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

African Review

April 2015

of BUSINESS and TECHNOLOGY

P66

Genset Buyers' Guide

P86

Machines to build Ghana's roads

Finance:
Michael Reh speaks on Infosys Finacle **P30**

Power:
Electricity infrastructure in Africa **P50**

Construction:
Business opporutnites at Intermat **P94**

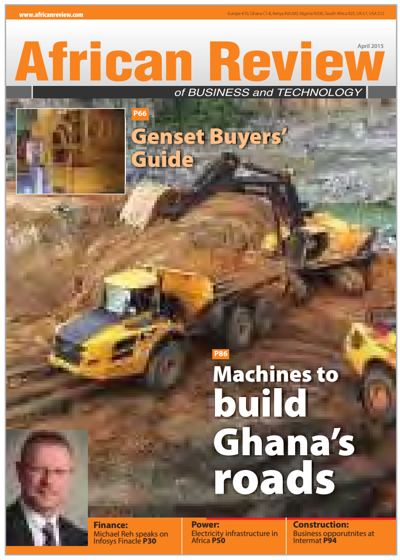
Editor's Note

The production of power is the main focus of this month's issue of African Review of Business and Technology. The magazine begins with an appraisal of Ethiopia's energy resources on pages 20 to 24. From page 40 through to page 82, there are features on steam turbines, green-powered transport, network grid capacity and other energy infrastructure, power for communications networks, generator production and product portfolios, and the annual listing of companies in standby power, in the African Review Genset Buyers' Guide.

Construction and mining feature prominently in this issue, also, with reports, between page 86 and page 105, on the use of roadbuilding machines in Ghana, the building of a mill for a mine in Zimbabwe, software for improved project management, equipment showcased at Intermat, building an office for an oil and gas enterprise, infrastructure investment for overt socio-economic benefits, formwork at a tunnel project in Algeria, the industry trends revealed at African Mining Indaba, and an appraisal of the value of opencast mining.

Elsewhere, this issue addresses finance, technology and transport, with articles on healthcare on page 26, financial governance on page 28, investment on page 32, banking IT on pages 34 and 35, trucks on page 36 and shipping on pages 38 and 39.

Andrew Croft, Editor



(Main cover picture: Volvo CE
Inset, bottom left: Infosys
Inset, top right: Mantrac Nigeria)

Contents


P60


P87

Audit Bureau of Circulations - Business Magazines

REGULARS

FEATURES

African Review
of BUSINESS and TECHNOLOGY

Editor: Andrew Croft
andrew.croft@alaincharles.com

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

Publisher: Nick Fordham

Publishing Director: Pallavi Pandey

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

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

India: Tanmay Mishra
Tel: +91 80 65684483 Fax: +91 80 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:
Nikitha Jain, Nathanielle Kumar
Donatella Moranelli, Rachel Neeson and Sophia White
E-mail: production@alaincharles.com

Subscriptions: circulation@alaincharles.com

Chairman: Derek Fordham

Printed by: Buxton Press

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

ISSN: 0954 6782

Alain Charles Publishing
Serving the world of business

Agenda / North

Watertec organiser discusses dam

Africa's omnipresent water crisis creates ongoing business opportunities for the water technology industry. John Thomson of **Exhibition Management Services**, which organises Watertec Africa, said, "The problem is not a lack of rain, but a lack of rain management – poorly exploited catchment areas, not enough storage dams and insufficient investment in water infrastructure by regional governments. Africa is the fastest urbanising continent on the planet; demand for water and sanitation is quickly outstripping its provision, due to backlogs in water infrastructure investment. The Watertec Africa expo is an excellent springboard into Africa for water industry players to explore new markets, customers and business opportunities, like the Grand Renaissance Dam project in North Africa."

The US$4.7bn Grand Renaissance Dam is expected to be completed in 2017 and will supply water to Ethiopia, Egypt and Sudan. Future annual spending on water supply and sanitation in Africa is estimated at US$21.9bn, compared with current levels of US$7.6bn.

Watertec Africa takes place at Gallagher Convention Centre in Midrand, South Africa, 20-22 May 2015.

CETel ramps up satellite coverage on Arabsat extended C-band

Satellite operator **Arabsat** and telecoms solutions provider **CETel** are collaborating on extended C-band to offer business expansion possibilities, entailing utilisation of CETel's teleport facilities, network and broadband services as well as solution design expertise across Africa, the Middle East, Europe and Central Asia on board the Arabsat-5C satellite. C-band is the collective name for portions of the electromagnetic spectrum, which are used for long-distance, low-data radio telecommunications. Extended C band is a segment of C-band, which is used for fixed connectivity solutions in rural areas for services such as education and health. For the customer, the collaboration between CETel and Arabsat opens the door to achieve the optimal mix of the different bands to specific requirements; possible applications range from corporate network optimisation to governmental services. CETel MD Guido Neumann said, "We already serving first customers on extended C-Band with a 9m antenna from our teleport in Germany. It`s the right product at the right time for customers looking for answers to the ever increasing cost pressure in their areas of business."

MENA media markets set to grow

The 21st edition of CABSAT, the professional content management event in the Middle East, Africa and South Asia (MEASA), featured sector-specific conferences, training schemes and seminars to empower regional companies with the acumen to drive product innovation and capitalise on monetisation opportunities.

The Middle East and North Africa (MENA) media market is expected to grow from US$16bn in 2014 to US$24bn in 2019, according to analysis from **PricewaterhouseCoopers**. CABSAT 2015 featured knowledge exchange initiatives including the CABSAT & NAB Show Collaborative Conference, the Middle East Post-Production Training Conference, the **GVF** Satellite Hub Summit and the Content Delivery Seminar. The conference featured over 40 media industry thought-leaders, who delivered compelling real-life case studies on disruptive technologies, the transition to digital broadcasting and monetising multi-platform services.

Digital inclusion drives Egyptian economy

The **National Telecommunications Regulatory Authority of Egypt (NTRA)** and mobile telecomunications industry association the **GSMA** have agreed to establish a framework of cooperation designed to promote Egypt's mobile economy, recognising the transformative potential of mobile technology for economic growth, job creation, public services, businesses and wider digital inclusion of Egypt's citizens.

Under the auspices of His Excellency Eng Atef Helmy, Minister of Communications and Information Technology, the Memorandum of Understanding (MoU) was signed at a meeting between NTRA executive president Eng Hesham El Alaily, and the GSMA at the 2015 Mobile World Congress.

His Excellency Atef Helmy, who chaired the meeting, noted, "Egypt is determined to embrace the significant socio-economic opportunities offered by mobile. Broadband connectivity has become a key competitive differentiator in the global economy and our citizens will welcome the many benefits of greater access to mobile services in their personal and professional lives."

Eng. Hesham El Alaily commented, "The Memorandum of Understanding signed with the GSMA at Mobile World Congress this week reflects our intention to develop a supportive regulatory environment that is based on international best practices and aimed at attracting long-term investment in mobile network infrastructure and services in Egypt."

"The GSMA is very pleased to be working with the National Telecommunications Regulatory Authority of Egypt to increase citizens' access to mobile broadband technologies across the country. It is only through close collaboration between the public and private sectors that we can drive access to affordable and ubiquitous mobile services amongst consumers," said Tom Phillips, GSMA chief regulatory officer.

Agenda / East

Four nations pledge support for East African power planning

Ministers and senior representatives from four East African countries have recently pledged their support in solving East Africa's crippling power deficit. Hon Joseph Njoroge, Principal Secretary, Ministry of Energy of Kenya, HE Hon Christopher Yaluma, Minister of Energy and Minerals in Zambia, HE Hon Minister James Musoni, Minister of Infrastructure for Rwanda, and Maria Kiwanuka, Senior Advisor to HE The President and The President's Office in Charge of Finance in Uganda were joined by private power sector decision makers at Powering East Africa in Nairobi, Kenya, to highlight the urgency of the region's transmission crisis.

Key speakers from the **World Bank**, **African Development Bank**, **IFC**, **Barclays**, **Symbion Power**, **KenGen**, **KPLC**, **UMEME** and **EEP** addressed game-changing actions for the power sector including: the critical role transmission must play in East Africa's industrialisation, the role of power utilities, how best to overcome financing obstacles and how the cost of regional borrowing can be lessened by unlocking the transmission deadlock.

EnergyNet programme manager Ms Veronica Bolton-Smith said of the recent Ministerial confirmations, "When you consider that Powering East Africa is a targeted meeting for a small number of participants, the presence of four of the most powerful people in the region's energy sector highlights the need for such focused talks."

