](http://africanreview.com/energy-a-power)

## CGNPC begins mining for uranium in Namibia

China General Nuclear Power Holding Corp (CGNPC) has begun mining for uranium at the Husab mine, near Swakopmund in western-central Namibia.

CGNPC has invested US\$2bn into the Husab uranium mine, making it China's largest investment in Namibia to date. When fully operational, the mine will have the potential to produce 15mn pounds of uranium oxide, stated officials from CGNPC. The Chinese company assumed ownership of the Husab mine after taking control of Kalahari Minerals and Extract Resources.

Percy McCallum, a spokesperson for CGNPC Namibia, said, "We have been clearing the overburden of sand and will start mining ore from May 2015 onwards. We hope to have stockpiled one million tonnes of ore by December 2015."

[africanreview.com/construction-a-mining](http://africanreview.com/construction-a-mining)



# Kirloskar pumps for African industries

Kirloskar Brothers Limited have supplied an array of pumps to different industrial sectors in Africa, making their presence strong in the continent

**G**lobal fluid management solutions provider Kirloskar Brothers Limited (KBL) has forayed into the Ethiopian water sector with the supply of 73 complete pumpsets to Amhara Water Works Construction. KBL has won this order after overcoming stiff competition from Turkish, Italian and other European pump manufacturers.



Mopani Copper Mines , Zambia



Southern Water and Sewerage Company , Zambia



Alexandria Water Company , Egypt

According to the contract, KBL supplied 73 motor-driven pumpsets with motor rating varying from 11Kw to 110Kw. The pumpsets were commissioned in September 2014 for the supply of drinking water to the town of Bahirdar and are working well at an altitude of 2,700 metres above MSL.

With the intention of serving the East African region, more particularly Ethiopia, KBL has established an office in Addis Ababa, which has been operational from August 2014. The new KBL office is engaged in marketing and business development in Ethiopia, Sudan and South Sudan. The facilities are located 10 minutes away from the Bole International Airport and well-equipped with office work stations and a conference room. According to company officials, the local presence will help KBL establish a strong presence in the country.

Besides developing a strong brand presence in Ethiopia, KBL is making strides in other East African countries as well. Kenana Sugar – Sudan's largest single sugar plant in Africa and largest cane sugar cultivator in Africa – has Kirloskar pumpsets installed for sugar cultivation. The recent contract executed by KBL involves two large-sized mixed flow end suction pumps type MF 55/60 coupled to 1 10Kw each pumping 1000 LPS and one large split case pump type 36UPH2 (E) coupled to 225Kw pumping 2000 LPS .

## KBL in Africa

KBL is a major supplier of machines to several African industries including mining, sugar, paper and pulp, water utility boards, municipal supplies and oil and gas. Mopani Copper Mines, Mufulira, Zambia have KBL pumpsets installed for cooling water applications. Three sets each of split case pumpsets, model UP500/68 coupled to 400kW/6P motor and model UP400/51 coupled to 355kW/6P motor have been supplied for Mopani's acid plant in Zambia.

The company has also supplied three sets of split case pump model SCT 300/58 coupled to 355 kW/4P motor and soft starters for Southern Water and Sewerage Company, Choma, Zambia for pumping potable water.

KBL was also involved with the supply of 83 complete process pumpsets to Honeywell Southern Africa Pty Ltd against their project in Ghana for hydrocarbon applications. Recent supplies to Tanzania Port Authority also included the supply of two sets of vertical turbine pumps – VEP34C coupled to 220kW/4P motor handling seawater for fire protection applications.

KBL's recent Egypt supply references include four sets of the split casing model SCT 300/77, coupled to 280kW/6P motors, 21 sets of the UP500/51 in vertical execution coupled to 90kW/8P motors and four sets of vertical turbine BHQ 42.5 single stage pump coupled to 220kW/6P motors, which have been supplied to the Alexandria Water Company, pumping clear potable water for Alexandria City. ■

# Eni begins operations offshore Angola

The prospect that, with multiple oil discoveries in the region and the grant of exploration extension in Block 15/06, Angola will become a major hub in southern Africa

**E**ni has started production of first oil from the West Hub Development Project in Block 15/06 in the Angolan Deep Offshore, approximately 350 km northwest of Luanda and 130 kilometres west of Soyo, in December 2014.

The field is currently producing 45,000 bpd through the N'Goma FPSO, with production ramp-up expected to reach a daily production of up to 100,000 bpd in the coming months. The start-up of the East Hub Development, expected in 2017, will raise overall production from Block 15/06 to 200,000 bpd, Eni said.

Having won the international bid round in 2006, in Block 15/06 the Italian explorer drilled 24 exploration and appraisal wells, discovering over three billion barrels of oil in place and 850mn barrels of reserves.

The West Hub Development entails the sequential start-up of the Sangos, Cinguvu, Mpungi, Mpungi North Area, Vandumbu e Ochigufu fields.

Eni said that it will also continue its exploration programme in Block 15/06. The recent discovery of Ochigufu has added 300mn barrels of oil in place and will be tied in to the N'Goma FPSO within the next two years.

Eni CEO Claudio Descalzi said, "The start-up of the West Hub in Angola is a milestone in Eni's upstream activities. Starting from an extraordinary exploration success we have achieved an industry-leading time to market of only four years from the declaration of commercial discovery. This result reflects a new, modular, development model which adds value to our strategy of organic growth. The start up of the West Hub is also significant in terms of Eni's presence in Angola, where we are again the operator of a major producing project."

According to Eni, Angola is a key country in the strategy of organic growth of the



The field is currently producing 45,000 bpd through the N'Goma FPSO

company, which has been present in the country since 1980 with a daily production in 2013 of 87,000 barrels of oil equivalent.

The company also recently obtained a three-year extension to the exploration period for its Block 15/06. The original exploration period ended in November 2014 and, therefore, Eni had requested an extension in order to complete exploration activities that it had already identified. The three-year plan envisages the drilling of three wells and the acquisition of approximately 971 sq km of 3D seismic data over the block,

**The West Hub Development entails the start-up of the Sangos, Cinguvu, Mpungi, Mpungi North Area, Vandumbu e Ochigufu fields**

which is located around 346 km northwest of Luanda, the Angolan capital. Eni said that it believed that should the exploration activities prove successful any new discoveries can be developed quickly using existing production facilities.

The extension also includes an area adjacent to Block 15/06, which covers the Reco-Reco discovery that is estimated to contain around 100mn barrels of oil in place. So far, Eni has drilled 23 exploration and appraisal wells. Descalzi added that the extension of the exploration period of Block 15/06, which includes the Reco-Reco discovery, recognised Eni's ability to successfully fulfill the role of operator.

Eni is operator of the Block 15/06 with a 35 per cent stake and Sonangol EP is the Concessionaire. The other partners of the joint venture include Sonangol Pesquisa e Produção with 35 per cent stake, SSI Fifteen Limited and Falcon Oil Holding Angola SA holding 25 and five per cent holdings respectively. ■



# Cleaning Kenya for 25 years

Waste management company Kamongo has been instrumental in cleaning the East African country since 1990

In Kenya, approximately 150 tonnes of waste paper and a further 50 tonnes of plastics are collected daily, creating employment for hundreds and a source of wealth for the country. Kenya's local governing authorities have sought alternative garbage management measures, including the hiring of private garbage collectors.

Kamongo Waste Paper Ltd, in particular, had identified the niche in the Kenya's waste management system 25 years ago.

The company's management and staff congregated recently to celebrate 25 years of its existence at the firm's industrial area premises, off Kampala Road in Nairobi. The event, which was attended by African Review, kicked off with a sermon and prayers followed by food and beverages. Many invitees talked to the congregation of over 500 people.



(From left) R Hanif Devji (Kamongo director); chief guest Shuni Shah; sister Devji; and mother Daulat Kanji Devji (Mama Kamongo) at the 25-year celebration in Kenya

Amongst Kamongo's management team, general manager Peter O Jabuya has worked with the company for the last 20 years.

Jabuya said, "I wish to thank the management for motivating employees and enable them to learn on the job and rise up the ladder as opposed to hiring of completely new people. Many of you like me joined Kamongo at tender ages and have worked here for years. We have families and have attained assets and other forms of wealth, courtesy this company."

#### Risk-averse and ready-to-reward staff

The company has put in-place various safety measures against injury from operations and equipment and the ever-inherent risk from fire especially because its major product — waste paper — is highly combustible. Safety is also re-emphasised among its truck drivers and workers given that no amount of compensation can restore health or life. Bonuses are provided to all staff as well.

Chief guest at Kamongo's event, Shuni Shah, reflected how he had met the management back in 1987 at its petrol and service station, and then at a site in Pangani, a Nairobi suburb. By then, the defunct Kenya Pan Paper Mills at Webuye, western Kenya, needed someone to collect waste paper. Shah partnered with Kamongo director Hanif Devji to launch probably Kenya's first waste paper collection business in 1989.

According to Devji, the company launched with a seed capital loan from Shah to the Devji family. But for the loan, the business that currently employs over 400 and has attained over 80 trucks and land on which its current premises stand, would not have been born. ■

*Fred John Ndung'u Ng'ang'a*

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# New economic ideas for West and North Africa

How RAA supports the promotion of OIF's new agenda for economic progress in francophone nations

**R**ichard Attias is head of the organising company Richard Attias Associates, which works with the Organization Internationale de la francophonie (OIF, also referred to as the Francophonie) to promote economic interests in French-speaking African nations in West and North Africa.

The francophonie organisation is a grouping that binds more than 40 African countries together within a grouping that represents over one-third of UN countries and accounts for a population of 890mn, a quarter of whom are French-speaking.

Mr Attias spoke recently to African Review on the development of the roles of youth and women in African economies; the overarching theme of the 15th bi-annual OIF summit held in Dakar, Senegal.

RAA is a New York head-quartered PR company, perhaps most famous for its incongruously named New York Forum organised in Libreville, Gabon to discuss Africa's developmental objectives. It also organised 2014's Build event, held in Brazzaville, Congo.

Welcoming 100-plus national delegations to the Senegalese capital, amounting to 5,000 people and around 40 Heads of State, the summit took place at a new purpose-built conference centre at Diamniado, named after former Senegalese president and Francophone Secretary General Abdou Djouf - about 40 minutes from the capital, east of Dakar along a new motorway that also serves the new airport due to open this summer.

Generously taking time from his busy schedule to speak to African Review, Richard Attias talked about multiple subjects, and even answered criticisms that have been levelled against RAA's operations in Africa. Here are edited excerpts:

## The development agenda

**African Review: Many Francophone African countries are facing political challenges. The situation in Burkina Faso is still to be democratically resolved; the Sahal in general is troubled by deadly terrorist activities; there is continuing instability in the Central African Republic and conflict in eastern DR Congo. So, how much has the political situation in the African francophone countries overshadowed the development agenda?**

**Richard Attias:** Frankly speaking, not at all.

The Heads of State summit focused on the situation regarding Ebola, and attempted to push for much more solidarity, much more commitment from governments for regional cooperation to fight against, and diminish the disease's impact - to communicate better on the real impact of Ebola.

The fact is, yes Ebola is dangerous, yes it is a very serious issue, but it should not stop the whole economic investment process. Ebola infections have been recorded in just three countries in a continent of 54 countries.

The other major topic was about the succession of the Secretary General and who would follow Abdou Djouf to lead the Francophonie. There was much discussion behind the scene about who should be the next secretary general, a lot of lobbying, trying to reach a consensus of one African candidate. That consensus didn't happen. But under the leadership and coordination of President Macky Sall of Senegal and President Hollande of France, the group chose to elect a woman for the first time to lead the Francophonies - which was great and highly appropriate as the 2014 theme of the summit was termed 'Youth and Woman - Vectors of Development'.

So, electing a woman as the new Secretary-General was absolutely appropriate. She is Michaëlle Jean, a former governor general of Canada and of African heritage, her family being Haitian. She moved to Canada as a young girl.

**AR: The OIF chose to initiate and hold a two-day Economic Forum after the two day Heads of State Summit. What was the thinking behind this?**

**RA:** I think it was realised that we should look to the examples of other bodies like the Asia Pacific Economic Cooperation (APEC) grouping, or the Commonwealth of Nations - both of which hold Heads of State summits complemented by a separate economic forum, such as the APEC CEO forum, or the Commonwealth Business Council.

By the way, I had the privilege to organise the Hawaii APEC event under the presidency of President Obama. And I have to say that this two-day forum presented many business opportunities and many new ideas emerged.

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two years, I would say holding an economic forum would be a really useful achievement. President Macky Sall of Senegal was a visionary in this regard, and he decided last year to accept the proposal of drawing in the business community. He was very committed to that. And, following her election, the new Secretary-General, Michaëlle Jean, pledged to put the Francophone's economic development right at the top of her agenda.

#### Economic achievements

**AR: Can you point to any achievements of the forum, and what will be the nature of future Francophone economic forums?**

**RA:** The success of the economic forum was in the quality of the participation. The forum brought together more than 1,200 top business people, and I was delighted that we had more than 400 students who attended and proved the most dynamic of participants. They are always asking the right questions, the toughest questions. They are the future of the continent, so I think it's a great initiative to have their participation.

We were focusing on how to finance innovation, how to finance entrepreneurship, how to provide loans to students to help them to educate themselves, to support the youth. And last, but not least, was the very important issue of how students, especially African students, can more easily apply for a visa; a visa to go to Europe, to go to Canada, to go to Swiss, or even a visa to go to other African countries within the francophone region.

So, the business leaders were making proposals. They were very concrete, smart ideas, but at the end of the day the final decision is in the hands of the political leaders. It was the same on the issue of gender.

We tried to discover how can we have a more inclusive participation by women in the economy, how can we break that glass ceiling and eliminate the differences that women and men have to access to what I would say

are positions of great responsibility, and help them to have attain a balance between their family life and professional life, which is not always easy especially in Africa where you have large families with big number of kids. It's not easy to be a mother to be a wife and to be a business executive. I think this point was addressed in a very frank, open dialogue.

I also moderated a session on how to support the private sector. And all panellists were made interesting proposals, from increasing the level of access to banks and finance and the fight against the informal economy. You have to create the motivation, to incentivise people to formalise their activities. Staying in informal economy you are not provided with any social security, you are not getting any health programme, you are not thinking about the future, about a pension for when you grow old. So I think it's a fight against the mentality of the informal sector.

**AR: How do you as a conference producer measure their success?**

**RA:** My number one criteria is definitely the quality of the content and the quality of the proposals that emerge. What we aim for is to create a laboratory of ideas, more than just a conference with people talking and exchanging business card. Number two is, I would say, the level of participation. I am proud that in less than two months when we started work on the Francophone economic forum we were able to get more than 100 very high level speakers and more than 1,200 participants.

But the real key measurement tool will be apparent next year. Were we able to convince political leaders and the private sector to implement the ideas that came from this year's conference. If so, you can say it was a game changer.

#### Sharing knowledge

**AR: You are no doubt aware that there is criticism regarding the perceived lack of**

**local content or knowledge transfer surrounding your conferences. How do you respond to these criticisms?**

**RA:** If you were reading the local media you would have noticed a one page advert, produced by Richard Attais Associates, thanking our local partners. More than 30 local partners were involved in the value chain, and not small values.

All the catering was from local companies, the power generation was provided by local companies. Many of the technical aspect of the conference, behind the scene, were done with local partners.

In addition, the hospitality programmes were done with local partners, and the whole accreditation system came from Europe. We are supplying that accreditation and hotel reservation software to Senegal and transferring the whole technology to Senegal so that future conferences can be organised, totally independently. I am obsessed by transferring technologies and helping countries to create new capabilities related to our industry.