Key stakeholders addressed issues affecting East Africa's power sector

Elanco backs dairy development

The animal health division of **Eli Lilly and Company**, **Elanco** is continuing its commitment to break the cycle of hunger for those most in need with a US$1.5mn matching challenge to help Heifer International fund Phase II of the East Africa Dairy Development Project (EADD). Funding for the matching challenge is generously provided by the **Eli Lilly and Company Foundation**, supporting Elanco's vision of a world with safe, affordable, and nutritious food for all.

Elanco president Jeff Simmons said, "The positive impact and significance the EADD project creates in the lives of farmers certainly inspires our employees and brings meaning to our work at Elanco. EADD provides dairy farmers in Kenya, Uganda and now Tanzania with an approach that helps them move from subsistence farming to a sustainable, replicable model of creating food secure communities. Farmers are not just producing more milk, they are improving the diets, economies and the quality of life for entire communities."

Africa's first-ever Seed Access Index

The first initiative dedicated solely to monitoring commercial seed production in Africa, **The African Seed Access Index (TASAI)** is a partnership between **Cornell University** and the non-profit M**arket Matters**, issuing detailed scorecards on seed development and distribution in Kenya, Uganda, South Africa, and Zimbabwe, with a focus on increasing choices for smallholder farmers. The index is important because there's a lot of money flowing into African agriculture projects and it's more likely to improve seed availability if investors can channel funds to areas that are struggling.

Kenya has only 68 crop breeders serving six million farmers. This could be a reason why Kenyan farmers often lack access to improved varieties of staple crops such as maize, cowpea, and sorghum and yields are low. TASAI seeks to track 16 indicators across five categories systematically, to assess the vibrancy and competitiveness of the national seed sector. In the next two years, it hopes to have reports for at least 20 African countries. By tracking indicators all along the seed delivery chain, investors can target choke points (such as the ratio of crop breeders to farmers, the number of new varieties released over the last three years, availability of seeds in small packages, and the time it takes to move seeds from the breeder's lab to the farmer's field) that are impeding the flow of seeds to African farms. This is crucial because smallholder farmers are the mainstay of food production in the region and will continue to be for decades to come.

TASAI is led by its principal investigator, Dr Edward Mabaya, an academic and a development practitioner with over a decade of experience with African seed systems. Dr Mabaya is involved in several programmes that seek to improve the lives of African farmers through private enterprises.


POWER GENERATION 85–782 kVA OFF-ROAD 105–565 kW
UPTIME IN PRACTICE
Power generation
Construction
Materials handling
Mining/Quarrying
Stationary
Agricultural
Forestry
Today, uptime is critical for all power generation installations. Hospitals, airports, concert events and other operations depend on secured and continuous power supply. That's why Volvo Penta engines are reliable and safe – and a perfect match, whatever your specific application may be.
By meeting present and future environmental legislation they are also your investment in a more sustainable tomorrow.
POWERING YOUR BUSINESS
WWW.VOLVOPENTA.COM
VOLVO PENTA

Agenda / South

AfriSam and CLF lay green concrete

In South Africa, **AfriSam** and **Concrete Laser Flooring (CLF)** have introduced an industry-first environmentally-friendly floor concrete by replacing cement in the mix design with more fly ash, activated slag and admixtures. In typical concrete mix designs, 20 to 30 per cent of the cement is replaced with extenders. In this new concrete, up to 70 per cent can be replaced with the activated slag and fly ash, with the addition of admixtures to achieve superior quality and strength.

Amit Dawneerangen, national multi-product solutions manager at AfriSam, said, "Such development is put through a rigorous research, design and testing process to ensure that our customers can have the benefit of a superior performing concrete that are also kinder to the environment."

CLF managing director Peter Norton said, "A larger trend within the industry is the move towards 'greener' concrete, based on the understanding that cement is a finite resource and that we need to make concrete that uses less cement. There is a growing demand for this from environmentally aware property developers that are driving the trend for 'green' buildings."

With its main focus on new solutions and innovation, AfriSam is also joining forces with CLF in producing low-shrinkage concretes for floors. Dawneerangen noted, "Through this speciality design mix, less shrinkage occurs, which significantly reduces cracking in floors. We are currently in the process of researching, designing and testing this product. The goal is to get the best performing product, with the lowest shrinkage at the best value for our customers."

With its main focus on the industrial and commercial market, CLF has introduced new technology such as a patented seamless concrete flooring system

Tilt-up construction is another method the two companies have successfully collaborated on in projects such as a 10,000 m2 building in Pomona. The method utilises the floor of a building as a casting bed for wall panels, which are then simply lifted into position by a crane. Another option is for the wall panels to be cast at a precast yard and then transported to site.

According to Norton, this was a very successful project. He said, "After we cast the floor, we were then requested to cast the walls as well. Such a project would traditionally have used 2,000m3 of concrete only, but in this instance that figure doubled to 4,000m3."

Italy's largest packaging company at AB7

Italian packaging giant **Corazza** has signed up as an exhibitor at Africa's Big Seven (AB7), Africa's biggest food and beverage exposition. Corazza designs and manufactures automated processing and packaging machines for products such as tea, coffee and most other packaged foods.

"We decided to exhibit at AB7 this year as it would enable us to investigate African markets more thoroughly, and in turn help to grow our business in a region with high demand for packaged products," saidCarla Valmori, Corazza's head of marketing and sales. "We will have an information booth at the 'Made in Italy' pavilion where visitors can receive detailed information about some of our products and packaging options on show."

The company will be hosted on AB7's new 'Made in Italy' pavilion, and joins the latest trend of European food and beverage companies expanding their trade footprint to exploit massive opportunities in growing African markets. AB7 takes place from 21 to 23 June 2015 at Gallagher Convention Centre, Midrand, South Africa.

"Africa is on the rise; its economy is the fastest growing in the world and global business is eager to leverage its new-market opportunities," said John Thomson of **Exhibition Management Services**, which organises Africa's Big Seven. "Africa is fast becoming a packaging growth centre; its expanding middle class has more individuals with disposable income to spend on packaged food products, and this is fuelling the growth of Africa's packaging industry."

According to the **World Packaging Organisation**, Africa is destined to surpass India and China as the world's packaging centre. Nigeria's packaging industry has grown by 12 per cent each year for the past five years.

"Packaging companies probably get the most attention at AB7 purely because their products are so important to food and beverage manufacturers and marketers," Thomson said. "Trade visitors come to AB7 from around the world not only to see what is inside your package, but also what is on the outside."

In a single year, our mine can unearth 4,150 tons of uranium from the Namibia desert. It's fuel used to power some of the largest cities. But to power your world, we have to start with our operation. We chose to install 5.5 MW of Cat® power. Each generator set is engineered for superior fuel savings, customized to our site, built to Cat quality and backed by a team of Caterpillar experts who understand our work. We run Cat power because their team is committed to keeping us successful.

BUILT FOR IT.™

Learn more at www.cat.com/rossing

CAT®

Agenda / West

MasterCard and eTranzact make Nigerian remittances more efficient

At Mobile World Congress 2015 in Barcelona, Spain, **MasterCard** announced an agreement with pan-African mobile banking and payment services company **eTranzact** International to make international remittance services available to millions of consumers in Nigeria. eTranzact is publicly quoted on the **Nigeria Stock Exchange**.

Following the agreement, citizens can securely receive international remittances into their eTranzact mobile money wallets or select bank accounts through an international transfer hub called HomeSend. A joint venture between MasterCard, **eServGlobal** and **BICS**, HomeSend bridges the gap between various entities globally such as financial institutions, non-financial entities and mobile network operators, enabling Nigerians living and working abroad to send money from mobile money accounts, payment cards, bank accounts or cash outlets back home.

"For millions of Nigerians, the receipt of funds from friends and family is an important lifeline. HomeSend provides senders across the globe and the recipients in Nigeria with a convenient, safe, and cost effective money transfer channel," said Omokehinde Ojomuyide, vice president and area business head for West Africa at MasterCard.

Upon receipt of funds into their eTranzact mobile wallets, Nigerians can use PocketMoni, eTranzact's mobile money platform, to pay bills, top-up airtime, pay select merchants, cash out at agents or at participating bank ATMs, and send money to any bank account, PocketMoni user, eTrazact card or mobile phone user.

"Our partnership with MasterCard enables us to bring a new, cost-effective, cross-border remittance service to Nigerians, many of whom have previously struggled to access such facilities as they do not have formal bank accounts," said Valentine Obi, chief executive officer at eTranzact International. "Instead of travelling long distances and waiting in long lines, Nigerians will now be able to electronically receive cash transfers from family overseas with the convenience of their mobile devices."

According to the **World Bank** Migration and Remittances Brief, Nigeria is the largest remittance market in Africa and the fifth largest in the world, attracting US$21bn in remittances in 2014, which contributed four per cent to Nigeria's gross domestic product.

"We are pleased to partner with eTranzact to bring one of the most comprehensive international remittances offerings to Nigeria. This type of service has the potential to open up new remittance corridors, expand the scope of cashless money transfers, extend financial inclusion and support the growth of the economy," said Ojomuyide.

First DoubleTree by Hilton in DRC

Hospitality company **Hilton Worldwide** has signed a franchise agreement with **Africa Hospitality Investments** to open the full-service DoubleTree by Hilton Kinshasa - called The Stanley. Located in the bustling capital of the Democratic Republic of Congo, the signing marks the arrival of Hilton Worldwide to one of Africa's largest urban areas.

Patrick Fitzgibbon, senior vice president of development, Europe and Africa, for Hilton Worldwide, said, "Our focus on developing our portfolio in key locations across Africa has resulted in Hilton Worldwide achieving the fastest growing pipeline of hotels on the continent."

A conversion from its previous designation as the French Embassy, DoubleTree by Hilton Kinshasa - The Stanley will be located in Gombe, the city's business district - allowing for easy access to corporate companies, retail outlets, government ministries, diplomatic and media organizations. The hotel will be approximately 25 kilometres from N'Djili International Airport.

Panasonic solar lanterns serve Ebola efforts

With the severe and far-reaching impact of the Ebola epidemic in West Africa, governments and international organisations need more support for their relief efforts. They have called on the private sector to help the affected populations meet their basic needs in the midst of the crisis.

In response, **Panasonic Corporation** has donated 240 solar lanterns to the **United Nations Development Programme (UNDP)**, which are now providing light to Ebola survivors, orphans, medical teams and workers fighting the epidemic in the affected areas of Liberia, where the outbreak is especially serious. Ms Izumi Nakamitsu, assistant secretary-general, assistant administrator and director of the Crisis Response Unit at UNDP, visited Satoshi Takeyasu, Panasonic executive officer in charge of groupwide brand communications division. Ms Nakamitsu, who leads UNDP's response to crisis, said, "The solar lanterns are helpful to improve the lives of survivors and orphans affected by Ebola and to support workers in the frontlines of disease control. The solar lanterns not only shed light on the lives of these people, they can also help the fight against Ebola by enabling wire transfer via cell phones thanks to the solar lanterns' charger functions."

The solar lanterns are provided to Ebola survivors who have almost nothing when they are discharged from treatment clinics, since their belongings are incinerated when they test positive and are admitted for treatment. Solar lanterns have also been distributed to people living in quarantined areas, where access to electricity is often limited. In the capital Monrovia, solar lanterns are supporting medical teams while they work at nighttime.

Panasonic will continue to contribute to relief efforts in countries that have been hit especially hard by the epidemic.

Events / 2015

May

10-11
Aviation Africa
Dubai, UAE
www.aviationafrica.aero

11-15
African Construction Week
Johannesburg, South Africa
www.hypenica.com

12-13
Africa Financial Services Investment Conference
Brighton, UK
www.afsic.net

12-14
African Utility Week
Cape Town, South Africa
www.african-utility-week.com

12-14
A-OSH
Johannesburg, South Africa
www.securex.co.za

12-14
Securex
Johannesburg, South Africa
www.securex.co.za

13-14
Banking & Mobile Money Uganda
Kampala, Uganda
aitecafrica.com

19-20
Mozambuild
Maputo, Mozambique
www.mozambuild.com

19-21
Mobile Money & Digital Payments
Johannesburg, South Africa
www.mobile-money-africa.com

20-22
Indutec
Johannesburg, South Africa
www.exhibitionsafrica.com

20-22
Pumps, Valves and Pipes Africa
Johannesburg, South Africa
www.exhibitionsafrica.com

21-23
Ingetrex
Dar Es Salaam, Tanzania
www.ingetrextanzania.com

25-26
Satcom Africa
Johannesburg, South Africa
www.terrapinn.com

25-26
World Rural Telecoms Congress
Johannesburg, South Africa
www.terrapinn.com

Visit Securex for an African showcase of security and fire solutions

Taking place in Johannesburg, South Africa, from 12 to 14 May, Securex 2015 provides visitors with an unrivalled opportunity to view, discuss and source products and services from manufacturers and suppliers. Securex has a long history in the sector for enabling security and fire professionals to interact with the best-in-breed suppliers. Securex and the co-located exhibition A-OSH Expo 2015, which will be held at Gallagher Convention Centre in Johannesburg from 12 to 14 May, continue to bring education to the fore through a number of targeted seminars and conferences. These educational sessions focus on building a professional future for risk mitigation within organisations and addressing current security and fire issues.

"We have revised the Securex brand in line with our Africa-centricity and a number of new features have been added to our popular existing features, to bring further value to visitors," says Joshua Low, Securex event director at show organiser **Specialised Exhibitions Montgomery**.

The Securex Free-to-attend Seminar Theatre will provide visitors with access to up to the minute information on best practice, as well as pertinent industry-related and legislative issues.

Topics being presented at the seminar include 'Africa: Tapping into growth opportunities, challenges and strategies'; 'Funding for security SME's' 'Adherence to fire standards' and 'Cyber security: A pertinent business risk'.

Teckentrup security door

And the Installer Workshop at Securex 2015 addresses the gap in what is deemed a very important sector of the industry. This interactive educational platform will provide installers with the latest technology trends and best practice from specialists in the field. Topping off the programme, an installer competition will be run on 14 May.

A New Products Showcase will be erected in a prominent area at Securex 2015. This will allow visitors to preview the latest technology in a number of security and fire modalities. Also, a new service - the Global Meetings Programme - will see visitors to matched up with companies that are best able to devise solutions to their apparent threats and risks.

www.securex.co.za

Bulletin / Banking

MasterCard makes cross-border remittance service in Zimbabwe

MasterCard announced a partnership at Mobile World Congress 2015 with Zimbabwean financial institution **Steward Bank** to make remittance services available to more than 1.5mn account holders; for the first time, the bank's customers will be able to receive funds sent by family and friends abroad directly into their Steward Bank accounts.

ICD, El Wifack agree on advisory services and term sheet

The Tunisian leasing firm **El Wifack** has signed an advisory services contract and a term sheet with the **Islamic Corporation for the Development of the Private Sector (ICD)**, the private sector arm of the **Islamic Development Bank Group (IDB)**, in order to process and support its conversion to full Shariah-compliant banking operations; the

ICD and the Tunisian leasing firm El Wifack has signed an advisory services contract and a term sheet

partnership agreement is designed to increase the capital and fully convert El Wifack Leasing firm into a fully-fledged Islamic financial institution in order to undertake commercial banking activities in Tunisia, and represents a groundbreaking move in the development of a strong and supportive Islamic financial sector in the country.

Egypt Government, MasterCard to extend financial inclusion

The **Government of Egypt**, represented by the **Ministry of Communications and Information Technology**, and **MasterCard** have committed to extend financial services

MasterCard president and CEO Ajay Banga (left) and Atef Helmy, Egyptian Minister of Communications and Information of Technology, discuss their partnership to extend financial inclusion to 54mn Egyptian citizens, at Mobile World Congress

to 54mn Egyptians; MasterCard will work with the government to roll out a digital ID program that links citizens' national ID to the existing national mobile money platform, allowing Egyptians to participate in the formal electronic economy through a single, easy-to-use cashless programme.

Newer ATM markets are the most dynamic

According to **RBR**'s latest report, *Global ATM Market and Forecasts to 2019*, the Asia-Pacific region is home to many of the world's youngest and fastest growing ATM markets, and China now has the largest ATM installed base, having surpassed the USA in 2013; the Middle East and Africa is the second-fastest growing region, and has the distinction of being the only region in which all of the countries surveyed saw an increase in ATM numbers in 2013.

Citi Mobile Challenge fuels fintech innovation

Global bank **Citi** has launched its Mobile Challenge in Europe, the Middle East and Africa, the latest part of a global digital acceleration effort to foster innovation in financial technology (fintech); the virtual competition invites developers from around the world to build innovative solutions based on Citi's digital platform, with Citi's vast global network offering developers an opportunity to have their ideas put in place in markets all over the world.

Ecobank CEO advises investors on long-term engagement

Delivering the keynote address in Munich, Germany, at the 4th Conference on Managing Risk in Africa, **Ecobank Group** CEO Albert Essien offered strategies for managing risk in Africa's growth markets; against the backdrop of what he outlined as a generally positive outlook for Africa, he advised investors against viewing Africa as

Ecobank Group CEO Albert Essien

one, but rather 54 countries with different growth prospects, different infrastructure, trade agreements, tax regulations, culture and levels of technological development - and urged investors to be prepared to engage with African countries on a long-term basis and avoid abrupt changes in investment focus because of perceived instability in certain markets.