Of course, it takes years of experience - it took me 20 years to arrive at the level of excellence that Heads of State demand. But by integrating with many local players in this very young industry in Senegal, I am convinced event management will flourish, and the local people working with us, the sound engineers, lightings engineers, technicians will benefit from the technology transfer.

To be honest, I'm very proud of the work that my team has achieved bearing in mind the complexity of organising such a huge summit, with 40 Head of the States and so many thousand delegates. This industry is very sophisticated and my people are from Europe, from Africa, from America from the Gulf. We have a very multicultural team, and this is why we have become a global player today. ■

*Stephen Williams*

## Convergys renews drive for francophone market

Customer management specialist Convergys Corporation has appointed Remy Beal as general manager for France and Tunisia as part of a strategy to expand the company's offerings and services in the region. He has over 20 years' experience within the outsourcing industry, having worked with other large global business process outsourcing providers, including executive roles in client management. Remy holds a Master II from ESG Paris and an EMBA (E06) from HEC School of Management.

"The demand from businesses to deploy integrated customer management solutions has increased in the French markets over the past years," Mr Beal said. "These new offerings will allow us to help new and existing clients operating in the French market adapt to changing

customer expectations, and the growing need to deliver a more fully-connected customer experience across all channels."

Convergys, which has been helping companies to enhance the value of customer relationships and customer experiences across global channels for over 30 years, plans to expand the range of services it offers. Already with strong expertise in technical support, it now plans to offer clients additional services, such as digital solutions, customer care, sales, debt collection and analytics. These services will draw on Convergys' global expertise and industry-leading technology to provide brands with a more complete and intelligent suite of services, designed to help improve all aspects of customer experience across France and other French-speaking markets.





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We launched our barley project in Ethiopia in 2013 together with the Dutch Government, our NGO partner Eucord, Ethiopia's Agricultural Transformation Agency (ATA) and the Ethiopian Institute of Agricultural Research (EIAR). An extensive programme has been put in place: from testing, then selecting the most appropriate barley varieties for the

Ethiopian soil and climate to training smallholder barley farmers. Today, improved seeds are already being used to deliver better quality barley, higher yields and increased household income. So far more than 6,000 farmers have reaped the benefits of our project; we aim to reach 20,000 by 2017.

This successful collaboration between community and our company is also beneficial for us. It is helping to create a sustainable source of raw materials, a shorter supply chain, a reduction in transport and importation costs and a lower carbon footprint. We truly are *growing together*.

**Many people still believe that Africa needs help. We have learnt that Africa can help us.**



# Policy numbers for Nigerian payments

Bank verification number technology brings new security levels to West African banking

The Nigerian government is applying another technological measure - bank verification number (BVN) - to assure the safety of bank customers in the country.

Investigation has revealed that, in a circular to all deposit money banks (DMBs) in the country by the Central Bank of Nigeria (CBN), it has directed that all commercial banks in the country enrolled at least 40 per cent of their customers on or before 31 December 2014 and 70 per cent on or before the end of Q1 2015. Hence, the director of banking and payments systems Dipo Fatokun has stressed, in a circular he signed, the need for the DMBs to give more concentration in enforcing the policy. "The CBN, which considers the verification exercise as a key component of the know-your-customers (KYC) policy of the banks, has now made it one of the new conditions that must be met before new loans are drawn down," said a source. But warning that it must take strict monitoring measures, the CBN has intended for. All credit customers must now have BVNs, as of 31 December 2014.

## Improving project processes

The CBN had launched the BVN project in February 2014 with sponsorship from the bankers' committee. Head of the BVN project management team, Ade Shonubi has said that the registration procedure was uncomplicated and unproblematic. The Apex Bank has hinged a point that there would be 40 per cent conformity on the policy by the end of the year. A source also said that what it means is that out of every 10 customers of Nigerian banks, four must be registered at the elapse of the year. Oluseyi Ademosun, project manager at the Nigeria Inter-Bank Settlement System (NIBSS) Plc, which conducts connectivity assessments for BVN, added, "The

initiative represents a major landmark in the Bankers' Committee's efforts at promoting financial inclusion drive and prevention of money laundering."

The Apex Bank has introduced many policies to safeguard the banking industry in the country. There were other policies before the BVN was introduced aimed at serving the purpose for which the BVN was introduced, which is fraud in the banking sector. There was the Nigerian Deposit Insurance Corporation (NDIC), which was an agency formed to checkmate the way banking transactions were made in the country; there was the cashless policy where the maximum daily withdrawal limits through the ATM was not more than US\$500 that a customer would withdraw from a particular bank; and there was the attachment of the National Fraud Investigation Unit (NFIU), the Economic and Financial Crimes Commission (EFCC) to check monetary fraud in the country.

Before the introduction of BVN, a potential bank customer was expected to provide the following before he or she could open a bank account: driver's license, international passport, national identity card and others. In this regard, there were harangues among Nigerians that if these policies and agencies created before rarely worked then how sure was the CBN that the BVN would also work. Experts were asking if Nigerians require the BVN to achieve relevant goals in the banking sector after the herald of the other policies.

There were the use of point of sale (PoS) terminals and the automated teller machines (ATM), the KYC policy and exercise. Isaac Okoroafor, head of external communications at the CBN, noted about the initiative as part of the blueprint to develop the Nigerian financial system, which would help the sector regulators fight corruption.

## Functioning for all accounts

According to the authorities on how the BVN works, "A bank customer will be required to walk into any of the selected bank branches; fill and submit the BVN Enrolment Form; present self for data capturing such as fingerprint, facial image, etc. Thereafter, an acknowledgment slip with the transaction ID will be issued to the individual. Within 24 hours the system confirms the enrolment and a unique BVN has been generated. The customer will immediately receive an SMS notification with the BVN."

The establishments have said that the aim of this was to use biometric information as a way of first recognising and authenticating all bank customers that have functional accounts in Nigerian banks and accordingly. In Lagos alone, it was learned that the Biometric data capture machines have been installed to about 1,500 bank branches in the state and over 17,000 BVNs have been issued and about 5,000 bank branches nationwide are to experience 10,000 enrolment sets as being rolled out, which customers' conscription procedure is done

CBN's aim for the initiation of the policy is for the country to be among one of the top 20 largest economies in the world by 2020





only once and the BVN will be linked to all his or her bank accounts across Nigerian banks. In order to sell the policy to Nigerians, the CBN has claimed that there are other benefits to the policy - fraudsters will not have access to the account of an individual who has registered for the BVN. The process, according to the source, engages that the 10 fingers' prints and customer's facial image will be adopted during when an individual is applying for banking transactions that include loan application. Since this electronic banking was introduced, the process has been fad in some states across the country, but, especially, Lagos State. Against this influence, all Nigerian banks have configured the internet servers at their different headquarters in the country. Training of staff in preparation to manage bank customers has been ongoing since the declaration was made early this year.

#### Aspirations of inclusion

It was believed that the aim for the initiation of the policy was for the country to be among one of the top 20 largest economies in the world by 2020, since the BVN scheme was part of the overall policy of the financial inclusion policy of the financial sector strategy (FSS). The BVN is following a policy which was initiated by the CBN in 2012, mandating all bank customers in the country and their banks to salvage their bank account numbers to echo the amalgamated ten digits. A great innovation in the banking industry many Nigerians have characterised the BVN policy as, but have buttressed their fears that unless the lapses that had seen to the malfunction of the policies and agencies before BVN are addressed, this policy would be another dream.

The *Leadership* newspaper further stated that, "We commend the CBN for its efforts to ensure a banking system that is free of bottlenecks. We, however, point out that there are other identification



The Apex Bank has introduced many policies to safeguard the banking industry in the country, biometric system being one of them

exercises going on, in which Nigerians have not been sufficiently captured. The CBN acknowledged the challenges those exercises are facing when it talked about the desired compliance to this one. In our opinion, the Apex Bank should have tapped into those instead of starting a completely fresh exercise, since the aim is to produce a single database of information."

According to the paper, there is no questioning the intentions behind the CBN policy. It, however, only urged that the philosophic principle, Ockham's Razor, which simply states that it is needless to multiply entities beyond necessity, ought to have been considered. ■

*Odimegwu Onwumere*


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# TV digital migration challenges in Africa

Unless there is clear and specific governmental policy, the implementation of DTT looks like a distant dream



In order to reach the majority of the 100mn TV households in Africa, more than 600 African TV channels will need to convert their operation to digital technology

Nine years ago, 101 countries from Europe, Africa and the Middle East committed to an International Telecommunications Union (ITU) deadline urging them to switch their analogue broadcasting signals to digital by 17 June 2015.

A digital migration would see countries adopting Digital Terrestrial Television (DTT), thereby improving viewing experiences, and resulting in the availability of more frequency for alternative allocation and usage. The rollout of DTT will increase access to television and allow the spectrum to be reallocated for more mobile broadband

services, closing the much maligned digital divide faced by the continent.

But with the cut-off date looming, experts say that most African countries will not only miss the deadline, but take up to several years to eventually make the shift.

As of February 2015, only three countries — Tanzania, Rwanda and Mauritius — had completed an analogue switch-off. Nineteen countries on the continent have started the rollout of DTT, while several others are carrying out the groundwork needed to facilitate the shift. Twenty eight countries appear to have done nothing. Almost five million homes, equating to only five per cent

of the total number of TV households in Africa, have access to DTT bouquets either on a pay or free-basis.

In Africa, the main barrier standing in the way of digital migration is the cost of completing the process, but Mortimer Hope, GSMA's director of Spectrum and Public Policy in Africa, said that the investment will be worth its weight in gold.

"The long-term benefits of improved access to mobile broadband and tackling the digital divide will substantially outweigh the short-term costs. Completing the digital migration and releasing the spectrum that is freed up in the process is particularly



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▶ important to meet African governments' objectives to expand coverage in rural areas," Hope pointed out.

In order to reach the majority of the 100mn TV households in Africa, more than 600 African TV channels will need to convert their operation to digital technology. Running parallel to this is the process of switching to digital production and transmission gear and rolling out equipment such as set-top boxes and digitally-enabled televisions; all costly processes.

As an example, South Africa has committed around US\$300mn to migrate to digital. However, like many other African countries, politics, shaky leadership and restrictive regulations have hampered the digital revolution.

The country has chosen to facilitate the switchover by rolling out set-top boxes, devices that convert digital signals to analogue video and audio for presentation on televisions.

The Universal Service and Access Agency of South Africa (USAASA) has been mandated through the Electronic Communications Act to manage the disbursement of set-top box (STB) subsidies of up to 70 per cent of the cost of an STB, to poor TV-owning households. USAASA has committed to distributing STBs to five million households throughout the country.

#### Hope said that a stalled tender process has halted this process.

Hope added, "The GSMA understands that USAASA issued a tender for approximately five million subsidised set-top boxes in late 2014 but that no award has been made as yet. Manufacturers will not be able to produce these quantities locally in time for the June 2015 analogue switch-off."

He added that there were disputes surrounding STB access control systems, while there is a lack of public awareness and clear government supported-plans for the switchover.

"In any country facing the migration process, strong leadership from the Government is essential to coordinate with all stakeholders and to push forward the digital switchover process," Hope added.

**“It is critical to have policy attention to digital migration because of the immensity of the change. In many cases around Africa, there is neither policy nor strategy. There needs to be consultative processes taking place with everyone from the private sector, to the consumers, manufacturers and policy-makers.**



In order to reach the majority of the 100mn TV households in Africa, more than 600 African TV channels will need to convert their operation to digital technology

Steven Ambrose, CEO of analysis firm Strategy Worx, said that, due to all these problems, South Africa could only achieve complete analogue switch-off by 2017.

"The chances are South Africa will only go fully digital sometime in the 2017 timeframe – at this point dual transmission of digital and analogue can stop and all analogue signals will be able to be switched off."

Similar controversies have affected digital transition in countries such as Kenya, Zambia, Tanzania, Cameroon and Nigeria.

The ITU has made clear that, once the deadline passes, it will no longer step in to assist countries when their broadcast signals are swamped by neighbouring nations, unless these signals are digital.

However, Guy Berger, director of UNESCO's Freedom of Expression and Media Development Unit, noted that shouldn't be of too much concern to the continent.

"This issue of signal swamping or cross-border interference is not a serious issue in most African countries. African audiences welcome spill-over across borders, which may offer a bit more choice," Berger said in a recent report on the challenges and perspectives for digital migration in Africa.

"The point is that African countries can probably still continue analogue TV long after deadline without really any incurring serious disadvantages in terms of aggressive neighbouring broadcasters bothering their national signal space. The few disputes that may occur will not necessarily even require ITU intervention to resolve," Berger points out.

As the rest of the world forges ahead with the switchover, Berger believes that a slow and cautious movement to digital migration could actually be beneficial.

"It is true that the rest of the world is going ahead, but what is far from true is that African countries will lose out if they do not try to keep pace. On the contrary, a case can be made that the longer African countries wait, the more they can benefit from standardisation and cheapening of equipment elsewhere – leaping ahead to the very latest and cheapest equipment when a decision is finally made to make the change," he explained.

In addition, Berger said that it was unrealistic to expect the broadcast industry in Africa to take any serious steps towards DTT unless there is clear and specific government policy on the subject.

"It is critical to have policy attention to digital migration because of the immensity of the change. In many cases around Africa, there is neither policy nor strategy. At best, some preliminary technical work is being done by a small team of officials confined within a particular ministry. There needs to be consultative processes taking place with everyone from the private sector, to the consumers, manufacturers and policy-makers," Berger said. ■





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# Satellites covering African skies

Predictions are that Africa is set to see massive growth in the deployment and use of satellite-based telecom services over the next few years, driven by growing demands for broadband data and Internet services

**A**cross Africa, telecoms infrastructure development is reaching out from under the sea, in the form of undersea cable/fibre, across the land, with spreading fibre and mobile infrastructure, and down from the skies, as satellite-based services reach out to remoter parts of the continent that still remained unconnected. As a result, businesses, schools and universities, hospitals, industrial plants, utilities and more, in urban and semi-urban scenarios, now have access to high-speed Internet and broadband services. This is positively impacting socio-economic growth and development. But it is also highlighting a continuing digital divide still separating the populations in these 'privileged' locations with those in remoter, rural Africa; for while satellite services are reaching a number of remote rural regions there are still hundreds of millions of people who remain unconnected.

For years, the technology behind satellite service provision was the barrier because it couldn't deliver viable services and the mobile operators held back rolling out any kind of remote infrastructure as a result. They couldn't make a profit so why should they have? But technology has moved ahead and there's no longer any excuse for leaving these millions and millions of people unconnected. And that's not forgetting the large number of remote enterprise operations in the oil, gas, mining and other industries deploying teams to isolated regions and for whom satellite is the only means of connecting with the outside world. The good news is that the satellite sector is really ramping up its efforts in Africa — and it needs to if it is to keep pace with the growth in the mobile communications market: In 2013, Africa's mobile phone market had surpassed US\$60bn and some forecasters predict this to exceed US\$230bn by 2020. Not surprisingly, a large percentage of these figures was down



The satellite sector is ramping up its efforts in Africa and it needs to if it wants to keep pace with the growth in the mobile communications market

to a growth in smartphones and that is not simply restricted to urban and semi-urban areas. Even in remote regions where no networks exist but where the likelihood of new services is on the horizon, smartphones can be found in even the remotest domestic communities. People hear that 'the network is coming' and they save hard for weeks and months, eventually travelling to their nearest larger metropolitan centres and purchasing affordable smartphones, either from the huge second-hand mobile phone retail base, or one of the cheaper, new low-end smartphones; stories abound of mobile handset dealers arriving in remote communities to sell new, affordable feature phones only to find that the local community

has already supplied itself with more up-to-date smartphones. So, not only does the demand for bandwidth and bandwidth-hungry services exist in the usual suspect urban regions of Africa, it also stretches across rural Africa from coast to coast, north to south, east to west.