Bulletin / Communications

A4AI reports on the relative cost of Web access

The 2015 *A4AI Affordability Report* indicates that over two billion people are priced out of accessing the Internet; the report finds that a fixed broadband connection costs the average citizen in the 51 developing and emerging nations studied approximately 40 per cent of their monthly income, eight times more than the affordability target set by the **UN Broadband Commission** in 2011.

African entities unite to boost innovation on the continent

UCT Graduate School of Business (UCT GSB) and telecommunications company **MTN** have formed a partnership to catalyse sustainable innovation in Africa; "Each partner has complementary expertise and skills, so together, their impact on African innovation will be greater, and the solutions emerging as a result of their collaboration will reach further," said Professor Walter Baets, director of the UCT GSB.

Mobile alliance reaches two million families

The **Mobile Alliance for Maternal Action (MAMA)** has reached and empowered more than two million women and families with its timed and targeted information through its country programmes in Bangladesh, South Africa and India; "MAMA's customised country programs are breaking new ground in the global health field, showing that it is possible to scale mHealth programmes that are having real impact," said Kate Dodson, vice president of global health at the **United Nations Foundation**.

Empowering communities in Rwanda with EkoCenter

Ericsson and **The Coca-Cola Company** have set up a pilot project to bring mobile connectivity to **EkoCenter**, a social enterprise initiative designed to empower community well-being by bringing safe water, solar power and mobile communications, as well as basic goods and services to underserved communities, in collaboration with **Tigo Rwanda** and German start-up company **Solarkiosk**; Beatriz Perez, chief sustainability officer at The Coca-Cola Company, said, "Connectivity has become a fundamental part of thriving communities and economies."

Microsoft CEO talks on next Windows roll-out

Windows 10 will enable seamless transition from notebook mode for work, stand mode for watching movies, tent mode for touch games, or tablet mode on the go

According to Satya Nadella, CEO of **Microsoft**, the Windows 10 operating system marks the beginning of a more personal computing era, tailored to mobile and to cloud computing; he said, "Our ambition is for the 1.5bn people who are using Windows today to fall in love with Windows 10 and for billions more to decide to make Windows home.

Promoting excellence and innovation in mobile finance

To be presented in Johannesburg in June 2015, the **Mondato** Awards were created to recognise excellence and innovation in mobile finance and commerce (MFC) and digital financial services Plus (DF+); the MFC Award for Social Impact in Africa and the DF+ Award for Social Impact in Africa will be awarded to the providers whose product or service delivered measurable social value in their given market in Africa during 2014-2015.

Millicom joins GSMA's mobile health partnership in Africa

Telecommunications and media company **Millicom** has joined the **GSMA**'s cross-ecosystem Pan-African mHealth initiative (PAMI) which is designed to connect people with the mobile industry and health services in eleven countries in Sub-Saharan Africa, including the **Tigo** operations in Ghana, Rwanda and Tanzania; PAMI aims to develop commercially sustainable and scalable mHealth services that meet public health needs, with the primary objective of offering relevant services to women and children, with a particular focus on nutrition.

Sub-Saharan Africa to see fastest mobile usage growth

The Sub-Saharan Africa (SSA) mobile market presents significant opportunities for telecommunication companies, device and module vendors, and application providers, as the SSA telecommunications market matures and mobile phones take on the role of service delivery platforms; analysis from **Frost & Sullivan** - *Sub-Saharan African Mobile End-user Trends* - indicates that the market will be on a strong upward trajectory as more than half the population has no access to a mobile phone, with mobile penetration in the region expected to increase from 52 per cent in 2012 to 79 per cent in 2020, making SSA the fastest growing region globally over the next seven years, in terms of mobile phone usage.

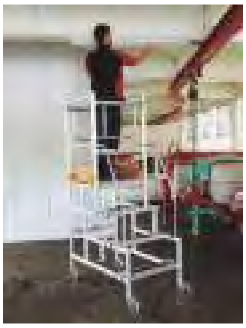
Surfline signs with Huawei to expand 4G LTE service in Ghana

Ghanaian mobile telecommunications operator **Surfline Communications** plans to expand its 4G LTE network to cover all regions in Ghana with **Huawei Technologies**; the expansion will cover major cities including Takoradi, Kumasi, Cape Coast, Tamale and Ho, and include all key municipalities within the data-hungry country.

Bulletin / Industry

Lambson's Hire steps up its range of platform products

A supplier of rental equipment to the building, construction, DIY and maintenance markets, **Lambson's Hire** now offers a new range of aluminium steppers, manufactured from 6061-T6 aluminium and feature five working heights for all applications, easy folding for storage, a 300 mm step distance, a 200 kg safety load and an anti slip platform with a locking device; "We are making these products available in our ongoing efforts to ensure that the construction, industrial, mining, building/DIY and related industries have easy access to the latest trends and developments in equipment," said Devin van Zyl, CEO of Lambson's Hire.


Aluminium steppers available from Lambson's Hire are manufactured from 6061-T6 aluminium

Platinum mine tightens security with Johnson Controls

One of the world's largest producers of platinum group metals has worked with **Johnson Controls** to develop, pilot and implement Johnson Controls' P2000 X-Ray software control integration; the solution will help the mining house to optimise and manage its X-Ray machines – a vital part of the security matrix it has put in place at its processing plant to combat losses due to theft - and in the process help it comply fully with South Africa's Department of Health safety regulations.

Showcasing the latest products in occupational health & safety

Occupational health & safety (OHS) is increasingly important to African organisations, which are under pressure to conform or pay the consequences. Finding the appropriate solution for risk mitigation can often be problematic. Organised by **Specialised Exhibitions Montgomery**, held in Johannesburg, South Africa, 12-14 May, A-OSH Expo 2015 (www.aosh.co.za) takes the hassle and guesswork out of selecting an OHS solution for your company. Together with a variety of OHS products and services under one roof, A-OSH Expo also offers a comprehensive educational programme, courtesy of the SAIOSH conference, the NOSHEBO free-to-attend seminar, Working at Height Theatre, and the First Aid Demonstration Zone.

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*

Congo-Brazzaville's ECAir to launch new route to West Africa

EC Air has been expanding its regional network to key West African cities. (PHOTO: ECAir)

Congo-Brazzaville's national carrier ECAir plans to launch a new route to Dakar, Senegal, in a bid to expand its service network in West Africa.

The new Brazzaville-Dakar route via Bamako, Mali, will begin on 22 March 2015 and will be functional three times a week. Bamako and Dakar are major West African hubs for the airline, and the new route will be expected to improve the level of cooperation between Congo-Brazzaville, Mali, Senegal and the other West African countries.

www.africanreview.com/transport-a-logistics

Transnet to expand locomotive fleet and port facilities in South Africa

South African rail and port operator Transnet has signed deals worth a total of US$1.1bn to renew its locomotive fleet and has invested an extra US$161mn to expand facilities at the Port of Ngqura in Eastern Cape province.

The locomotive fleet will be supplied by GE and Bombardier. The Export-Import Bank of the United States will guarantee US$484mn in loans to be provided by Barclays Africa Group Ltd., Standard Bank Group Ltd. and Old Mutual Plc to GE to manufacture 293 locomotives, said Brian Molefe, CEO of Transnet. Export Development Canada and Investec Bank Ltd. will also provide US$565mn in loans to Bombardier, Molefe added.

The company is expected to take delivery of the locomotives from GE by July 2015.

www.africanreview.com/transport-a-logistics

AfriMold joins INDUTEC technology expo

African exhibition company Exhibition Management Services (EMS) has acquired the AfriMold event brand.

A leading exhibition for precision machining, tooling, mould-making, design and application development in Africa, AfriMold will become a component show of the South African Industry and Technology Fair (INDUTEC).

"We added the AfriMold Expo to the INDUTEC Fair because it is a perfect fit with the event's other industrial and technological sectors," said John Thomson of show organisers EMS.

www.africanreview.com/manufacturing

African market key for power rental firm Smart Energy Solution

The SES 24MW rental power plant at Kigali, Rwanda. (PHOTO: Smart Energy Solutions)

The managing director of Dubai-based energy rental firm Smart Energy Solutions (SES) has predicted that the company's annual turnover will top US$100mn by 2019. Waleed Isaac said the company, which was established in 2007, would accelerate growth by diversifying its fuel sources and focussing on the African market.