## Making strides

As for the ramping up of efforts and satcoms activities by key players and vendors such as Comsys, Gilat Satellite Networks, iDirect and others, which have been reaching remote regions with VSAT (very small aperture terminal) and other satellite technologies for some years now and providing life-changing coverage in the most isolated regions for



communities and enterprises, alike, but they are also now deploying newer technologies that are enabling mobile operators to make viable business cases out of such remote deployment projects.

#### A new tech in point

A new integrated small-cell-over-satellite solution from Gilat Satellite Networks, CellEdge, is just one of the new technologies set to have an impact across Africa. This latest broadband/ cellular satellite solution has been designed to expand existing cellular networks and, in the words of Gilat's CEO, Erez Antebi, is an integrated small cell technology that will 'prove that existing cellular coverage can be expanded via satellite, farther and more cost-effectively than ever before,' and that mobile network operators will now be able to extend the reach of their broadband services, both geographically and financially, via satellite.

CellEdge uses a SkyEdge II-c VSAT integrated with a fully outdoor small cell, which, because of its light weight, can be mounted on a low-cost pole or light-tower. Power transmission is high while power consumption is low. The company said that the lack of overheads associated with this solution make it particularly attractive to network operators as the viability of their rural deployments is strengthened.

#### New tech still needs the satellite

But for the vendor equipment to work its magic, it does, of course, need a satellite network/satellite link, over which to transmit. And this is where the few satellite service providers are working more and more with the major mobile telecoms operators to deliver broader service offerings across more markets.

One such tie-up is that between satellite player, Thuraya, which is partnering with Airtel, signalling a positive growth curve for the future of the sector in rural and remote community communications. At the end of March last year, it announced it was teaming with Bharti Airtel to provide Airtel Africa customers with mobile satellite products and services across 17 countries. The partnership will provide the customers voice and broadband connectivity via Thuraya's satellite network across the continent's most remote areas. From May 2014, Airtel Africa began selling Thuraya's products and airtime packages at its retail outlets and through what it calls its 'Enterprise Account' team — referring to those remote enterprises mentioned earlier. Indeed, the company has indicated that its mobile satellite service can also address the diverse voice and data

communication needs of Airtel Africa's enterprise users across the mining, energy, media, government and humanitarian NGO sectors. CEO of Thuraya, Samer Halawi, said of its partnership with Airtel that it is a 'very positive development in bridging the digital divide in Africa and that the company recognizes the massive impact that access to reliable communications can have on the lives of ordinary people. Thuraya's robust satellite network will enable Airtel Africa to provide its consumer and enterprise users with reliable, high quality voice and broadband services.'

Christian de Faria, CEO of Airtel Africa, added, "Providing reliable connectivity in many remote parts of Africa can be challenging. This partnership enables us to further extend our coverage and services for businesses and general consumers who live or work in very remote areas. Thuraya's satellite services will be combined with the reliable, high-quality voice calls and broadband access that our customers are accustomed to experiencing in our urban centres."

Then, in November 2014, the two companies launched Thuraya's mobile satellite products and services across 12 countries in Africa. Thuraya's satellite phones including the SatSleeve and IP+ broadband terminals can now be purchased by Airtel's customers through the company's Africa's subsidiaries in the Congo-Brazzaville, the DR Congo, Gabon, Ghana, Kenya and Zambia.

Extending mobile networks into remote or rural areas presents both geographical obstacles and business challenges for connecting people in Africa, but Thuraya has said that its satellite network will help bridge the digital divide by providing an immediate and cost-effective way for Airtel Africa to extend its coverage, at the same time generating new revenue streams and providing vital connectivity.

#### Gesture from the skies

Another satellite constellation with a footprint on African soil is that of Inmarsat. Highlighting just how such services can bring

**“ Thuraya-Airtel Africa partnership will provide the customers voice and broadband connectivity via Thuraya's satellite network across the continent's most remote areas**



For a vendor equipment to work, it needs a satellite network/satellite link, over which to transmit

live-changing and life-saving connectivity to remote regions, the company announced in December that families living in Benin, West Africa and more than 1,000 children in scattered communities are benefiting from better medical care thanks to a pilot eHealth programme involving the company. Working in conjunction with Safe Triage and SOS Children's Village Benin, the satellite service provider has loaned a number of its Broadband Global Area Network (BGAN) terminals and provided a three-month BGAN Link GEO service at no cost. BGAN Link is Inmarsat's broadband data service for remote areas that requires high volumes of always-on standard IP data for sustained periods of operation. In this deployment it provides crucial connectivity to allow specialist doctors to remotely monitor the health of patients in villages and flag early detections of a variety of conditions. The Safe Patient Systems telemedicine kit in use in Benin, called Safe Triage, records a range of medical data that is then transmitted in real-time over Inmarsat's I-4 network to doctors who can access the information via a shared server, increasing the range of diagnostic and treatment options available to patients in the rural clinics.

Drew Brandy, Inmarsat vice-president, Enterprise Strategic Development, said, "Across the world we are seeing how telemedicine can improve the lives of countless families, particularly children, living in remote and isolated regions. But telemedicine can only succeed with a reliable, always-on communications network, which is often not available in the locations where remote health is needed most. BGAN Link and the Inmarsat network offer the type of uninterrupted, highly reliable connectivity that can help doctors around the world extend their reach and provide health services to those sorely in need." ■

Tim Guest

# Communicate, collaborate, construct

Trimble demonstrates mix of automated machines for civil projects

Trimble's mix of hardware, software and mobility technologies streamlines communication and collaboration throughout the construction lifecycle, from planning, design and site preparation through to the finished project. Connecting people, machines and projects delivers real-time data to contractors and project stakeholders for enhanced information about material, people and asset utilisation, resulting in improved productivity.

Trimble presents its construction technology at Intermat 2015 in Paris, France.

## Enhanced, and connected, capabilities

Trimble continues to expand its Connected Site capabilities to provide enhanced, rich, real-time information and data in the field, in the office and throughout the project. This extended capability better enables contractors to achieve faster project completion with reduced costs, improved safety and reduced environmental impact.

At Intermat 2015, Trimble demonstrates how Connected Site solutions transform the workflows of grading and excavating contractors, paving contractors, drilling and piling contractors, and site and utility contractors. Demonstrations will cover site data management, productivity management, and tracking and inspection, focusing on how contractors can check site productivity anytime from anywhere - from one machine to an entire site. Trimble C connected Site solutions include:

- The Connected Worker - wirelessly sync data in the field with the office and receive Global Navigation Satellite System (GNSS) corrections via the Internet. A grade checker, construction surveyor, supervisor and other field personnel can receive the 3D constructible design model, create new measurements and then send the measurement and stakeout results back to the office for review. Design changes originating in the office can also be sent to field crews so they are rapidly updated with current information. All of this is accomplished without personnel ever leaving the site or their desk, dramatically increasing productivity and reducing costs.
- The Connected Machine - now standard in all Trimble Grade Control Systems, the Trimble Connected Machine helps contractors manage their assets and see what machines are doing. Machines can collect as-built measurement data for office delivery, and receive GNSS corrections using the Internet. A 3D constructible model created in the office can be sent to the machine operator for faster, more precise grading and earthmoving. Additionally, the machine can be used for volume measurements. Drive time and rework are also minimised, as both the office and machines in the field are kept up-to-date with the latest information.
- The Connected Project - The Trimble Connected Project allows contractors to create 3D construction models, perform data preparation and takeoff, wirelessly sync data, monitor site productivity, and manage fleets and assets. The 3D constructible

Trimble Positioning Services



design model created in the office can be sent to machines and controllers in the field, increasing efficiency, reducing rework and saving money. Additionally, a complete view of site productivity including materials quantity and movement, volume and compaction data, and fleet and asset management information can be shared across the organisation to enable rapid decision-making and better communication.

Trimble Connected Site solutions connect workers, machines and project processes for greater visibility and control across both large and small projects.

In the ready mix concrete and aggregate industries, on-time delivery is critical and efficient fleet management is essential. Trimble TrimFleet, a powerful business solution designed by Trimble to help the construction materials industry increase productivity and improve operational efficiency, uses reliable in-vehicle hardware and sensors combined with software and mobile applications to provide real-time location and status information for ready mix and aggregate fleets.

In addition to telematics and sensor technology, TrimFleet allows users to monitor driver behaviour and safety, identify drivers and individual service statuses, route drivers to and from job sites, monitor fuel usage and efficiency, communicate effectively and safely, evaluate vehicle diagnostics remotely, as well as generate reports and review business performance analytics.

Trimble provides correction services so that you obtain accurate positioning for your construction projects, including site surveys, machine control, site stakeout, site layout, and fine grading.

Trimble customisable global positioning services include Trimble VRS Now and OmniSTAR. Using Trimble VRS Now, contractors have access to real time kinematic (RTK) corrections utilising a network of permanent (fixed) continuously operating reference stations while saving time, money, and resources. The OmniSTAR delivers real-time and highly reliable correction services, 24 hours a day, 365 days a year. ■





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# Champion performance components

"We are proud to be first to market with aftermarket parts of this quality," said Andrew Yorke, operations director of Metric Automotive Engineering.

## South Africa's Metric Automotive Engineering promotes the use of engineered replacement parts

The very real danger with replacement parts is that companies produce 'copycat' parts by duplicating the look of the original part. In contrast, IPD parts are engineered replacement parts produced under stringent quality control measures to ensure integrity and optimum performance.

"Therefore, not only do they resemble parts from the original equipment manufacturer (OEM), but their performance under working conditions is identical to that of the OEM part," said Andrew Yorke, operations director of Metric Automotive Engineering.

### Local to the market for aftermarket service:

As a local distributor of IPD engine parts, Metric Automotive Engineering has access to new part numbers released on a monthly basis to cover the popular Caterpillar C Series engines. IPD is an international manufacturer of engine parts for Caterpillar engines.

Yorke said, "We are very proud to be first to market with aftermarket parts of this quality. Metric Automotive Engineering is one of South Africa's most comprehensively

equipped diesel engine and component re-manufacturers.

"Since being appointed IPD's distributor in South Africa in 2008, we have been servicing an increasing number of customers who have recognised and experienced the significant cost savings associated with world-class quality replacement parts."

Yorke added a note on concerns with respect to reliability and cost. He observed, "The focus of both Metric Automotive Engineering and IPD has been on helping equipment owners to save money without risk to reliability. Essentially, IPD products are Caterpillar replacement parts but, unlike parts being sourced from the East, IPD parts are manufactured in a Lloyds-accredited ISO 9001:2000 quality-controlled environment."

According to Yorke, Metric Automotive Engineering's association with IPD effectively transforms itself into a single source supplier in terms of its engine component rebuild/remanufacturing service and its engine parts supply. He said, "The major advantage for our customers is that

they are able to source engine parts from an engineering company – the very parts, which we use in the remanufacture of our own engines.

"This, in turn, gives them optimum confidence about the quality and integrity of the parts. We are not simply a parts supplier. As an engine component re-manufacturer, we have the necessary expertise and experience to be able to identify quality parts."

### Preferred for purchasing:

Many engine re-builders need to buy their replacement parts. However, Metric Automotive Engineering has the advantage of an in-house stockholding of high quality Caterpillar-equivalent parts. This effectively positions the company as a preferred supplier for heavy duty remanufactured diesel engines.

Yorke observed, "By eliminating the middle man in parts purchasing, we are able to pass on substantial cost saving to our customers, at the same time maintaining total control of quality throughout the re-manufacturing process." ■



# Trucknology Days are here again

Truck manufacturer MAN will showcase the latest technology and some of its shiniest new trucks at the MAN's Trucknology Days, scheduled to be held in Munich, Germany from 19-21 March 2015.

Attendees can learn more about the company's advanced truck models, discuss the machinery with MAN experts, body manufacturers and suppliers. More than 100 vehicle body constructors, vehicle outfitters and suppliers will be displaying their products and be on hand to discuss them with interested parties. MAN experts will give presentations to introduce the new TGX D38 and TGX EfficientLine 2 models and MAN TeleMatics. In addition, some enthusiastic participants can even sample driving a MAN truck.

More than 170 MAN TGL, TGM, TGS and TGX vehicles used in long-distance transportation, distribution and logistics, construction, heavy duty and communal use, as well as for agriculture and forestry will be on display.



MAN's Trucknology event attracted nearly 6,500 visitors in 2014.

The new MAN TGX D38 series with engine performances of 520 and 560 HP for tractor-trailers, construction vehicles and wood transporters celebrated its launch at the IAA in 2014, as did the long-distance transportation tractor-trailer, the MAN TGX EfficientLine 2. Another exhibit is the flagship of the TGX D38 series - the 640 HP four-axle heavy-duty tractor-trailer.

There will also be a special communal vehicle show, with numerous body manufacturers exhibiting a range of waste collection vehicles, street sweepers and vehicles for wet cleaning, as well as for road maintenance and winter services, all on MAN Euro 6 chassis. ■

Entrance to the event is free.  
Register at [www.man-td2015.de](http://www.man-td2015.de)



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# Drivers of consumer change

Why digital transformation is essential for competitiveness in the automotive industry, as viewed by Michael Frans of T-Systems

The automotive sector is currently faced with a number of challenges. These are driven by trends such as the rise of new growth markets, changing consumer behaviour, an increasing need for greater fuel economy, new opportunities presented by connectivity, the emergence of new technology, and more. In order to remain competitive in a changing world, automotive players need to embrace innovation that will enable them to proactively address these trends. Digital transformation is key in taking the automotive industry into the future.

## Custom challenges

One of the biggest drivers of change in the automotive sector is consumer behaviour, currently influenced by a growing social trend, which in turn is reshaping the entire automotive ecosystem. Today's consumers are no longer satisfied with mass-produced, off-the-shelf products. They want to customise their vehicle selection – from the colour of the paint to the interior, including entertainment and navigation systems, mobile phone integration and more, all the while maintaining complete price transparency. More than this trend for customisation, however, is the desire to be able to do all of this anytime, anywhere, at the touch of a button. In addition, increased connectivity paves the way for new possibilities enabled by mobile apps, from booking services to formulating emails using voice commands while driving, gaining preferential insurance rates as a reward for safe driving – these and more will become a reality in the not-too-distant future.

Key to addressing this challenge is the ability to strengthen relationships and close the gap between automotive stakeholders and their customers – also known as 'zero distance'. Technology can assist with improving customer relationships after the sale of a car, as well as aid manufacturers with meeting individual needs of customers in a



Michael Frans, head of business development, business operations automotive at T-Systems in South Africa

short space of time. This is achieved by optimising and accelerating processes, from development to production to delivery, increasing manufacturing and logistics productivity and using available information to gain insights that can be used for continual improvements.

New services promoting greater mobility, combined with alternative means of transport, are changing the market. Cars will continue to play a significant role in future, but this role itself is changing. The focus is beginning to shift toward smart, connected, customised mobility solutions. Supporting this evolution requires that the automotive industry transform its operations, processes, procedures and business.

## Innovative connectivity

Central to transformation of the automotive industry in a digital world is information and communication technology (ICT). In order to support the necessary flexibility and agility required by a new consumer world, ICT itself

needs to transform with the assistance of centralised, platform-driven solution ICT must enable organisations to embrace new business models that support innovative customer service. Transforming ICT toward the cloud, embracing new collaboration and security solutions, and taking a proactive approach toward digitisation are all key. Technologies such as machine-to-machine (M2M) communication, cloud services, big data and cyber security requirements are driving significant change in the automotive sector.

ICT solutions can help the automotive industry to embrace and effectively address its challenges. Collaboration enables faster time to market, shorter response times, and transparency – essential in today's globalised economy. The cloud allows for greater flexibility, especially when new business models are required that improve customer service. Big data and business intelligence enable the development of new business models that facilitate faster responses to change. The mobile enterprise brings new business models directly to the customer, accelerates business processes, and supports intelligent, connected, customised mobility. Furthermore, intelligent partnerships strengthen relationships with other automotive partners and other sectors to deliver services faster.

Other innovations such as in-car hotspots and M2M multi-service platforms can deliver a host of solutions that connect drivers repair shops and car manufacturers via sensors and smart integration technology. This enables enhanced vehicle development, improved maintenance and repair intervals and increased customer satisfaction and loyalty.

Modular, end-to-end solutions that support the digital transformation of the automotive industry also support future technologies including self-driving vehicles, virtual co-pilot solutions and customer experience management. ■





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# Ensuring a steady flow of electricity

A look at how Ortea's digital voltage stabilisers can effectively compensate voltage fluctuations and stabilise supply of power

**D**o companies tolerate power brownouts, which mean production interruption and eventually equipment problems? No longer. Time off the grid is money.

Do tourists tolerate uncomfortable conditions? No longer. The modern consumer expects a quality power experience wherever they go, including having Wi-Fi network into a savannah lodge safari.

The demand for exotic travel experiences grows, furthermore African Nations call for international manufacturers to install their



Ortea's digital voltage stabilisers ensure a steady supply of power to several households in Africa



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production plants even if they are the largest buyers of local materials needed to carry out their activities. Despite National GDP growth, the activities are increasingly being built in places where power quality remains a significant challenge.

ORTEA helps develop an extremely reliable and low maintenance technology named Digital Voltage Stabilizers known as ORION, ORION PLUS and SIRIUS voltage regulators. These solutions are very effective in compensating variations in incoming voltage or during brownouts that are more prevalent than sags and surges.

Digital Voltage Stabilizers can compensate wide mains voltage variations available on ORTEA catalogue both symmetrical up to  $\pm 30$  per cent, and asymmetrical up to +15 per cent to 45 per cent of nominal mains.

This is a typical requirement of activities installed in locations that are far from the distribution cabin and in developing countries.

Having access to stable voltage electricity underpins health, education and livelihoods of millions of people and ORTEA is proud to overcome this challenge with over 10,000 installations in Africa.

Using energy more efficiently enables end-users to understand the damage inconsistent voltage can cause, conserve natural resources and contain installation costs. Africa has all the potentials to solve its energy problems if appropriate voltage protection support can be provided for harnessing the abundant resources in the continent.

ORTEA Digital Voltage Stabilizers are perfectly designed to reduce the failure rate of equipment and optimize the use of power. Furthermore, they are specifically designed for any industrial application that looks at energy saving. ■





# BLUE OCEAN POLYMER PIPING SYSTEMS

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- Electric and manual crimping tools for PPSU crimping fittings;
- Polymer and brass alloy ball valves and stop valves with diameters 16-110mm;
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# An eco-friendly alternative to powering mines

Africa has abundant and free solar irradiation, making solar PV power a reliable and optimal power source for mines in the continent

**D**iesel engine-driven baseline power generation is one of the main sources of electricity for many mining companies operating in remote areas where connection to the electricity grid is either prohibitive or impossible.

In recent years, higher diesel prices have prompted mines to move towards the inclusion of renewable energy sources, such as solar photovoltaic (PV) systems, which continues to gain momentum. Solar PV power is often the most economical alternative renewable energy source for mines in sub-Saharan Africa where solar irradiation is abundant and free. It is also one of the most desirable ways to boost efficiency, minimise energy waste and improve CO<sub>2</sub> emissions at minimum cost.

New developments in solar PV technology, together with falling hardware prices, are helping mines reduce their dependency on diesel fuel while assisting with insulating them from volatile fuel costs in future. Moreover, solar PV installations have proven to be more cost effective and require less development time than wind and other alternative renewable sources before providing attractive yields.

From the perspective of mines, incorporating solar PV power and diesel-generated electricity in modern hybrid systems allows fuel bills to be cut significantly, often boosting the profitability of marginal mines. The quick payback of the solar elements of these hybrid systems can return their investment costs in three to five years. This calculation is based on current diesel costs and specific solar irradiation, generator power and load profiles are considered to determine the optimal PV systems to install. This translates into decades of 'profit', based on current component life expectancies.

Solar PV/diesel hybrid systems work in complete automatic mode by prioritising solar power. A software algorithm ensures the solar PV array operates at its maximum



Miners in Africa are increasingly opting for renewable energy-powered sources of electricity generation.

power output at all given solar radiation levels. Only when these drop below a specified point, or at night, are the diesel generators brought up to full capacity.

The solar PV elements of the system are modular and can be quickly installed anywhere. They require minimal maintenance to keep them running.

A solar PV/diesel hybrid system typically supplies up to 30 per cent of the daytime energy consumption using solar power, and would save approximately 30 per cent of the fuel used in traditional diesel-only generation.

A key feature of solar PV/diesel hybrid systems is reduced downtime due to generator failures and subsequent repairs since the systems ensure that all the components are used efficiently at optimum rates. Since diesel generators are used more often at minimum specified load, the power generation operation in itself is more eco-friendly.

Apart from the obvious costs benefits gained by using solar PV power, making use

of a clean energy source is a way for mining companies to lower their carbon and greenhouse gas emissions, and reduce other forms of environmental pollution such as land and water degradation and contamination. This improves the image with local communities and the eco-friendly lobby as well.

For users to realise optimum benefits from solar/diesel hybrid systems, the sizing of the various installations will need to be done on a case-by-case basis as every application will be different depending on specific load profiles, solar irradiation and generator setup, influencing the power yield/ fuel saving calculation accordingly.

There are two key components in a solar PV/diesel hybrid system. The first is the PV inverter, which converts direct current (DC) to alternating current (AC) at the required voltage and frequency for use by the installation's transformers and switching and control circuits. It must remain productive in harsh ambient conditions, such as heat, moisture and salty air, among others, and it



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should be designed to cope with high voltage and frequency fluctuations.

There are two main inverter configurations – central inverters and string inverters. In the former, a powerful central inverter is fed by a large number of solar panel strings, which are firstly consolidated using string combiner boxes and then linked into the inverter. In a decentralised system using string inverters, the individual inverters are smaller and simpler and each is fed directly by relatively few solar panel strings. In both cases, the inverters convert the incoming solar panel DC voltage into AC. They are responsible for grid management functions as well. The choice between a central or string inverter system depends on many factors relating to installation and operating costs. For example, maintenance work on a string inverter system is not complicated. If service is needed, local electricians can replace individual inverters. However, remote monitoring and management are simpler tasks when using central inverters.

In a modern solar PV/diesel hybrid solution, the target is to achieve a maximum solar PV 'penetration' of about 60 per cent of the installed generator capacity.



An intelligent management system is the second key component of a solar PV/diesel hybrid system. This software-based solution provides the interface between the generator, solar PV system and the load, managing demand-based PV feed in to the diesel-powered grid. Its performance is directly associated with the value of reduced fuel costs and the reduction in quantity of CO<sub>2</sub> emissions.

Application-specific load profiles, such as heavy duty industrial loads common in the mining industry, are generally characterised by loads with high starting currents and widely fluctuating load curves. Intelligent system management ensures that generation and load are well-matched. Constant system stability should be achieved by reacting quickly to generation and load performance spikes when a conveyor belt is turned on, for example.

What level of savings can be realised? In a modern solar PV/diesel hybrid solution, the target is to achieve a maximum solar PV 'penetration' of about 60 per cent of the installed generator capacity. This means 600kW of solar PV nameplate power can be installed for every megawatt of installed generator power.

As an example, when a one megawatt diesel plant with a 24-hour baseload generation is supplied with 600kW of solar power for an average of 4.8 hours a day, savings of between six and seven million litres of fuel can be realised over a period of 25 years – the projected lifespan of many such installations.

This translates to more than US\$7mn at the current diesel price point. In addition, a reduction in greenhouse gas emissions of more than 25,000 tonnes during this period could be achieved by such a plant. ■

*Jack Ward, managing director of power provisioning specialist Powermode*



# Rwanda's first utility-scale solar field goes online

Renewable energy company Gigawatt Global has launched the US\$23.7mn solar energy plant in Rwanda, which is East Africa's first utility-scale solar project to go online

The solar plant has a capacity of 8.5MW and is located at the Agahozo-Shalom Youth Village (ASYV) – a residential community farm located east of Kigali, stated officials from Gigawatt Global. It is now one of the largest solar facilities in Africa, aside from the existing ones in South Africa and Mauritius.

Torstein Berntsen, executive vice-president of Scatec Solar ASA, said, "The people of Rwanda should be proud to host the first utility-scale solar power plant in East Africa, and we hope that the pioneering spirit of Rwandan authorities may serve as an inspiration to other countries in the region. The ASYV project will be an important source of clean and reliable electricity for the next 20 years and beyond, and we are proud of having made this possible in cooperation with our partners Gigawatt and Norfund." Chaim Motzen, co-founder and managing director of Gigawatt Global, added that the project could serve as a catalyst for several other sustainable energy projects in the region.

The solar farm, which has been shaped like Africa, was funded by a consortium comprising the Netherlands Development Finance Company (FMO), London's Emerging Africa Infrastructure Fund, Norfund, Scatec Solar ASA and KLP Norfund Investments.

In addition, the government of USA provided grants for the project via OPIC's Africa Clean Energy Finance (ACEF) and Energy and Environment Partnership (EEP), added Gigawatt Global. The company is one among 90 private sector partners involved in the Power Africa initiative. Elizabeth Littlefield, president and CEO of OPIC, said, "Top



Gigawatt Global's US\$23.7mn solar farm in ASYV, located east of the Rwandan capital Kigali

quality developers like Gigawatt Global are the keys to success for President Obama's Power Africa Initiative. After OPIC provided critical early-stage support through the ACEF programme, Gigawatt smoothly and swiftly brought the project online to give Rwanda enough grid-connected power to supply 15,000 homes. Gigawatt Global in Rwanda is a clear demonstration that solar will be a key part of Africa's energy solution." Rwanda is in dire need of electricity – less than 15 per cent of the population has access to power, and the country relies on diesel fuel, which is highly polluting. With the project, the East African nation's generating capacity surged six per cent.

The solar farm, which is under development in ASYV, is also providing umpteen opportunities to the locals residing the area. There is a steady flow of rental income to the community farm. In addition, 500 students from ASYV will be provided access to education pertaining to solar engineering and PV technology.




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Phone: +34 968 380 300 | +34 968 380 879 | Fax: +34 968 380 400  
[africa@inmesol.com](mailto:africa@inmesol.com) · [inmesol@inmesol.com](mailto:inmesol@inmesol.com)

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# The latest genset reaches DR Congo

Power solutions provider Inmesol elaborates on a recent installation of a generator set in DR Congo, and its various benefits

Our distributor in DR Congo, Electra, has recently installed a parallel generator set system in a new urban complex in Pointe-Noire, the country's main commercial city.

As the urban complex is a large residential and office area, a system capable of responding to a high energy demand has been chosen: a series of parallel generator sets – IT720 and IT310 – which can act either as the main supply or an emergency power source.

**“Owing to electricity problems in large parts of DR Congo, Electra Congo has a large stock of standard Inmesol generator sets**

Electra Congo is an electric equipment distribution company with more than 30 years of trading activity. One of its lines of business is the design and implementation of large projects, such as the renovation and reinforcement of the low- and high-voltage network in the city of Pointe-Noire. Its Engineering Department has an excellent team of professionals who adapt each project to the specific client requirements. Their services range from an initial personal evaluation to the technical supervision following project completion.

Owing to the electricity supply problems suffered by a large part of the Congolese population (the sources of energy production in the country are scarce), Electra Congo also has a large stock of standard Inmesol generator sets. Many Congolese people organise the acquisition of electricity generators to compensate for this deficit and to supply power to their local community. ■



Electra Congo preparing to install Inmesol generator sets



A series of parallel generator sets – IT720 and IT310 – can act either as the main supply or an emergency power source.



# Investing in innovation

JCB's vision of serving markets with quality products and enhanced operator experience is integral to its production management

Construction equipment manufacturer JCB's aim is deliver products that work for customers efficiently to achieve minimum compromise and optimum performance. To that end, the company has invested heavily in a vision of continual improvements to product quality and customer experience.

On the factory floor, the commitment to quality includes the recent acquisition, development and deployment of VisualFactory software to ensure production line quality is maintained. VisualFactory helps companies optimise manufacturing processes in line with lean production processes and a prioritisation of quality management. It enables JCB to maintain a highly flexible and responsive workforce. Integrated into its manufacturing methodologies is a 'stop-call-wait' system, which empowers the company's line workers to challenge production line managers to seek improvements to processes on the factory floor. The aim is to build improvements into the products by raising quality throughout the manufacturing process. JCB has made an investment of US\$3.5mn investment in SHW machine tooling at JCB's Heavy Products plant at Staffordshire in the UK.

## Investing in excavators

Geographically, it seeks to remain a global supplier and to remain at the top across all continents - Africa and the Middle East is very much a part of this strategy. Mick Mohan, group engineering director, affirmed JCB's intent to continue to grow its business and to invest in new products - incorporating developments in power generators, compaction equipment, backhoe loaders, and others. Mohan highlighted the JS excavator range, including the 200-tonne JS205, which sets new standards in performance, durability and economy. It is highly robust with a new boom structure, incorporating a high strength rigid upper frame.

The 20 to 24-tonne segment is the most important in the marketplace, particularly with respect to the emerging markets of Africa and the Middle East. The JS220 also represents the balance of power and fuel economy needed to succeed in this sector, and incorporates several modifications to its power systems to deliver reductions in fuel and more flexible properties. This vehicle is also now stronger and more robust - but more strength and power is available from the 30-tonne variant - the JS300 - which also boasts greater versatility with new features built in, such as the improved tipping arm and control area. In less than a decade, the company has grown from being a new entrant to engine manufacturing to a major global producer with a reputation for fuel efficiency and innovation, and its Dieselmex line has been central to that new market growth.

Where JCB still utilises engines sourced externally, it still guarantees quality. The top-end JS500, for example, is powered by an Isuzu engine, which is managed by JCB's own advanced engine management system, and integrated management systems for various available equipment options.

## A legacy of extending innovation

JCB's chief innovation and growth officer Tim Burnhope spoke of the



The G220QS genset delivers 200kVA prime output

JCB Loadall, which has been production for 37 years. This is a product, as Burnhope describes it, which "was born out of innovation, and is continuing to deliver". Powered by a 97kW Dieselmex engine, the JCB 560-80 Loadall features a five cu/m shovel, and boasts a two-stage boom with a z-bar linkage. Customers who need extra reach can go for the JCB 540-200, which has 20 metres lift height, the longest in class.

Innovation in design continues with the telescopic handler JCB 516-40, which combines the capabilities of a telehandler with the attributes of a skid-steer loader. It can access just about any environment, and is increasingly adaptable due to its new hydrostatic transmission. It is ideal for construction work.

The 516-40 is JCB's smallest Loadall. Key points of interest with respect to design innovation are its offset single-spine chassis and hydraulic wheel motor propulsion system, improved hydrostatic drive and hydraulic services, and extra lift capacity. The permanent four-wheel drive is powered by a 37.5kW 2.2-litre JCB Diesel by Kohler engine, and can lift 1.6 tonnes to four metres - even though it is only 1.56 metres wide and 1.8 metres high. Four-wheel steering means it will turn through a radius of just 2.8 metres.