"Providing temporary power is our core competency and we believe in our mantra of 'energy on demand'. For us, it encompasses providing not just generators, but being able to provide the actual electricity anytime and any place the client demands."

www.africanreview.com/energy-a-power

Siemens agrees 6.6GW power generation deal in Egypt

Egypt is expanding and diversifying its energy producing capacity, with wind power playing a key part in its strategy (PHOTO: Philipp Hertzog)

Siemens has agreed a deal to help boost Egypt's power generation capacity by up to a third by 2020.

Under a series of MoUs announced at the Egypt Economic Development Conference in March, the German-based multinational conglomerate will be responsible for engineering, procurement and construction (EPC) at the 4.4GW Beni Suef power plant project.

The combined-cycle plant will be built in four modules, each consisting of two H-class gas turbines, two heat recovery steam generators, one steam turbine and three generators, the company said.

www.africanreview.com/energy-a-power

German cement firm opens new plants in Togo and Burkina Faso

Germany's HeidelbergCement has inaugurated the Scantogo clinker plant in Togo and the Cimburkina cement grinding plant in Burkina Faso. The Togo plant, which cost US$250mn to construct, has an annual capacity of 1.5mn tonnes and is located at Tabligbo, 80km northeast of Lomé.

According to the company, with the Scantogo investment, HeidelbergCement has become the largest German foreign investor in Togo. The US$50mn Cimburkina cement grinding plant in Burkina Faso has an annual capacity of 800,000 tonnes and is located near the capital city Ouagadougou.

www.africanreview.com/construction-a-mining

Ethiopia has US$5bn worth of untapped mineral resources and renewable energy sources such as hydropower, wind, solar and geothermal with a total potential capacity of 60,000MW

Land of hidden opportunities

With vast amount of untapped mineral resources and enormous trade and investment possibilities, Ethiopia is poised for continued growth

Ethiopia ranks among the fast-growing non-mineral economies of Africa with real GDP growth in the past decade, averaging 10.9 per cent between 2004 and 2013 compared to the regional average of 5.3 per cent, according to the World Bank.

This growth momentum has been inclusive and diverse with all sectors like agriculture, industry and services contributing towards national prosperity.

Large-scale public and foreign direct investment (FDI) projects in social, physical infrastructure and industries should maintain similar expansion over the medium-term (in the upper single digits). However, the Ethiopian authorities' projections are more optimistic (in the 11 per cent to 11.4 per cent range).

The International Monetary Fund (IMF) commended Ethiopia for achieving 'robust and broad-based growth, maintaining inflation in single digits, expanding employment and improving social indicators, as well as considerable progress toward the Millennium Development Goals,' despite subdued external environment over recent years.

Last June, Moody's Investors Service assigned a debut sovereign rating of B1 to the government of Ethiopia. The country's rating, on par with Rwanda but a notch below Kenya, Ghana and Zambia, was based on four main criteria — a relatively small economy and low per capita income, balanced by a proven record of sustained higher GDP growth, weak

Key macroeconomic indicators

	2013/14 Est.	2014/15 Proj.	2015/16 Proj.	2016/17 Proj.	2017/18 Proj.
Gross Domestic Product (GDP) /	49,707	55,150	60,984	67,287	74,408
Real GDP Growth *	8.2	8.5	8.5	8.0	8.0
Consumer Prices **	8.5	9.0	9.0	9.0	9.0
Gross Domestic Investment //	30.2	29.1	28.2	27.4	26.8
Fiscal Balance (incl. grants) //	-2.7	-3.0	-2.9	-2.7	-2.6
Public Debt //	44.7	50.6	54.3	56.4	56.7
of which: External Liabilities	22.6	26.5	28.9	30.0	28.8
Exports of goods /	3,351	3,852	4,488	5,173	5,904
Imports of goods /	12,921	15,117	16,560	17,796	19,765
Trade Balance	-9,570	-11,265	-12,072	-12,624	-13,861
Gross Official Reserves /	2,761	3,061	3,461	3,996	4,693
Current Account Balance //	-7.1	-7.3	-6.7	-5.8	-5.5
Foreign Direct Investment (net) /	1,355	1,833	2,853	2,752	3,089

/million US dollars; *Annual percent change; **End-period; // per cent of GDP

Source: Ethiopian authorities and IMF staff projections

Under Ethiopia's Growth and Transformation Plan (GTP), the country aims to double agricultural output to ensure food security for the first time

institutional capacity in comparison with B-rated sovereigns, moderate fiscal strength with low debt burden and related financing costs reflecting a largely concessional funding base balanced by a gradual reliance on external private capital and moderate vulnerability to exogenous shocks, particularly a drought, which balances credit strengths and constraints.

Maiden bond

Typically, obtaining a sovereign rating is a sign of national authorities' intention to tap global capital markets. In December 2014, Ethiopia issued a debut US$1bn 10-year Eurobond priced at 6.625 per cent, which, in fact, received US$2.6bn in total orders, hence indicating strategic investor's positive appetite for Ethiopian-risk.

JPMorgan and Deutsche Bank were the lead managers, whilst Lazard Asset Management advised the government. About half of the Eurobond was bought by the USA fund managers, one-third from the UK and 15 per cent from the rest of Europe.

Maryam Khosrowshahi, head of public sector division CEEMEA at Deutsche Bank, said, "The order book was of the highest quality, with fund managers taking up 96 per cent of the bond. It was a tremendous inaugural transaction to end the year with."

The money raised will co-fund socio-economic programmes in Ethiopia including projects in healthcare, education, and energy sectors, as well as the development of economic zones in the country for attracting FDIs.

Ethiopia's successful debut reflected the strength of a vibrant economy, which enables investors to diversify from heavy exposures to oil-based countries. Fitch Ratings notes, "The falling oil price may actually be beneficial for Ethiopia as 20 per cent of the country's imports of goods are purely spent on fuel — quite a substantial amount. Lower oil prices may help to plug the current account deficit."

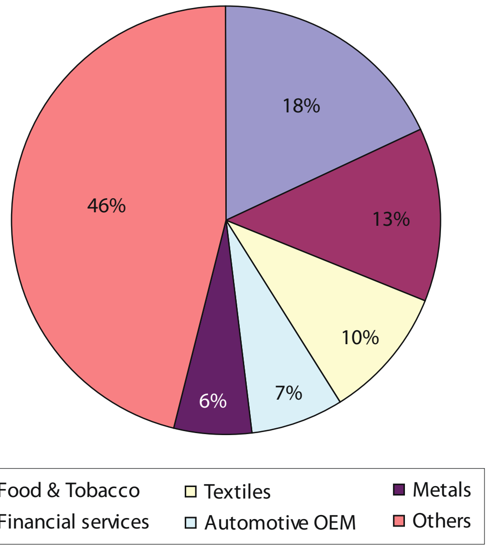
Ambitious plans

Ethiopia follows a developmental strategy based on high public investment and service delivery improvement under its Growth and Transformation Plan (GTP).

The plan envisages a major leap in terms of not only economic structure, but also the level of social indicators. Key goals over 2010/11-2014/15 include

- Rapid and equitable economic growth, averaging 11.2 per cent over a five-year period and, at best, to double the size of the economy with GDP per capita expected to reach US$698 by 2015
- Doubling agricultural output to ensure food security for the first time
- An increased contribution from the industrial sector with strong focus on increased production in sugar, textiles, leather products and cement
- Increasing roads networks from 49,000 km to 64,500 km by 2015 and the construction of 2,395 km of railway line
- Boosting power generation capacity to 8,000MW and connecting further four million people to the national grid by 2015.

Ethiopia's investment into sub-sectors (2007-12) by most projects
TOTAL: 69



Sources: Fdi Markets and Ernst & Young

- Achievement of most, if not, all Millennium Development Goals (MDGs).

Growth-enhancing infrastructure sector has been funded by bilateral loans mainly from China or soft loans from the World Bank and domestic funding. Fitch Ratings cautioned, "Ethiopia has exhausted these avenues. The stock of domestic credit is around 30 per cent of GDP, not that low, but not enough for what the country needs."

Thus, Ethiopia will have to rely on FDI and dollar funding (via bond issuances) to achieve GTP goals, which in all probability may not be achieved by end of 2015.

FDI attractions

This Horn of Africa nation boasts enormous trade and investment possibilities. According to the World Investment Report 2014, Ethiopia was a destination for Greenfield investment projects worth US$4.5bn during 2013, a huge increase from US$441mn reported during previous year. The net sales value of cross border merger and acquisition (M&A) had also more than doubled to US$366mn in 2013, from US146mn in 2012. Its net FDI inward stock in 2013 had reached US$6.1bn.