Stepping in size and capability, the increasingly successful Hi-Viz Loadall range comprises several models with a new chassis design - including the JCB 535-140, a full-sized Loadall with extensive reach. With its lowered boom pivot and smaller boom section, the 535-140 Hi-Viz represents a significant step forward in telescopic handler visibility - with a 10 per cent all-round increase over its predecessor - making the machine easier and faster to operate.

Although its boom height is reduced by 235mm, and overall boom size has been reduced by 13 per cent, JCB's advances in manufacturing techniques and material choices mean that the boom section retain strength while giving ten per cent more all-round visibility. Like the 516-40, the 535-140 Hi-Viz has four-wheel drive, so that operators can get plenty of traction and performance in difficult terrain and tight spaces - but this Loadall also has two-wheel steer, which is ideal for travelling at high speed on the road, and crab steer for manoeuvring close to walls and buildings. ■

The first phase of the Lesotho Highlands Project would supply 10bn cu/m of water per year to South Africa, and will increase to 17bn cu/m by the second phase.

# Solving South Africa's urban water crisis

The commitment of public sector institutions and private companies to improving water resource infrastructure and management

As South Africa's urban population grows, the country is facing a multi-faceted water crisis, which can only be addressed by looking at innovative new ways to supply and preserve the precious resource.

South Africa's current freshwater resource status is described as being under immense pressure. The country is already severely constrained by low rainfall, limited underground aquifers and reliance on huge water transfers from neighbouring countries, while most surface water resources are already accounted for. Throw in the theft of water resources, a deteriorating infrastructure, the loss of essential skills, a strangling educational pipeline, management failure and deterioration in the quality of water, serious water shortages could occur as early as 2020.

The adequate provision of water is one of the government's most significant challenges, and the mismatch between water supply and

water demand will be most keenly felt in the rapidly-growing urban areas. More than 63 per cent of South Africans live in urban centres, and it is estimated that this will increase to over 70 per cent by 2030 and could reach 80 per cent by 2050.

These alarming statistics have prompted bodies such as the Water Research Commission (WRC) to investigate measures to alleviate the impending water crisis in urban areas.

In particular, the WRC has promoted the notion of Water Sensitive Urban Design (WSUD), a concept developed in Australia that advocates the planning and design of urban environments to support healthy eco-systems, lifestyles and livelihoods through smart management of water.

The WRC has adapted the concept to fit the unique challenges faced by post-apartheid South Africa, publishing a comprehensive set of guidelines to transform cities into settlements that "mitigate water



➤ scarcity, improve water quality, thereby protect ecosystems, through the development of water sensitive urban areas (for all) that are sustainable, resilient and adaptable to change, while simultaneously being a place where people want to live”.

The strategy involves the transformation of urban areas into Water Sensitive Settlements (WSS) through the establishment of a number of different, innovative principles geared towards saving and effectively managing water.

#### What's working around the world

WSUD has been effectively implemented by nations such as Australia, Sweden and the UK. Amongst other principles, WSUD focuses on enhancing natural water sources in urban environments, improving the quality of water drainage and maximising the reuse of storm water. Overseas, as



part of the strategy, countries have also integrated storm water treatment into the landscape to offer multiple benefits such as water quality treatment, wildlife habitat and recreational spaces, while

**“ Water Sensitive Urban Design (WSUD), a concept developed in Australia advocates the planning and design of urban environments to support healthy eco-systems, lifestyles and livelihoods through smart management of water.**



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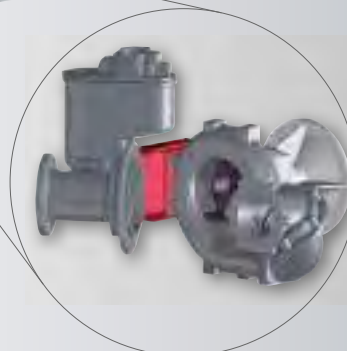
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▶ reducing run-off from urban environments to provide for infiltration and groundwater recharge.

“WSUD is a process of looking at how, for example, we could be holding on to more of our flood water for reuse in meeting demand for drinkable water, while at the same time taking the pressure off existing infrastructure by reducing the amount of water entering the sewers,” explained Sue Illman, president of the Landscape Institute, the Royal Chartered institute for landscape architects in the UK.

“WSUD can be applied in all scales – from a single house to an entire city – and it can be retrofitted to existing developments as well as built in from the start,” Illman said.

In Australia, successive years of flooding, along with some of the worst droughts in recorded history, prompted the Australian government to think differently about water, and the result has been a huge shift in mindset that has seen WSUD enshrined in planning and policy. Different but equally serious challenges face the South African water sector, meaning that WSUD can be applied to the South African context.

Dr Valerie Naidoo, research manager at the WRC, said that WSUD is relevant to South Africa and may assist in addressing some of these challenges. “In the South African context, WSUD has the potential to mitigate the negative effects of water scarcity, manage and reverse water pollution, develop social equity, intergenerational equity, increase sustainability and develop resilience to natural disasters and climate change,” said Naidoo.

“In particular, it has the potential to transform the extremely divided settlements that are so typical of South Africa into ones where water can be used to connect disparate communities and bring about significant change,” Naidoo pointed out.

Through its research, the WRC found that existing WSUD guidelines have not been developed with the complexities of developing nations in mind, prompting the need for locally-relevant guidelines.

“The need for ongoing research to develop these guidelines is critical and, over time, local experience in addition to theory will start to influence the development of more appropriate tools and guidelines,” Naidoo explained.

The WRC has said that WSUD has the potential to reduce the billions of dollars worth of non-revenue water (wasted water), which is generated by the country per year. Research has indicated that around 37 per cent of provided water, with an estimated value of US\$720mn is lost per annum.

In the South African context, where cities have largely been shaped by the legacy of apartheid, WSUD also has the potential to ‘connect’ spatially-divided communities and settlements through linking open spaces and promoting these spaces to showcase water.

The new framework also supports the aims of the National Development Plan and the National Water Resource Strategy (NWRS), two government documents which guide the management of water.

Amongst others, the NDP and the NWRS state that, before 2030, all South Africans will have affordable access to sufficient, safe water and hygienic sanitation to live healthy and dignified lives, while main urban centres will have a reliable supply of water to meet their needs.

**“ The NDP and NWRS have stated that South Africans will have access to safe water, hygienic sanitation and abundant supply of water by 2030**



Amongst others, the NDP and the NWRS state that, before 2030, all South Africans will have affordable access to sufficient, safe water and hygienic sanitation to live healthy and dignified lives, while main urban centres will have a reliable supply of water to meet their needs

In conjunction, the natural water environment will be protected to prevent excessive abstraction and pollution.

These are all aims which align with the concept of the WSUD, and although research in the area is in its absolute infancy, the multitude of benefits could hold the key to solving South Africa’s water crisis.

Francis Gibbons, technical water director for Royal HaskoningDHV, a consulting engineering firm, and immediate past chairman of the South African Institution of Civil Engineering Water Division, added that desalination of seawater, although currently three to four times more energy-intensive than conventional freshwater treatment, could also be an important contributor.

“The main challenge in meeting increased water demand in water-scarce areas is that additional freshwater resources are increasingly remote from the demand centres. As South Africa’s ground water reserves are limited, desalination of seawater using reverse osmosis (RO) will undoubtedly be adopted in future by many cities near the coast,” said Gibbons.

The government estimates that by 2030 desalination plants could provide up to 10 per cent of South Africa’s urban water supply, and the city of Cape Town is conducting a seawater desalination feasibility study, which could see the construction of a large-scale desalination plant within the next few years. According to Gibbons, there needs to be a paradigm shift in the way South Africa uses water in urban areas.

“What if instead of supplying 100 per cent of the domestic water demand to a house, complex or block of flats, and collecting the wastewater (usually 80 per cent of the amount supplied), we supplied only the 20 per cent that makes up the difference. So each house, complex or block would have its own water recycling plant,” he said.

Drinking purified household wastewater is still an abhorrent thought in South Africa, even with advanced treatment technologies and safety barriers, but a change in mindset may be the only way to keep the taps running. ■



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**GROWING TOGETHER**

# Innovations at Intermat

Solutions and services for the African construction sector in 2015, exhibited in the French capital

The 2015 edition of the Intermat trade fair is all set for 20 to 25 April at the Parc des Expositions de Paris-Nord Villepinte, in the French capital. Hosting six days of business meetings, offering opportunities for critical engagement with key customers, Intermat enables manufacturers, and services and solutions suppliers to create a buzz around the latest equipment, machinery, and techniques and solutions for constructors on the international stage.

## Environmental innovation from Fayat

Already acknowledged for its award-winning continuous asphalt plant, the RF 160 Neo by Marini-Ermont, Fayat can claim a world-first in terms of energy consumption, thanks largely to its ECO-technologies (ECOdry, ECOdrive, ECOenergy, ECOstart, ECOflame and RECYCLEAN). The RF 160 Neo also stands out due to the limited environmental impacts of each component, in compliance with the requirements for sustainable road-building.

This sophisticated recycling, continuous asphalt plant, with a smart modular design, can be configured to meet clients' needs, and is also easy and intuitive to use.

The RF 160 Neo has been designed and developed by Marini-Ermont, a key innovator in continuous-type hot-mix asphalt plant technology, which has marketed over 700 asphalt plants worldwide since it joined the Fayat Group in 1987.

## New telescopic handlers from Bobcat

At Intermat 2015, Bobcat presents several new telescopic handler models. The first of the new telehandlers is the TL358 6m lift height

compact telehandler, which is available with two rated capacities - 2.6 or 3 tonne. Bobcat is also showing the new 13m and 14m lift height T35130S and T35140S telehandlers, which are aimed particularly at the rental industry and offer a 3.5 tonne maximum lift capacity.

The new TL358 6 m telehandler has a very compact format, with restricted 2.10 m width and height dimensions, allowing easy access to many congested areas and small buildings. If desired, the TL358 can also be supplied with a version of the cab with more height for increased visibility for the operator.

The introduction of the new 13 and 14 m models at Intermat 2015 follows on from the launch of the new Bobcat 10, 12, 14 and 18 m lift height telescopic handlers over the last 12-13 months. Whilst they have a simpler design intended to meet the needs of the rental business, the new T35130S and T35140S telehandlers still offer many of the advantages of the new generation models. Particular attention has been paid to aspects such as the protection of sensitive parts, and intuitive and safe operating to meet the needs of rental users. The easy-to-use compact stabilisers ensure that the full capabilities of all the new telescopic handlers can be utilised in the most confined working areas and close to walls (minimal loss of reach).

## Hitachi's excavator for Africa

Hitachi Construction Machinery (Europe) NV (HCME) is displaying the ZX350LCH-5G medium excavator at Intermat. Designed to be reliable, durable and highly productive, it is capable of meeting the challenges of the African market, such as tough working conditions and extreme temperatures. The ZX350LCH-5G is versatile for working on a variety of



The T35130S telehandler offers advanced features such as the new Panoramic Cab



The ZX350LCH-5G is equipped with user-friendly features and provides enhanced visibility



projects, including infrastructure, transport and general construction.

Powered by a reliable Isuzu six-cylinder engine, proven on demanding job sites around the world, the ZX350LCH-5G is equipped with a durable front attachment – the boom is reinforced with thickened high-tensile steel brackets incorporating steel bushings. It also has a strengthened undercarriage and reinforced upper structure for added durability.

The productivity of the ZX350LCH-5G is boosted by the HIOS III hydraulic system, which is responsible for an increased operating speed with less fuel consumption than the previous Hitachi model. A high arm speed while the boom is lowering enables quick loading of trucks, and the auto power lift mode automatically boosts the excavator's lifting force by 10 per cent when required.

**SDMO shows leadership in the rental space**

The third largest manufacturer of generator sets worldwide, SDMO is promoting its product range for the rental market, and in particular its rental compact line, at Intermat. The company has been developing products - designed and manufactured entirely at various plants in Brest, France - for 50 years. Its rental range combines the expertise of the leading French manufacturer and contains the following products, which are tailored to meet all kinds of requirements:



- **Portable Power:** generator sets (3 to 7.5 kVA) that feature a reinforced chassis ensuring ease-of-use, robustness and safety.
- **Lighting:** lighting towers for use on building sites or on the road that provide a source of light even in isolated locations.
- **Event:** generator sets (250 and 318 kVA) integrating high performance, noise-reduction technology to meet requirements for events and urban environments.
- **Rental Compact:** Stage III (15 to 550 kVA) generator sets offering ingenuity, compactness and high levels of performance.
- **Rental Power:** mobile generator sets (20 to 700 kVA) available in a wide range of outputs and fitted with tailored options (filter/separator, adjustable differential protection, battery main switch, drainage pump, voltage control potentiometer, etc.).
- **Contenergy:** high-output generator sets (715 to 2,500 kVA) enclosed in containers that provide sound insulation and designed for large-scale construction sites.

**Volvo Penta innovates in engine design**

Developed within the Volvo Group, Volvo Penta introduces reliable D5 and D8 engines featuring a newly-designed platform. The new engines are available to meet Stage II/Tier 2, Stage IIIA/Tier 3 equivalent and Tier 4 Final/Stage IV emissions standards - meaning that, no matter where a manufacturer exports its products, Volvo Penta has an engine to match the market's emission regulations. All of Volvo Penta's engines, regardless of emission stage, share a common footprint, with components like the turbocharger located in the same place on all models — making design and installation easier for OEMs.



With two newly redesigned five- and eight-litre engines and a complete range of common-platform units spanning all emission levels, Volvo Penta has something for everyone at Intermat 2015

The range also shares a common electronics platform that allows them to communicate using the same protocol, regardless of emissions level. Displacement has also been increased, compared to previous versions, offering improved engine block stiffness, as well as higher torque at low speed. But despite a larger displacement, fuel consumption is reduced by as much as 2.5 per cent. ■



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# High performance from Bobcat's T450 loader

Bobcat has expanded the company's range of compact tracked loaders with the launch of the new T450 model. Filling the gap in the range between the T110 and T590 models once occupied by the discontinued T140 loader, the T450 offers a massive increase in power combined with hydraulic and hydrostatic efficiency improvements that translate into significantly increased productivity.

Manufactured at the Bobcat plant in Dobris in the Czech Republic, the T450 is powered by the Bobcat D24 45.5 kW (61 HP) turbocharged diesel engine, providing 25 per cent more power than the T140 model, ensuring the T450 has the best performance and engine power to weight ratio in its class. The D24 engine in the T450 meets the current Stage IIIB emission requirements through the use of cooled exhaust gas recirculation (EGR) and diesel oxidation catalyst (DOC) after-treatment technologies, with no diesel particulate filter (DPF).

## High productivity

The increased pressure of the machine's hydraulic system delivers increased attachment performance. The T450 can be matched with over 80 different attachments and there are rear hydraulic auxiliary and 7-pin ACD connector options available. The T450 is equipped as standard with the quick-change Bob-Tach attachment mounting frame. However, customers can choose the optional Power Bob-Tach system to change non-hydraulic attachments simply by flipping a switch inside the cab.

Equipped with radial lift boom arms, the rated operating capacity of the T450 has also increased from 642 kg to 665 kg, while the operating weight has been reduced from 2990 kg to 2789 kg. Thanks to its compact dimensions and lower weight, the T450 is even easier to transport on a trailer towed by a light truck, 4 x 4, or all-terrain vehicle.