Agribusiness and tobacco, textiles, ICT and automotives as well as mining activities are the major sector beneficiaries of FDI projects. Nearly 43 per cent of capital invested into Ethiopia went into manufacturing activities, according to Ernest & Young report. The top-five investors were from the UAE (US$2,013mn), the USA (US$774mn), India (US$609mn), Germany (US$458mn) and China (US$368mn).

Major investors show a diverse focus toward manufacturing-led activity whilst the UAE's capital flowed mostly into real estate construction and the USA's capital towards resource extraction. Thanks to fiscal incentives, investors were given huge tracts of forested land in southwestern Gambella in western Ethiopia at a minimum lease rate of US$1 per ha every year.

There is an immense potential for mineral prospecting works, especially in northern regions. According to numerous studies, most of which are United Nations Development Programme funded, Ethiopia is endowed with precious group metals like gold, platinum, silver; base metals such as copper, lead, zinc, nickel, metallic like tantalite-columbite, manganese, molybdenum; and industrial/building materials namely quartz, iron, kaolin, talc, marble, graphite, limestone, clay, gypsum as well as fuel energy

The falling oil price may be beneficial for Ethiopia as 20 per cent of the country's imports of goods are spent on fuel – quite a substantial amount

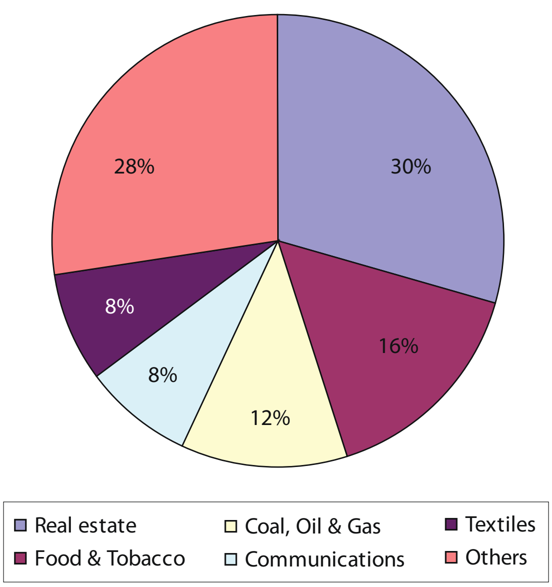
substances such as petroleum, natural gas and coal.

It could be sitting on US$5bn worth of untapped mineral resources and vast renewable energy sources such as hydropower, wind, solar and geothermal with a total potential capacity of 60,000MW, which if developed can make Ethiopia a key regional electricity exporter. There are over 100 foreign and local companies engaged in exploration, excavation and production of minerals.

Ethiopia's industrial strategy is attracting Asian capital to develop its light manufacturing base. In 2013, China's Huanjin Group opened its first factory for shoe production, with a view to establishing a US$2bn hub for manufacturing. Earlier that year, Julphar in the UAE, in conjunction with its local partner, Medtech, officially inaugurated its first pharmaceutical manufacturing facility in Africa in Addis Ababa. Julphar's investment in the plant is estimated at US$8.5mn.

> "As one of Africa's most buoyant economies, a population surpassing 90mn, an expanding middle class, growing urbanisation and a huge green energy sector, make Ethiopia a market with significant possibilities

Ethiopia's investment into sub-sectors (2007-12) by most capital invested
TOTAL: US$4,833mn



Sources: Fdi Markets and Ernst & Young

"Ethiopia is closer to FDI than other parts of Africa," remarked Bruno Casella of Geneva-based United Nations Conference on Trade & Development (UNCTAD). However, sectors that typically attract foreign investors, notably banking and telecoms, are closed to them. The IMF advised Ethiopia to devise a proper legal framework for public-private partnerships, cutting red tapes for opening a business, strengthening investor protections and improving trade logistics. *The World Bank 2015 Doing Business Report* ranks Ethiopia 132 out of 189 countries.

To sum it up, as one of Africa's most buoyant economies, a population surpassing 90mn, an expanding middle class, growing urbanisation and a huge green energy sector, make Ethiopia a market with significant possibilities. Natural resources, agribusiness and manufacturing will attract increasing levels of FDI in ensuing years. Ethiopia aspires to reach 'middle-income' status over the next decade. ■

Moin Siddiqi, economist

Ready to revive regional trade in Africa

What the continent needs to do, with respect to cross-border business, in order to grow and diversify its economy

Investor enthusiasm for Africa is gaining traction. As the home to two economic powerhouses; South Africa and Nigeria, Africa offers growth and the opportunity of lucrative return on investment.

Historically, Africa's economic growth has been primarily driven by extractive enterprises. But, in the last decade, success from manufacturing, agriculture and natural resources has shown that, with the right partnerships in place, Africa can outgrow its reputation as a market driven only by consumption and commodities. To take this next step, and to reach African consumers, we need a common market and economies of scale. The need for further regional integration and intra-African trade to diversify the economy and spur on wealth creation across all existing sectors, in all countries, is evident.

Innovative and competitive

The World Economic Forum's 2014/2015 Global Competitiveness Report found that countries that are highly innovative and have strong institutions top international competitiveness rankings. Another finding in the report is that in Sub-Saharan Africa, Mauritius is the region's most competitive economy, with South Africa - in second place.

The report shows that Kenya, which is part of the top 10 most competitive in Africa, has continued to improve- – moving up six places to 90th position. Kenya, the largest economy in East Africa, continues to strengthen its democracy, open up its market to international investors, encourages entrepreneurship and is exploring new ways to improve its socio-economic prospects.

Imagine if these economies collaborated for partnered growth and development. The WEF report reveals that there is a need for more insightful efforts to improve Africa's competitiveness and a good starting point is through the diversification and opening up of its markets.

Jeff Nemeth, president and CEO of Ford Sub Saharan Africa, and president of the American Chamber of Commerce in South Africa

Nigerian banking institutions continue to thrive; 13 Nigerian banks are amongst the world's top 1,000 banks for 2013. Nigeria has the highest number of banks represented on the list, confirming the country as the leading financial centre in Africa, *The Banker* magazine said in its 2014 edition.

Media reports (*Financial Mail*, 2014) indicate that Kenya exports goods valued at approximately Ksh3bn to South Africa and South Africa about Ksh70bn back to Kenya. The fact is, the numbers don't lie. They point to an optimistic future ahead. A key enabler will be regional integration, and in particular the role of trade agreements as the key building blocks of that integration.

From paper to practice

There are a number of trade agreements or trade arrangements in Africa (ie COMESA, SADC, SACU, ECOWAS, EAC, etc.) but most remain on paper, and in so doing, are unable to unleash the true potential of Africa's vast human capital and resources.

African leaders should now embrace the opportunity and renewed political will to build on these trade agreements and demonstrate their benefits by implementing them in practice.

The challenges faced by businesses operating in Africa are well-documented: limited energy security, irregular banking frameworks, effective protection of intellectual property, and achieving the balance between aid and trade. However these challenges are not unique to emerging markets and they are not without solutions.

Similar to other emerging markets like South-East Asia and Latin America, Africa can present boundless prospects for its investors. Business needs to approach Africa differently because the continent is a study in diversity. Yes, there is common opportunity like growing consumerism, rapidly developing technology, globalisation and access to information, but different countries present different opportunities and the most sustainable way to tap into these is through strengthened free trade agreements and regional integration.

Preferential trade agreements could come by way of a proposed tripartite agreement between the Common Market for Eastern & Southern Africa (COMESA), the East African Community (EAC), and the Southern African Development Community (SADC), to establish a free-trade area by 2015.

The 2013 African Economic Outlook shows that sustainable development in Africa rests on diversification and investment in human capital. The report also shows that African countries must provide the right conditions to allow untapped resources such as mineral and natural wealth to optimise job creation opportunities. ■

Jeff Nemeth, president and CEO of Ford Sub Saharan Africa, and president of the American Chamber of Commerce in South Africa

Rising premium on private healthcare costs

Private health insurance costs in Africa are set to double in the coming ten years as nations become more affluent

As income levels in emerging markets rise, people are spending more on healthcare services as a means to improve their quality of life. This is driving demand and expectations for better health services in the emerging markets, according to Swiss Re's latest study *Keeping healthy in the emerging markets: insurance can help*.

The study shows that the insurance industry is well-equipped to meet the increasing healthcare spending needs of individuals and that it can also become a central pillar of a sustainable national healthcare delivery system.

In the emerging markets, the money to pay for healthcare has traditionally come from the government via taxation revenues and from private individuals who often make significant contributions from their household savings.

However, reliance on these two channels of healthcare financing is becoming increasingly challenging. There are growing strains on public coffers and at the same time, more advanced technologies and medicines are pushing up the prices of healthcare services.