The T450 features the same new generation cab design used on the recently launched S450 skid-steer loader and all larger new generation Bobcat compact loaders, providing class-leading entry and exit through the largest cab door opening on this size of machine. The cab is also fully enclosed as standard, including a front door and wiper system. One of the many advantages offered by Bobcat compact tracked loaders is the ability to extend the working seasons, and for customers looking to do this, the enclosed cab offers added value in the form of comfort and protection from the elements.

As well as greater operator space and all round visibility, combined with enhanced front and rear working lights, customers can also choose cab pressurisation and heating, ventilation and air conditioning (HVAC) options – Bobcat is the only company to offer these options on this size of tracked loader.

Other options include Bobcat's Advanced Control System (ACS) and Selectable Joystick Controls (SJC) controls. The latter provides operator seat mounted joysticks for increased control and comfort with unique electric-over-hydraulic joystick control for a machine of this size. Customers can also choose the two speed drive option for faster travel when required, especially beneficial in long haul applications and the Deluxe Instrumentation Panel option.



Bobcat's T450 compact tracked loader

Like all Bobcat compact equipment, the T450 is designed to work long hours on demanding jobsites with minimal time spent on routine maintenance. Improved uptime and serviceability features include the hydraulically powered SmartFAN – a patented, dual-path cooling system drawing cool, clean air from above while forcing hot air from the engine compartment and directing it out through two side vents. The T450 also has a transverse mounted engine for optimised weight distribution and full and direct accessibility to service components. Simple checks and superior design make it easier to access systems and perform maintenance correctly at the proper intervals.

## Superior flotation and low ground pressure

The T450 and the rest of the compact tracked loader range from Bobcat are designed to provide excellent performance on very soft or muddy ground and sand, as well as on uneven terrain. Dedicated rubber tracks provide superior traction, flotation and very low ground pressure for working very effectively in all of these environments.

The compact size and superior ability to work in difficult ground conditions mean that the new T450 compact tracked loader will appeal to a wide variety of users, including applications in landscaping, house and office building, construction, equipment rental, recycling, local authorities, agriculture, forestry and nurseries.

As a Bobcat compact tracked loader, the T450 is ideal for any application where soil compaction and ground disturbance should be minimised. Moreover, since the rubber tracks will not mark paved surfaces, the T450 tracked loader can easily travel over and be used on public roads. Special applications include use in clean-up work after severe storms, floods, and natural disasters, particularly in areas and in conditions where the use of larger machines is restricted. ■



# An affordable alternative in self-loading mixers

A low-cost, yet high-performance self-loading concrete mixer is the ideal solution for the African construction sector

There is considerable growth in African construction, but the sector remains generally restricted in terms of capital outlay. The new Fiori DBX35 self-loading concrete mixer is designed specifically for emerging markets in Africa that require high-quality concrete on demand at a more affordable price.

The DBX35 was launched locally in January 2015 by Pan Mixers South Africa (PMSA) – the largest supplier of concrete brick, block and paving-making machinery and technology in Africa.

## A design of uncompromised quality

PMSA sales and marketing manager Quintin Booyesen has noted that the new Italian-designed and manufactured DBX35 self-loading mixer will be part of a range of equipment, with a smaller and then larger unit being available as entry-level machines in the Fiori range.

Mr Booyesen said, “To make the DBX35 more affordable, all non-essential parts were removed from the mixer and certain design aspects were adjusted. Fiori’s quality standards have, however, remained uncompromised.”

Two major design changes that have been made to the DBX35 are the introduction of front loading arms and a grab bucket, which replaces the standard bucket found on other Fiori machines. Booyesen pointed out that this design change was implemented to serve as a cost-saving benefit for up-and-coming contractors that are unable to afford a capital-intensive weighing system for measurement.

Booyesen observed, “The Fiori DBX35 is the ideal self-loading mixer for customers that have not budgeted for a separate weighing system to measure all the aggregates, as the grab bucket allows the user to more accurately measure materials when loading the bucket, which can be filled up to 90 percent capacity. This is not possible with a standard bucket design.”

The new Fiori DBX35 self-loading concrete mixer



## Accurate operation with a compact machine

According to Booyesen, the Fiori DBX35 self-loading mixer offers additional benefits to the African market, including; more accurate volumetric loading, as well as shortened loading times, thanks to the positioning and inclination of the drum. What’s more, its

compact design results in considerable transport savings too.

Booyesen said, “Two Fiori DBX35 self-loading mixers can fit into one standard 140 m<sup>3</sup> (40-ft High Cube) shipping container, which halves the transport costs, when compared to other similar size competitor mixing machines. This is another major value-add in terms of ensuring affordability, without compromising on efficiency or reliability.”

As Booyesen confirmed, PMSA is proud to have added the DBX35 self-loading mixer to the company’s product range. He stated, “This mixer fills a gap in the local market for an affordable and reliable self-loading mixer which offers the user accurate measurement without the need for additional equipment. It is the ideal self-loading mixer for the price conscious customer, and I am confident of obtaining measurable market share across Sub-Saharan Africa in the foreseeable future.”

Pan Mixers SA manufactures a wide range of concrete block, brick and paving machinery, turbine and counter-current pan mixers and batching plants for the concrete, refractory and ceramic industries. The company has been servicing the needs of local and overseas customers since 1976. PMSA brick-making machinery, in the Johannesburg area alone, produces 2,000,000 bricks per day.

# Partners in African construction projects

## Assessing the sources of financing for public infrastructure investment across Africa

The scale of Africa's infrastructural bottlenecks offers opportunities for private businesses to either invest alone or in partnership with government in areas such as electrification; ports, airports and toll road concessions; high-and-subways and railroads; mass social housing, hospitals and schools; and information telecommunication communications (ITC).

### Where the money comes from

The sources of financing have changed in recent years. New partners from non-OECD countries have emerged. Capital spending on basic infrastructure doubled between 2007 and 2012, financed by a combination of domestic public resources, soft loans or grants from multilateral institutions and bilateral donors, private funds, and sovereign bond issues, which also more than doubled. Syndicated loans to the government became more prominent as an instrument. China's infrastructure financing in the region tripled over the same period, and now comprises about half of the external flows, mirroring the burgeoning commercial ties between China and Africa since early 2000s.

The lion's share of funding for sub-Saharan Africa's infrastructure projects derives from domestic resources (including tax and non-tax receipts and domestic borrowing) and to a lesser extent budget support provided by development partners. In 2012, infrastructure spending totalled US\$81.6bn, of which regional



The Dar es Salaam Port development in Kurasini, Dar es Salaam (Photo: Rémi Kaupp)

governments provided over 70percent of aggregate and less than one-third (or US\$22bn) came from external sources (see Table1).

Higher public investment levels was also facilitated by increased fiscal space thanks to debt relief - under the Heavily Indebted Poor Countries and Multilateral Debt Relief initiatives during first-half of the 2000s - better domestic revenue mobilisations (reflecting policy reforms and strong regional economic growth) and windfalls from commodity price boom over the past decade, which helped resource-rich countries boost their capital spending.

### Private sector appetite

In the last fifteen years, privately funded infrastructure projects in sub-Saharan Africa have increased. The modalities and forms of private sector involvement range from concessions and public private partnerships

(PPPs) to equity investment (from private equity funds), syndicated loans, and infrastructure bonds. The use of PPPs became more prominent between 1995 and 2012.

Another popular setup is private participation in infrastructure (PPIs). It refers to contractual arrangements and modalities - management contracts, leasing, investment concessions, divestiture, and build-operate-own (BOO); build-operate-transfer (BOT) and build-own-operate and transfer (BOOT) schemes. These allow for private participation in building infrastructure assets and supplying public services, where the government accepts a significant amount of project risk, whilst private money is used to develop, finance and operate the assets on BOT type structures.

PPI indicators show that Africa's infrastructure sectors were attractive for strategic investors, but the overall volume declined after the 2008/09 global financial crises. This development was facilitated by the liberalisation of key infrastructure sectors. However, there is a clear concentration of private risk capital mainly in the telecoms sector, mirroring robust ICT growth across the continent. By contrast, in many countries, government regulations are not yet conducive to private sector involvement in the power, water, and railway sectors.

Very diverse forms in sub-Saharan Africa, extending across a variety of sectors, typify

Table 1: Infrastructure Financing, 2007 and 2012 (US\$bn)

|                                 | 2007 | 2012 | (%) chg |
|---------------------------------|------|------|---------|
| Public Investment               | 28.5 | 59.4 | 108.4   |
| China                           | 4.5  | 13.4 | 198.0   |
| Official Development Assistance | 1.6  | 2.4  | 50.0    |
| Private Banks                   | 1.2  | 2.1  | 75.0    |
| Arab Coordination Group *       | 1.2  | 2.5  | 108.3   |
| Sovereign Bond Issues           | 1.0  | 1.8  | 80.0    |
| TOTAL                           | 38.0 | 81.6 | 114.7   |

\*Members of the ACG: Arab Fund for Economic & Social Development, Islamic Development Bank, Kuwait Fund for Arab Economic Development, Abu Dhabi Fund for Development, Saudi Fund for Development, OPEC Fund for Int' Development and Arab Bank for Economic Development in Africa.

Sources: Bloomberg L.P.; OECD International Development Statistics, Dealogic, the Infrastructure Consortium for Africa 2009 & IMF 2012.



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▶ PPPs. Some low-income countries such as Benin, Mali, Niger, Rwanda, and Senegal, have used PPPs in the water sector, including in rural areas - specifically for small piped water schemes to serve communities, as an alternative to community-based water management, and are often modest in terms of project value. At the other end of PPP scope are mega transnational infrastructure projects, such as the New Limpopo Bridge across the Limpopo River, connecting Zimbabwe and South Africa.

A private company constructed the bridge in 1994, using one of Africa's first BOT schemes. The investor recovered costs by tolls charged to users. Upon the expiry of 20-year BOT agreement, the South African government in mid-2014 took ownership of the bridge. PPPs have also been used elsewhere, and transnational projects in the pipeline spanning transport, water, and energy sectors are most likely to be PPP-funded. Such ambitious long-term projects - aimed at increasing power-generation, improving internal connectivity and boosting regional integration - include the Ruzizi III hydropower; Dar es Salaam port expansion; Serenge-Nakonde road (T2); Nigeria-Algeria gas pipeline; Modernisation

Table 2: Investment Commitments in Infrastructure Projects

|               | (US\$m)  |         |         |         |           |         |
|---------------|----------|---------|---------|---------|-----------|---------|
|               | Telecoms |         | Energy  |         | Transport |         |
|               | 2000-05  | 2006-13 | 2000-05 | 2000-13 | 2000-05   | 2006-13 |
| Angola        | 278      | 1950    | 45      | 129     |           | 53      |
| Benin         | 117      | 1067    | 590     | -       |           | 489     |
| Cameroon      | 394      | 1526    | 92      | 908     |           |         |
| Cote d'Ivoire | 135      | 2241    | 519     |         | 176       | -       |
| Ghana         | 156      | 3936    | 590     | 1680    | 10        |         |
| Kenya         | 1434     | 4768    |         | 1721    |           | 419     |
| Mozambique    | 123      | 885     | 1206    |         | 334       | 80      |
| Nigeria       | 6950     | 19,883  | 1619    | 687     | 2355      | 5403    |
| Rwanda        | 72       | 516     | 78      | 158     |           |         |
| Senegal       | 593      | 2114    | 53      | 22      | 55        | 530     |
| South Africa  | 10,519   | 14,575  | 1251    | 7232    | 505       | 3580    |
| Tanzania      | 515      | 3172    | 348     | 162     | 28        | 134     |
| Togo          | -        | 124     | 658     | 196     | 77        | 495     |
| Uganda        | 387      | 2273    | 114     | 1238    |           | 404     |
| Zambia        | 208      | 1472    | 3       | 340     | 16        |         |

Source: World Development Indicators 2014, World Bank.

of Dakar-Bamako rail line; Sambangalou hydropower; Abidjan-Lagos coastal corridor; Lusaka-Lilongwe ICT terrestrial fibre optic; Zambia-Tanzania-Kenya transmission line; North Africa transmission corridor; Abidjan Ouagadougou railroad; Douala Bangui Ndjamena corridor railroad; Kampala Jinja road upgrading; Juba Torit Kapoeta Nadapal Eldoret railroad; Batoka Gorge hydropower; and Brazzaville Kinshasa railroad, bridge, and the Kinshasa Illebo railways.

### Syndicates & Infrastructure bonds

While declining in volume terms after the credit crunches, syndications (i.e. where consortiums of banks make large loans jointly to one borrower, sovereign or corporate), have gained prominence, with a more diversified structure and a change in the origin of flows.

Traditional European banks, notably French, German and British have scaled back their participation in new syndicates, mainly

## The EIB's largest ever private sector lending programme in Africa, launched with PTA

Long-term lending institution the European Investment Bank (EIB) and East African-based regional development body PTA Bank have launched a new EUR160mn (US\$181mn) lending initiative to support investment across eastern and southern Africa. The EIB has agreed to provide EUR80mn for the new initiative that will be matched by PTA Bank and represents the largest single private sector lending scheme ever backed by the EIB in Africa. Under the new initiative agribusiness, energy, manufacturing and service sector companies will be able to access loans in a range of local and foreign currencies.

Under the new programme being managed in the region by PTA Bank companies operating in Kenya, Uganda, Tanzania, Rwanda, Burundi, Ethiopia, Eritrea, Djibouti, Democratic Republic of Congo, Zambia, Seychelles, Malawi, Egypt, Mauritius and Mozambique will be able to access loans up to 15 years in Euro and US dollars or up to seven years in local currency. Unlike most recent private sector lending by the European Investment Bank in the region the new programme will not only target small and medium sized enterprises, but also focus on supporting specific investment needs of larger firms.

"The new engagement announced today between the European Investment Bank and PTA Bank reflects our strong shared commitment



Patrick Walsh, EIB director, Africa, Caribbean & Pacific and Admassu Tadesse, PTA Bank president and chief executive

to support private sector enterprise activity in Africa. This new lending programme represents the largest ever engagement to support business investment in Africa by the European Investment Bank. This will help firms present in twelve countries to create new jobs and explore new business opportunities in key sectors. It builds on past lending in Africa with other leading local banks and enable support for investment by larger companies for the first time," said Pim van Ballekom, European Investment Bank vice president.

Admassu Tadesse, president of PTA Bank, remarked, "We are delighted to join forces with the EIB to give a much needed boost to increased investment in the real economies of

eastern and southern Africa which is key to job creation and economic transformation. This programme is a strong addition to other lending programmes we have launched with other funding partners."

The new lending programme was officially announced at PTA Bank's Regional Office in Nairobi by Mr Tadesse and Pat Walsh, European Investment Bank director responsible for lending outside Europe.

The new initiative will be supported by a EUR2mn technical assistance programme to strengthen environmental, social and money-laundering assessment skills of PTA staff, and to improve assessment of the economic impact of projects financed through the scheme.

The Bank's assets have been growing at an average of over 30 per cent per annum, with the balance sheet surpassing the US\$3.5bn mark, and non-performing loans dropping to a historic low of about 3%. It has equity returns of 14 per cent (three year average) and a cost-to-income ratio of about 20 per cent - among the best in the industry. The Bank maintained its international credit ratings of BB and BB+ given by Fitch and GCR respectively. The Bank's highest rated shareholders, notably the AfDB, Mauritius, and the Peoples Bank of China (PBoC) have increased their stake in the Bank in the past 12 months.



▶ due to deleveraging (i.e. shedding of assets and sharp decline in cross-border funding) and the enforcements of stringent international regulatory requirements (higher debt provisions) on lending to non-OECD or sub investment-grade countries in developing regions.

However, top-tier African institutions led by South African and Nigerian banks as well Togo-based Ecobank Group have filled the vacuum - focusing on sectors other than telecoms - and are becoming the lead arrangers of syndicates. Most of the syndications outside South Africa are directed toward some frontier markets with transparent business environments and sound economic fundamentals.

The tenor of syndicated loans has increased over time (some to 10-15 years). This reflects the shift toward projects in energy/water sectors that usually are large in size and have a longer economic life span. Most infrastructural projects are usually co-financed by development institutions and export credit agencies from advanced countries. The presence of "AAA" rated institutions in the syndicate provides comfort to private lenders, encouraging them to accept longer maturities that are needed for implementing mega-capital projects.

In few countries, local-currency bond financing for infrastructure is rapidly expanding. Infrastructure bonds are instruments to raise private capital for specific projects, and repaid through earnings generated by an underlying asset. Since 2009, Kenya has successfully issued three infrastructure bonds to finance transport, water, and energy projects. These public bonds have also facilitated corporate bonds issues, by either private firms or parastatals (for example, the electricity utility KenGen and the mobile phone companies Safaricom). Kenya has offered incentives to make infrastructure bonds attractive, such as allowing use of the bonds as collateral and providing tax exemptions on interest income.

#### Mitigating project risks

Private sector can help address infrastructure deficits, provided that conditions are conducive to entice private investors. By their nature, infrastructure assets are illiquid, upfront capital requirements are large, and revenue streams could be subject to long delays. Therefore, investing in public infrastructure entails significant risks, including higher-than-projected costs; shortfalls in projected revenues; exchange rate risks; and more significantly regulatory/political risks.

Several instruments and new techniques

could help diversify these risks, and make infrastructure investments in Africa safer:

\*Insurance: The World Bank Group's Multilateral Investment Guarantee Agency (MIGA) underwrites guarantees against non-commercial risk in developing countries - it charges 1 percent annually (of project's value) to cover a range of political risks. The African Development Bank (AfDB) also provides guarantees to private lenders against the risk of a government failing on its obligations.

\*Credit tranching and bundling: Larger entities investing in mega projects with in-house expertise can spread the risk among stakeholders by slicing the project- financing

instrument into tranches to match different appetite for risk of diverse investors. Similarly, multiple projects can be rebundled into a portfolio to mitigate risk for cautious investors with low risk appetite, such as pension funds.

\*Credit guarantee cover: There are two types of credit guarantees in the event of a debt service default - 'partial credit guarantees' (PCGs), which cover the payment of principal and/or interest up to a predetermined amount and 'full credit guarantees' that cover the entire amount of the debt service outstanding. A number of multilaterals, including International Finance Corporation (IFC), European Investment Bank (EIB) and AfDB,

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offer PCG products for debt instruments. By covering part of debt services, PCGs improve the terms of commercial debt by extending maturity, reducing interest rate costs, increasing issue amount and/or facilitating access to global capital markets.

In sum, investing in African infrastructure is crucial for increasing intraregional trade and

foreign direct investment. Most countries need upgrading their investment planning/execution capacity by strengthening project appraisal; building up a database of bankable projects backed by feasibility reports; devising a medium-term budgetary framework with scope for infrastructure maintenance; and improving

capabilities to monitor the implementation of projects to minimise leakages of resources and cost overruns (for example, in exceeding original budgets), according to recent International Monetary Fund (IMF) assessments. ■

*MOJIB SIDDIQI, economist*

## Commitment to construction training at Tsumeb and Husab in Namibia

Ester Anna Nghipondoka, CEO of the Namibia Training Authority (NTA), confirmed recently that industry partners such as the Murray & Roberts Group are continuing to assist it with its ongoing missions of creating meaningful job opportunities.

Her statement follows a new commitment to collaboration between the Namibia Training Authority, Murray & Roberts Resources & Industrial and Murray & Roberts Electrical & Control Systems at the Tsumeb and Husab projects in Namibia.

A Memorandum of Understanding will see the Murray & Roberts Group offer NTA trainees and trainers internship programmes, on-the-job training and opportunities to become part of the group. The programme is open to welders,

boilermakers, riggers, electrical, instrumentation and general construction trainees.

"We are exceptionally proud to partner with the NTA and are committed to this process. We have two important projects in Namibia where we are going to provide the training. One is in Tsumeb with our partner Outotec, which is fully supportive of the programme, and another at Husab," said Mile Sofijanic, managing director at Murray & Roberts Resources & Industrial and Murray & Roberts Electrical & Control Systems.

"Given the high demand for technical skills within the Group, technical training constitutes one of the largest aspects of our training and development interventions. Crucially, by engaging local resources, the technical training

also promotes operational excellence and a safe working environment where we operate." The company's continued presence in Namibia for over 50 years, having started there in 1958, means it has become a critical component in the Namibian economy and the emergence of Namibia as a sustainable society. Gavin Taylor, managing director at Murray & Roberts Namibia, said, "We remain committed to providing opportunities for the upliftment of Namibian nationals.

"As a global engineering and construction company that draws its standards, expertise and knowledge from some of the world's best professionals and most complex projects, we are certain we will provide a learning environment that is rich in quality."

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## Waterproof plaster for Vodacom Business data centre

A wide variety of products supplied by Chryso Southern Africa were used for the construction of a Vodacom Business data centre in Midrand. Designed to meet the increased demand for hosted services across the country, the data centre has been built in line with Vodacom's green philosophy and is designed to have a minimal impact on the environment.

Chryso, together with Dave Tite from Concrete Testing Services, gave technical support to Aveng Grinaker-LTA (the principal contractor for the Vodacom Business data centre) - particularly with regard to the waterproof plaster.

"The most common defect experienced by contractors on site is usually the plaster; therefore we focused on creating a perfect plaster mix design. Vodacom requested a waterproof plaster in order to prevent the possibility of tiles falling off the façade due to water ingress. For consistency and quality purposes, Aveng Grinaker-LTA then elected to use waterproofed plaster for the entire building - in addition to the tile façades," explained Rob Muirhead, contracts manager at Aveng Grinaker-LTA.



Chryso Southern Africa supplied an extensive range of products for the new Vodacom Business Date Centre in Midrand

According to Muirhead, locating the correct sand for the plaster mix was vitally important. "After a few trials and a lot of research, it was decided to use washed Vaal River sand. The cleaner the sand, the better the plaster; the Vaal River sand contained less clay and had a sufficient amount of fines to assist in preventing plastic shrinkage cracks."

## Terex goes larger and modular

Specialist in lifting and material handling solutions, Terex Washing Systems (TWS) has introduced a new, larger model within the AggreSand range - the AggreSand 206 wash plant, which is suited to all industrial, construction, recycling and mining applications. At the same time, TWS has launched the latest new product in its portfolio - the FracStac, the world's first modular frac plant. The AggreSand 206 is a higher capacity washplant, which can process material into high value, saleable products. The FracStac is an innovative modular, container design based machine, which will provide the ideal solution for fractionation sand processing and other industrial sands.

Garry Stewart, application team Lead, TWS, commented, "TWS

are constantly looking at innovative ways to further enhance and develop our existing products so we can continue to meet the individual needs of our customers."

TWS director Sean Loughran said, "The use of high quality 'frac' sand in the process of oil and gas extraction has seen significant growth in recent years."



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## N303 road rehabilitation project to boost transportation in Southern Africa

The Sub-Saharan Regional Pipeline Corporation, Ltd. (SSRPC) recently selected professional services corporation Louis Berger to provide US\$7.6mn in consultancy services for the rehabilitation of National Road N303 in Mozambique. SSRPC is investing US\$350mn to transform an approximately 350-kilometre-long narrow and unpaved carriageway into a modern road that crosses the Tete province and ends at the Zambezi River, where Mozambique, Zambia and Zimbabwe have a common border.

Once the work is complete, the road will be the shortest link to a railway currently under construction between the coal-rich province of Tete and the port of Nacala, the deepest port in southern Africa. The road will offer a more cost-effective transportation solution, increasing the flow of goods and mineral resources, particularly copper exports.

"The rehabilitation of the N303 is vital not only for Mozambique but for the region as a whole," said Jean-Pierre Dupacq, head of Louis Berger's operations in Africa.

"The modernised road will greatly boost the local economy, which is mainly dependent on coal mining, by allowing the development of local small scale enterprises along the road."

### Design for road development

Overall, this modernisation project will encompass the rehabilitation, widening and/or reinforcement of the road and the existing structures; improvement of the alignment, pavement and signage design; drainage and ancillary works; as well as the rehabilitation of 19 bridges. Louis Berger will be responsible for providing pure



Louis Berger is assisting with the modernisation of the 350-kilometer-long, narrow and unpaved carriageway that crosses the Tete province in Mozambique

design services for the development of feasibility, environmental and social impact assessment and resettlement studies.

Louis Berger has more than 50 years of experience in Africa and 25 years of experience working in Mozambique, where the firm has implemented approximately 50 projects. These public and private sector funded contracts cover a broad range of professional services in the markets of transport, environment, water and sanitation, agriculture, power, telecommunications and health.

The final beneficiary of the road rehabilitation project will be the Government of Mozambique, namely the National Roads Directorate with whom SSRPC entered in a public-private partnership type of agreement.

## Uganda-RT Global Resources to build oil refinery in Western Uganda

Uganda has moved a step closer towards processing its own oil following the selection of an international consortium led by Russian RT Global Resources as the preferred bidder for the construction of the country's three billion dollar oil refinery in Hoima, Western Uganda.

Another company which lost out in the competitive selection process, SK Engineering and Construction Company Limited of South Korea, was retained as the alternate preferred bidder. The permanent secretary of the country's Ministry of Energy and Mineral Development, Fred Kabagambe- Kaliisa, has confirmed that, in case government is not satisfied with negotiations with RT Global Resources, it may exercise its option to commence negotiations with the alternate preferred bidder from South Korea.

"The objective of the negotiations is to conclude the project agreements to the satisfaction of government and the lead investor which will include the project framework agreement, shareholders agreement, implementation agreement and the escrow agreement," Mr Kabagambe noted - and added that, after completion of the negotiations and agreements, the lead investor will constitute a refinery company, a special -purpose vehicle that will undertake the project with the first phase of the refinery expected to be in place by 2018.

Energy Minister Irene Muloni while announcing the selected bidder, said, "We are pleased that the two bidders responded to the request for final offers from which RT Global Resources emerged as the selected preferred bidder. We have the confidence that we will execute the project's agreement and go ahead to develop Uganda's refinery project."

The minister added that several negotiations would commence in March, with an aim of reaching an agreement within 60 days.

Preliminary estimates put the cost of Uganda's first oil refinery at about three billion US dollars and the lead investor is expected to own a 60 per cent stake and the government 40 per cent in the oil refinery while the East African partner states like Kenya and Rwanda who have already expressed interest in buying a stake in the refinery are expected to own 10 per cent of the 40 percent allocated to government.

The project involves development of a refinery with a capacity of 60,000 barrels per day, development of crude oil and production storage capacities on site and the construction of a 305-kilometre product pipeline to a terminal in Buloba, a few kilometres west of Kampala.

*Geoffrey Muleme*



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In a move to roll-out fully automated mines, two XLP equipment suites are being trialled at the Bathopele platinum mine

# Africa's automation gear moves on up

2015 will see the continent's mining sector invest more in machine automation and management technology

**A**frica's traditionally labour-intensive mining and metals smelting sector has been slow to automate. But the race is now on among the various companies involved in the region's metals industry sector to automate their processes and incorporate best industry practices. Unsurprisingly, it is South Africa's giant mining sector that is in the forefront.

A recent industry report from Timetric has examined the investment priorities in African mining for 2015 and beyond. The company surveyed 108 mine and mine

maintenance managers right across Africa as well as other key decision-makers in over 100 operating African mines. It concluded that in the coming two years the top investment priorities will be machine automation and mine design software, environmental monitoring, fatigue management, and fleet management.

The survey found that South African mines had invested far more in mine site technologies than elsewhere in Africa. In particular, 38 per cent had fully invested in

mine scheduling and optimisation software and 35 per cent in mine design and modelling software. Sixty per cent or more of mines in Africa have already invested in mine management-related software and technology.

However, the survey found remote-control equipment and machine automation to be the technology with the lowest presence on sites. That said South African companies, followed by those in the rest of sub-Saharan Africa, are fully gearing themselves up for machine



► automation. Analysts say that South African miners have been stung into action by the labour unrest and safety concerns that have recently affected the country's volatile platinum industry.


The world's top three producers, Impala Platinum (Implats), Anglo American Platinum (Amplats) and Lonmin, are partnering with mining products company Joy Global at Anglo American Platinum's Bathopele mine to develop an automated rock-cutting technology, which would remove the need for blasting and rock drilling.

After ten years of research and trials, Amplats says that it is close to rolling-out its fully automated mine. The company is developing its extra low-profile (XLP) and ultra low-profile (ULP) trackless mechanised mining equipment. Two XLP equipment suites are being trialled at the Bathopele platinum mine, as well as advanced ULP prototypes that have been designed and manufactured by the Croatian unmanned vehicle producer, Dok-Ing.

The South African company's technical executive head Gordon Smith said that the focus for 2015 is to make these ULP prototypes production-ready for 2017. The

Besides metal mining, automation is also pacing towards steel mining







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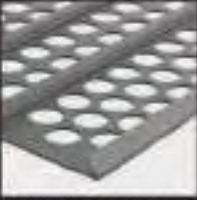
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▶ company then aims to complete the implementation of these new technologies by 2019.

However, Joy Global's chief executive Ted Doheny told *Reuters* that he expects full implementation to still take another five to ten years.

Jim Porter of the University of the Witwatersrand's Centre for Mechanised Mining Systems told *Reuters* that for older mines, "The capital expenditure will make no sense because of their life span." Gerhard Potgieter, head of growth projects at Implats said that the company's first-generation shafts around Rustenburg will not be mechanised given their age. The best potential for mechanisation is at the 'big five' shafts, which are large second and third-generation operations. All of Implats' tunnelling operations will also be converted.

Meanwhile, companies like Atlas Copco and its rival Sandvik are also developing machines that can work in tighter spaces and steeper conditions. Among them are drill rigs and roof bolters that will eventually replace the need for miners to use jackhammers for grinding into the rock, before inserting explosives for blasting.

But the move towards automation in the metals sector is not just confined to mining. Developments are also gathering pace in the downstream smelting and steel industries. Siemens has supplied automation equipment that it claims has led to improved steel quality at reduced production cost for ArcelorMittal at South Africa. A new process optimisation system for the existing oxygen steelmaking plant was delivered. The result is that the plant's analysis and temperature values now meet the target performance figures. At the same time, raw material costs for the converter additions and alloying materials and expenses for temperature probes have been significantly reduced.

The Finnish non-ferrous metals technology company, Outotec, has also made its move into Africa that will beef up the region's non-ferrous metals automation.

**“ Sixty per cent or more of mines in Africa have already invested in mine management-related software and technology for better industry practices**



The adoption of enhanced work practices and new technologies would be critical in addressing viability issues that are creating change in Africa's mining industry

At the end of January this year, it agreed to acquire Kempe Engineering's aluminium smelter technologies as well as its service and spare parts businesses across Africa and the Middle East.

The acquisition is due to close in February 2015. Outotec CEO Pertti Korhonen said he expected both companies to offer new automation projects and modernisation.

Meanwhile, South Africa's domestic technology companies are pioneering automation in Africa. Demand for induction-heating technologies for the melting and casting of gold, platinum, copper and various other non-ferrous metals are increasing.

Hot Platinum told *Mining Weekly* that there is a significant increase in the demand for its equipment from West, Central and southern Africa. This is due to the growing number of new mining operations that have started up.