Growth of reimbursement type product premiums in emerging markets (US$bn)

	Premiums 2013E	Premiums 2020F	Additional Premiums 2013-2020F	Real CAGR 2013-2020F
Emerging markets	**36**	**78.8**	**42.8**	**9.6%**
Latin America	14.9	25.3	10.4	6.2%
Central & Eastern Europe	4.3	6.2	1.9	5.0%
MENA	7.4	15.6	8.2	9,7%
Emerging Asia	9.4	31.8	22,4	15.4%
World	**1005.2**	**1475.7**	**470.5**	**3.2%**

Figures include premiums from both L&H and non-life insurers

MENA=Middle East and North Africa. E=estimates, F=forecasts

Source: National insurance regulators, Swiss Re Economic Research & Consulting

Benefits of private health insurance (PHI)

PHI provides consumers financial protection against future care-related expenses at an affordable regular premium, relieving the burden of large one-off hits to private savings. "Consumers will increasingly be purchasing PHI because it provides a means to pay for level of healthcare services they need," said Kurt Karl, Swiss Re's chief economist.

PHI also offers consumers more choice with respect to place, type and level of treatment, and with certain freedom to choose how to use the benefits received, for instance to cover treatment costs or perhaps as income replacement. In this way, it can supplement and/or complement public sector health services by helping consumers pay for treatments not covered by or available from state-sponsored schemes.

For governments, PHI has the potential to be a main channel of healthcare expenditure. In 2012, PHI covered less than 10 per cent of total healthcare spending in the main emerging markets.

On the supply side, PHI can bring innovation across the value chain in healthcare, including product development, sales and distribution, underwriting, claims, payment systems and customer services, leading to better services at lower cost.

Growth of PHI products

There are two main types of PHI product. The first is reimbursement type with which the insured is paid back the costs incurred in hospital and other treatments. The second are fixed benefit products, whereby the insured receives a lump sum at the onset of specific conditions. Fixed-benefit products include critical illness, disability income and hospital cash insurance.

Both product types are showing strong growth in the emerging markets. Premiums from reimbursement products grew by an estimated 11.2 per cent in real annual terms between 2003 and 2013. They are forecast to rise on average by 9.6 per cent per year to 2020, three times the rate of global premium growth in this segment.

The premium data on fixed-benefit products in the emerging markets is scarce, but expert interviews conducted for the study suggest that demand for fixed-benefit PHI products is also growing rapidly.

PHI provides consumers financial protection against future care related expenses at an affordable premium, relieving the burden of large one-off hits to private savings

In sub-Saharan Africa, private out-of-pocket payments from household savings are a main component of total healthcare spending. The PHI sector remains small, however micro insurance is expected to become a main channel of healthcare expenditure in many of the region's markets. ■


Your
in-depth
knowledge
+
Our
risk
assessment
=
His
quality of life
Swiss Re
Who will provide the healthcare that our ageing populations need, and the quality of life they expect? You know the issues better than the back of your own, elegantly ageing hand. And so do we. For example, right now in the US we're working with clients to combine their expert market knowledge with our risk assessment capabilities. The result? Affordable private insurance that will not only provide retirees with comprehensive medical cover for the rest of their lives – but peace of mind for everyone concerned. Especially him. We're smarter together.
swissre.com

Angola's model of financial transparency

Assessing FSDEA's position as one of the highest rated sovereign wealth funds in the world

Angola-based sovereign wealth fund Fundo Soberano de Angola (FSDEA) is gradually diversifying its investment portfolio across a number of industries and asset classes in accordance with its investment policy and guidelines. By pursuing investments that generate long-term and socially-enhancing financial returns, FSDEA is promoting Angola's social and economic development and generating wealth for its people. FSDEA was acknowledged recently as a transparent fund by the Linaburg-Maduell Transparency Index, which is administered by the Sovereign Wealth Fund Institute (SWFI).

The Linaburg-Maduell Transparency Index is an internationally recognised method of rating the transparency of sovereign wealth funds around the world.

Ranked for structure, rated for operations

SWFI's Q4 transparency index ratings for 2014 confirm that FSDEA attained eight out of a total of 10 points, a ranking that distinguishes the company's structure and operations as transparent, based on adherence to the key principles of sovereign wealth fund management. These best practices were adopted by the firm at its inception in October 2012.

José Filomeno dos Santos, chairman of FSDEA, said, "The positive Linaburg-Maduell Transparency Index rating reaffirms that the FSDEA is committed to applying the generally accepted principles and best practices recommended by the Santiago Principles in all aspects of its governance and activities. The rating represents another important accomplishment by the Angola and is truly a testament to the FSDEA's commitment to accountability and service efficiency to the current and future generations of Angolans."

A step forward

FSDEA marked a milestone in its social charter initiative recently as 46 scholarship programme students graduated as future leaders of Angola following six months of study at the Zurich University of Applied Sciences (ZHAW) in Switzerland. Hosted by FSDEA in Luanda, the graduation ceremony marks a milestone in the firm's commitment to capacity building in the country.

Daniel Seelhofer, vice-dean of the ZHAW School of Management and Law, commented, "This course has provided these young Angolans with an excellent business education that will undoubtedly act as a catalyst in their careers. As a leading Swiss university with a strong focus on practice-oriented learning in emerging markets, it has been fantastic to see these students take hold of this opportunity. As a result, we are confident they will play an integral role in the future development of business in Angola."

The 'Future Leaders of Angola' initiative is a part of the FSDEA's social charter programme.

In November 2008, Angola's President José Eduardo dos Santos announced the establishment of a special commission to build the foundations for a new sovereign wealth fund (SWF) to promote growth, prosperity and social and economic development in the country

However, in addition to investing in commercial projects in the infrastructure sector, the firm is further developing an exclusive programme to promote more initiatives in the fields of vocational training and access to healthcare services, energy and water, wherever the public distribution networks are not available.

FSDEA is also supporting the construction of the Academia de Gestão da Hospitalidade Angolana, located in the province of Benguela. Building work began in December 2014. The FSDEA has collaborated with Lausanne Hospitality Consulting (LHC), Swiss knowledge development and management advisory company, and the consulting and executive education division of Ecole hôtelière de Lausanne (EHL) to create EHL accredited hospitality courses at the academy in Benguela.

Santos added, "The main objective of the Academia de Gestão da Hospitalidade Angolana is to provide leading training in this sector across our continent. EHL is one of the best known hospitality schools globally and we are, therefore, very pleased that youth from Angola and in the continent will be able to benefit from their renowned expertise and know-how."

Guglielmo L. Brentel, member of the board of governors at Ecole hôtelière de Lausanne, noted that the hospitality sector represents great employment opportunities for African youth. As a rapidly growing African economy, political stability and an abundant availability of natural resources have fuelled investments in all leading industry sectors including the hospitality industry.

Ecole hôtelière de Lausanne's curriculum will offer what is regarded as amongst the best in class training together with the Swiss hospitality values while incorporating Africa's unique customs and culture, Brentel concluded. ■

'Renew and new' way forward for banks in Africa

The continent's growing opportunities mean an increased focus on banking modernisation. 'Renew and new' is the way forward for banks and Finacle is at the centre of this strategy, says global head Michael Reh

Michael Reh, SVP and global head at Infosys Finacle

As the leader of Infosys Finacle, what trends do you see in the financial industry?

At Infosys Finacle, we have the privilege of working with banks in 84 countries. Across these markets, I see four forces that are reshaping banking, faster than ever.

The first driving force is the rapidly evolving customer preferences and demands. Today, banks are dealing with the most informed, connected and sophisticated customer in history. The segment-of-one is clearly emerging. Progressive banks are responding to this by making their business truly customer specific and are aiming to delight customers with contextual products and services. To succeed, banks need to offer fully personalised services. Big data analytics will play a big role. Banks would need to manage all the three dimensions of big data, the three Vs — volume, variety and velocity. Effective usage of data will empower banks with enhanced customer insights and better decision making.

The next key driving force is clearly the rapid evolution of technology, most visible across mobility, big data, social, artificial intelligence, Internet of Things (IoT) and cloud. Mobility is currently the most important theme for banks, closely followed by big data and social channels. These technologies are disrupting the way consumers interact with banks and the way businesses are run. Banks that effectively use new technologies to better understand and serve their customers will emerge as leaders in the industry and continue to gain a competitive advantage. These technologies will also disrupt the traditional business models and lower the entry barriers for new competition. And this brings me to my next observation on key trends – Changing Competitive Landscape.