There is heightened demand from small-scale mining projects. Currently, small-scale miners use flames and resistance furnace heating as melting techniques. However, the company says that these techniques are both time consuming and inefficient.

To tackle this, refineries are now upgrading their systems and equipment to enable quicker melt times and operational cost reductions. The company sells induction-heating technology for metals melting and casting. Although similar

technology has been on the market for years, Hot Platinum claims its proprietary technology is more energy-efficient than its competitors.

Meanwhile, the automation programme that is taking place right across the upstream and downstream metals sectors is multi-faceted and is being driven by health and safety as well as political and environmental concerns. The South African government and ruling ANC are looking for the metals for the industry to move away from the labour-intensive, low-wage apartheid model.

And it is a drive that has united the South African mining and metals companies.

Smith said that the adoption of enhanced work practices and new technologies would be critical in addressing viability issues that are creating change in the industry.

Much though will depend on the global economy as the fortunes of mining are closely linked to macroeconomic growth. But with the Eurozone's rate of recovery slower than many people have anticipated growth from China and India will need to be stable and more consistent.

So the mining companies, while being deeply committed to their automation programmes this year, will, nevertheless, still have some more years to wait before it starts to positively affect their bottom lines. ■

*Nnamdi Anyadike*



# How SDMO's generating sets serve African miners

SDMO is an established supplier of generator sets across the continent. In particular, the French manufacturer serves the mining exploitation sector, for underground and for opencast mines, supporting the following areas of operation:

- Energy supply during programmed maintenance operations.
- Permanent supply for life basis (houses and other installations).
- Standby gensets during power cuts.
- Portable gensets equipment for electricity supply during the construction of new mines.
- Extension of production capacity.

SDMO power solutions also meet the needs of industrial and minerals processing plants. The company makes and distributes:

- Industrial generating sets (from 250 to 3,300 kVA).
- Medium-speed engines (from 1,000 to 1,200 RPM).
- Lighting towers (from 6 to 16 kVA).
- Generating sets (from 10 to 700 kVA) dedicated to the rental market.
- Standard products in stock for a higher reactivity.
- Tailor-made products for optimised performances.

Specifically, its generating sets are recognised for their high durability (with respect to mean time between overhauls, or MTBO), efficiency, productivity, low emissions rates, and low noise levels. Its range includes small portable generating sets through to powers reaching 3mW/unit at low and high voltage, which can be used for standby or continuous applications.

Moreover, the company's engineering department teams work every day to develop new products, with a design enabling to increase



In Mali, SDMO has delivered a compliment of six T1900 sets in ISO40 containers

the operation and the maintenance of each installations.

SDMO has seen particular success recently in Burkina Faso and in Mali. In Burkina Faso, SDMO supplied six 1,900kVA units to provide power to the Youga gold mine. run by the Burkina Mining Company (BMC) four kilometres from the border with Ghana and 180 kilometres southwest of the capital city Ouagadougou. The power supplied to the gold factory in Youga is assured by the Ghanaian electricity network (located 11 kilometres from the site) but also by a hydraulic dam built on the Nakambe river. The SDMO power plant, made up of the six 1,900kVA generating sets as well as one 88kVA generating set, are used during power cuts, as a back-up to the existing installations. If there is a break in the power supply from the network, the entire site is secured, including the rotary crusher and ball mills. In Mali, SDMO has delivered a compliment of six T1900 sets in ISO40 containers fitted with a 15,000V lifting transformer HTA electric container, at a power plant rating of 9,000kVA.

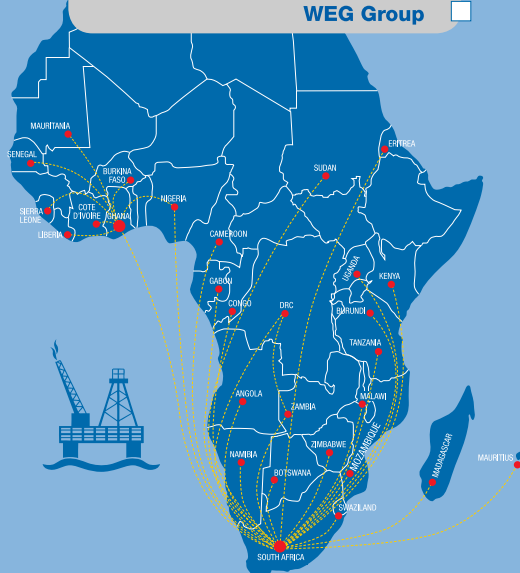
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# Engineered solutions to screening operations

Specialist vibrating equipment manufacturer and supplier Joest

Specialist vibrating equipment manufacturer and supplier Joest offer customised screens to match the metallurgical requirements of a customer's processes and the associated mechanical duty. Joest brands this benchmark its 'Engineered Solutions' approach to supplying its clients with a total solution.

"Our customised screens are often the preferred equipment due to the robust design and proven performance. Understanding the difference in design and duty for process plant screens, particularly sizing feed preparation in washing and Dense Media Separation (DMS) applications, is a key feature of our ongoing success in other sectors of the mineral processing industry," Derrick Alston, CEO of Joest, said.

Joest is currently making inroads into Africa. "We have supplied six vibrating screens to a gold mine in Liberia, eight vibrating screens to a gold mine in Mali and 15 vibrating screens to a gold mine in Burkina Faso," Yashin Ramdhin, general manager: sales, said.

"We have also supplied screens to Tanzania and have had vibratory feeders installed in a large coal mine in Mozambique. We are optimistic that our growth in Africa will go from strength to strength. This is largely due to the excellent reputation that the Joest brand has gained over the years.

"A particular advantage of Joest's equipment is the increased lifespan, structural integrity and ease of maintenance of the equipment, which is particularly important in remote areas in Africa."

According to Joest, the company has a wide selection of specialist equipment available, in order to meet the demands in customers' total vibrating screen and feeder requirements. Ramdhin said the company's specialist vibrating equipment forms part of a tailored solution approach to cater for a wide range of duties, "which allow our customers to reduce downtime and achieve production efficiencies at the lowest operating costs."



Joest is currently making inroads into Africa

One example of Joest's 'Engineered Solutions' strategy is its design and development of a 4.3 metres wide banana screen to cater for the ongoing trend in the coal processing arena to opt for larger equipment so as to increase throughput and boost efficiencies.

"We have paid close attention to our clients' needs by assessing the failure modes of existing 4.3 metres wide screens from other suppliers in this market and designed our screen with the focus on reduced downtime and ease of maintenance when required," Alston said. "There are 50 to 60 screens of this size in the coal processing sector at present, many of which are approaching the point in their lifecycle where they will need to be replaced. Our new 4.3 metres wide screen, which incorporates the latest technology and refinements, is therefore ideally positioned to fill this gap in the market."

There is a need to increase tonnage throughput and plant availability; therefore there is a trend towards bigger equipment in the coal processing sector is being driven by the necessity. "This has had an impact on the

entire equipment supply chain, from screens through to cyclones and centrifuges. Joest has therefore been ideally positioned to incorporate the latest advances into its own 4.3 metres wide screen, which means that the coal processing sector in South Africa can now be confident it is on par with what is happening internationally."

Joest has made a huge investment in its 'Engineered Solutions' capabilities in order to be able to offer its clients this kind of intensive value added benefit. "It is the sum total of our experience, combined with the specific expertise we bring to analysing client problems and developing the most cost-effective and technologically relevant solutions," Alston says.

An example of this is Joest's in house development of a condition monitoring system for integration into its larger 4.3 metres screens. Alston said, "We supply this as part of a total equipment and solutions package. We usually advise our clients to make use of condition monitoring, especially due to the lack of technical skills in the mining industry in general." ■



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# Security

## Expanded metals enhance warehouse safeguarding

An increasingly popular material for securing specific areas within facilities, expanded metal is used principally in inventory holding sections of manufacturing plants and warehouses. When compared to conventional fencing, expanded metal offers increased security coupled with unimpaired visibility.

According to Elaine van Rooyen, marketing manager at **Andrew Mentis**, expanded metal offers numerous advantages over ordinary welded or diamond mesh. She said, "Unlike conventional materials, expanded metal is difficult if not impossible to cut. Numerous strands have to be separately cut before an opening can be made."

Essentially, expanded metal is sheet metal that has been slit and expanded into a network of diamond shaped meshes. There are no welds or joints which can be unravelled or work loose in the expanded metal sheets. Expanded metal sheets are also more impact resistant than other fencing materials. While providing an aesthetically pleasing security barrier, the expanded metal also allows unimpaired vision and free passage of air into enclosed areas.

"The diamond mesh configuration does not offer hand or footholds, and the exposed edge on the top section makes it extremely difficult and dangerous for the intruder to scale."

Expanded metal is normally supplied unpainted, but readily lends itself to any of the normal finishing processes such as painting, stove enamelling, plating and galvanising. It can also be produced in 3CR12

and stainless steel should the application warrant this type of increased protection.

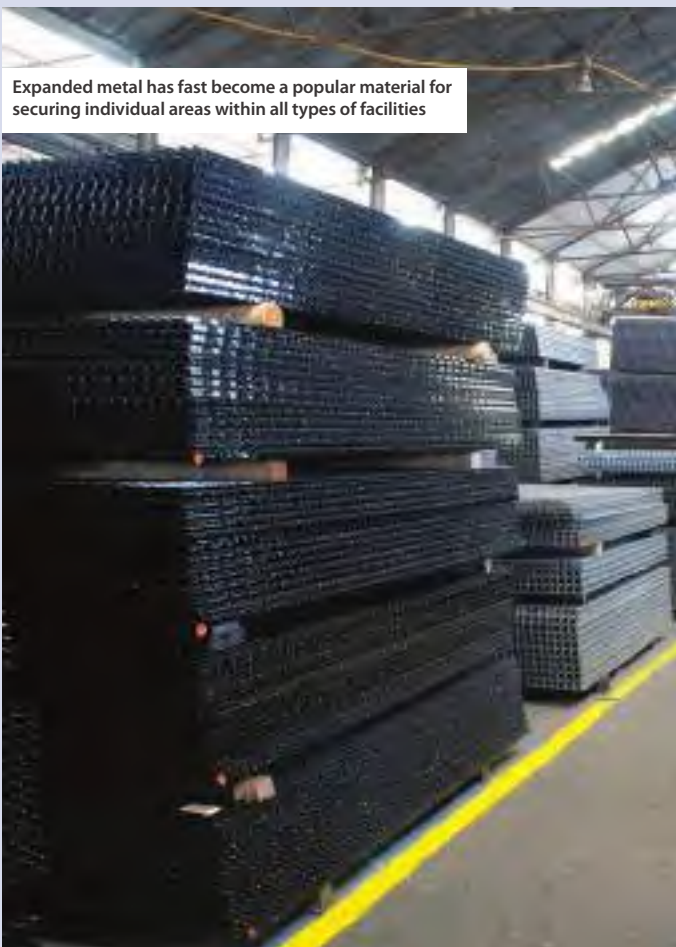
Expanded metal offers the same level of flexibility as conventional fencing materials and can be tailor made for specific application requirements.

Essentially expanded metal is sheet metal that has been slit and expanded into a network of diamond shaped meshes



Expanded metal offers the same level of flexibility as conventional fencing materials and can be tailor made for specific application requirements

Expanded metal has fast become a popular material for securing individual areas within all types of facilities





# Satellite

## Topcon's new geodetic reference equipment

**T**opcon Positioning Group offers the next generation of its geodetic Global Navigation Satellite System (GNSS) reference receivers and antennas - the NET-G5 receiver and CR-G5-C antenna.

Using Vanguard and Universal Tracking technologies, the NET-G5 receiver incorporates 452 channels capable of tracking the full GNSS signal spectrum, including modernised GPS, GLONASS, Galileo, Beidou, QZSS and SBAS signals. Universal Tracking has the advantage and capability to assign any visible GNSS signal to any available receiver channel.

The NET-G5 receiver is designed to work as a complete system connectivity solution, with built-in Bluetooth and Wi-Fi, for flexible wireless communications or via standard Ethernet, serial and USB connections.



Topcon's new CR-G5-C antenna

## NovelSat NS300 modems offer SatLink's maritime customers

Satellite transmission technology **NovelSat** has sold a sizable quantity of NS300 satellite modems to **SatLink Communications** to enhance SatLink's satellite communications solution offering to its maritime customers. SatLink is a global teleport, content management and HD playout services provider, offering maritime customers triple play solutions, broadcast and virtual network operator (VNO) services.

NovelSat, a long-time SatLink partner, has delivered its NovelSat NS300 professional satellite modems to replace existing KU band-based systems and for implementations with new customers. The NS300 Modem is the industry's most flexible, scalable satellite modem, offering a wide range of modulation options and superior link reliability, which make it a good match for any communication application or budget.

Maritime installations are constrained in a number of ways that affect satellite communications. Constant motion and smaller mobile antennas can limit available throughput.

Their mobile energy sources require superior energy efficiency. Plus, fluctuating weather conditions can impede signal quality, leading to poor spectral efficiency, reduced

throughput and higher bandwidth costs. The NovelSat NS300 Modem can deliver superior reception quality and higher throughput at significantly lower SNR than similar modems, which makes it possible to use smaller, lighter, lower gain antennas and to increase the satellite coverage footprint, even when reception is impeded by 2 to 5dB more than other systems.

The SatLink solution takes advantage of NovelSat DUET CeC (Channel Echo Cancellation), the industry's only software based band reuse technology.

This technology effectively doubles channel capacity in bi-directional satellite links with no need for additional hardware.

The NovelSat NS300 also overcomes the challenge of weather fluctuations through the implementation of smart automatic coding and modulation (ACM), which automatically adjusts fade margin to ensure that bandwidth usage is optimised without sacrificing link quality during bad weather.

David Hochner, CEO of SatLink, Communications commented, "SatLink is always on the lookout for the most advanced technology to offer our customers a creative, high end, flexible and efficient solutions. NovelSat modems are a part of that vision."

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# Telstra taps Internet Solutions' network in South Africa

Telecommunications and information services company **Telstra** has launched a new point of presence (PoP) in Johannesburg, increasing its network footprint in South Africa and providing greater connectivity and redundancy options for businesses operating across the continent. Launched in partnership with **Internet Solutions** - a pan-African telecoms service provider to public and private sector organisations - the new Johannesburg PoP builds on Telstra's existing network-to-network

**“To effectively cater to the needs of local and multi-national businesses operating here, we knew we needed to partner with an expert local provider, which is why we are leveraging Internet Solutions' network footprint to extend our service coverage and provide customers the same security, redundancy and quality of service offered on the Telstra network.”**

- Bernadette Noujaim Baldwin

interconnection (NNI) across 16 African countries, including Kenya, Mozambique and Zimbabwe.

Bernadette Noujaim Baldwin, Telstra's head of connectivity & platforms portfolio, global enterprise & services, said the enhanced services represent another step in Telstra's international expansion, and will act as a gateway for businesses looking to grow their footprint across Africa. "Since its admission into the economic coalition of Brazil, Russia, India and China (BRICS), South Africa is an emerging power, with one of the fastest-growing internet economies in the world. With these economic conditions in mind, we're seeing demand for data connectivity throughout South Africa grow as an increasing number of Asian, European and American headquartered businesses look here for long-term growth opportunities.

"To effectively cater to the needs of local and multi-national businesses operating here, we knew we needed to partner with an expert local provider, which is why we are leveraging Internet Solutions' network footprint to extend our service coverage and provide customers the same security, redundancy and quality of service offered on the Telstra network," Bernadette said.

Internet Solutions executive Greg Montjoie said "We are delighted to be partnering with Telstra to extend their network reach into the continent and provide their customers with connectivity support."

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