Today's banking landscape has not only grown fiercely competitive, but also developed facets that never existed earlier. One of these is the entry of non-banking players, especially from the tech, retail and telecom space, riding on nimble, cost efficient business models. In our recent research, 45 per cent of the banks admitted the threat from tech companies such as Google, Apple and Facebook as high. To address this, traditional banks need a superior capacity for innovation — bringing innovations to market faster and continuously. Banks also need to develop value-based partnerships with other ecosystem players to offer greater value to their customers.

The last critical driving force is continued pressures on margins and profitability, compounded by increased regulatory oversight. The provisioning of larger capital and liquidity is placing great strain on banks' balance sheets. It is on top of cost inflating consumer protection regulations. To maximise revenue and reduce operating costs, banks recognise that continuous innovation is the key to success. In 2014, 61 per cent of banks in our research indicated they have an innovation strategy, a significant increase from 37 per cent in 2009.

These forces are reshaping business of every organisation. To me, the dual strategy of 'New and Renew' will be critical in this era. While banks need new capabilities to help their businesses grow in new ways, they also need to renew their existing systems, opening them up to benefits of mobility, analytics, cloud computing and connected systems. At Finacle, we see this as a great opportunity to help banks renew the core of their business as well as to expand into new frontiers.

What's your outlook for the banking business in 2015? What are banks seeking currently?

With economic growth expected to improve, expectedly banks across the globe will look to maximise revenue generation opportunities. The focus, of course, is clearly on enhancing return on equity by boosting profits and reducing costs. Core to this will be to make business truly customer specific and create opportunities for deeper, more valuable engagements.

Banks are also cognizant of the importance of being a first mover — or at least a fast follower — in leveraging modern technologies towards the above goals. However, in most cases, the severe complexity of their operations and existing legacy applications is impeding their march. In many cases nearly 80 per cent of annual IT budgets are spent on simply supporting existing business operations and enabling organic growth, leaving little for business transformation for the creation of new revenue streams.

However, this issue is clearly getting the top attention now. Banks are looking to renew their existing platforms and leverage modern technology to generate new revenue sources and accelerate profitable growth. Everyone is keen to move investments from the 'keep the lights on' to 'driving and adopting innovations'. We are collaborating closely with our clients in this journey.

What are your immediate priorities in taking on the new role as Global Head of Finacle? Where do you see Finacle in the next five years?

At Finacle, we have nurtured a very robust banking platform. Today, we have installations in 84 countries. Our solutions are serving over 450mn customers, which is equivalent to 18 per cent of world's banked adult population. Finacle is proven to be the most scalable core banking platform in the industry today and is consistently rated as a leader in the industry. Most importantly, assessment of top 1000 world banks reveals that banks powered by Finacle enjoy 50 per cent higher returns on assets, 30 per cent higher returns on capital, and 8.1 per cent points lesser costs to income than others.

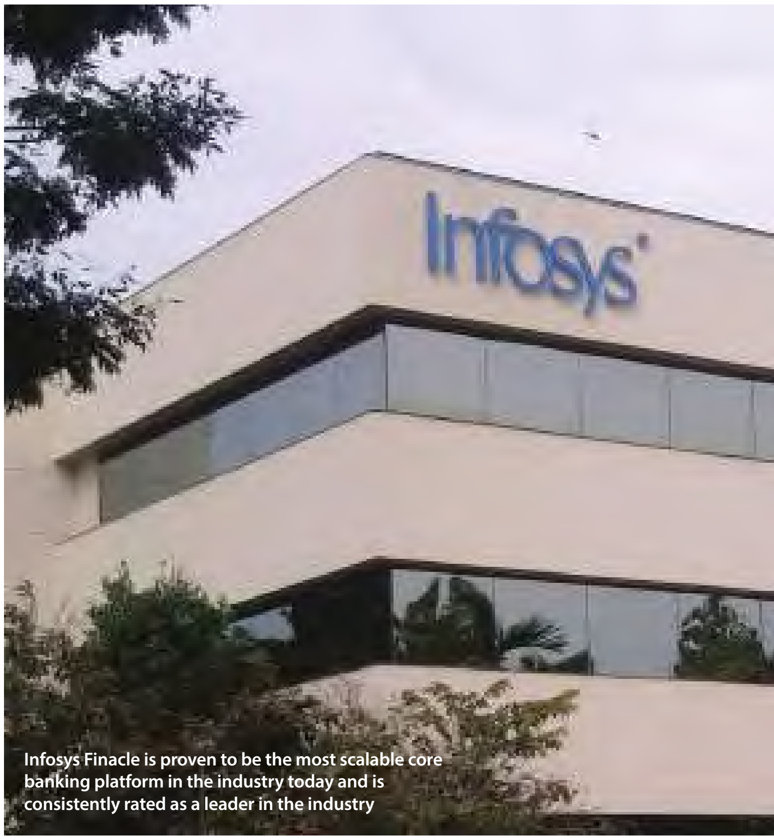
> "Our solutions are serving over 450mn customers, which is equivalent to 18 per cent of world's banked adult population

My priorities are to build upon Finacle's current strengths and enrich it further by leveraging latest technologies in the areas of mobility, advanced analytics, social, cloud, artificial intelligence, wearables and digital commerce. We are making industry-leading investments in R&D to help our clients refresh their business models leveraging latest technologies. We have a clearly defined 2020 strategy. Our pursuit is to continuously enrich and enhance Finacle to make it the best banking platform the world has even seen. We are committed to ensure Finacle and our clients stay ahead of the curve.

What are the key technology requirements for African banks today?

During last year, the African economy was one of the fastest growing economic regions in the world. As per World Bank, regional GDP growth is projected to pick up to 5.1 per cent by 2017, lifted by infrastructure investment, increased agriculture production, and buoyant services. Retail banking in sub-Saharan Africa is estimated to grow at a compound annual rate of 15 per cent, putting banks across Africa on the cusp of growth.

Many large and mid-tier banks aspire for expansion across the continent, either organically or through acquisitions or both. Mobile offerings continue to be a key driver of innovation and growth. However, lack of adequate channel integration can compromise the industry's ability to deliver seamless experience, which is sparking a demand for multichannel capabilities. The focus on leveraging latest technologies to reach out to under banked and unbaked segment remains a key priority. In select markets, banks are looking at systems for trade finance and Islamic banking solutions to create new revenue streams. Besides, banks are also looking at business intelligence and customer analytics to differentiate their offerings and to expand market share.



Infosys Finacle is proven to be the most scalable core banking platform in the industry today and is consistently rated as a leader in the industry

A significant number of African banks are in the process of renewing their technology landscape to be agile and meet the emergent demands. Broadly, the multinational banks are looking to overhaul technology infrastructure and achieve standardization across countries. The consolidation of systems and processes is a key priority to improve operational efficiency and enhance control over their operations. Mid-size banks seek flexible and scalable platform that enhances their competitive edge to support their growth ambitions, apart from augmenting digital channel banking capabilities. The smaller banks, with limited resources seek to limit both capital and operating expenses by leveraging cloud based deployments. Along with economic growth, central banks across the continent are focused on policies for enhancing financial inclusion. This will require banks to enhance their reach and bring the vast unbanked and under-banked population into the banking institutional. Technology will play a pivotal role in this endeavour.

Where does Africa figure in Finacle's global plans? What is your approach in the Africa market?

Africa is certainly one of the important regions for Infosys Finacle. Today, it accounts for over 20 per cent of Finacle's global customer base. We have a presence across 18 countries in the continent. With economic activities escalating across multiple countries, the financial system needs to keep pace, by leveraging modern technology. We see this as a great opportunity.

We have been investing to enhance our regional presence and have localised our solutions to meet native requirements. We have also been developing a robust ecosystem of empowered partners to strengthen our capabilities and provide full range of services and support to our customers in the market. Over the years, we have consistently added new clients and won multiple new projects. We are working with many leading banks in the region such as Standard Bank, Equity Bank and United Bank of Africa and First Bank of Nigeria, among many others. We are confident that the region will continue to propel our growth and we continue to be the preferred partner to the financial institutions here. ■

The potential for passive strategies

The current debate surrounding investment strategies, and the specific focus on exchange-traded funds

I read the debate on *Moneyweb* recently around costs between index tracking Unit Trusts vs ETFs with some dismay. I was dismayed because the debate served no real purpose other than to muddy the waters and distract one from the real issue:

South African Investors are under-invested in passive strategies.

The strange case of SA asset management

Passive strategies only make up a small percentage of assets under management in the South African savings market. To the informed, this really should seem bizarre. These investments are pro-consumer, fair, diversified, low cost, transparent and backed up by some of the greatest investment minds in the world, including Fama, Sharpe, Bogle and even Buffet.

We would argue that index investments should form a greater part (if not the majority) of portfolio construction. Within Grindrod's passive business, GTrax, we promote the concept of Core and Satellite investing wherein index investing should be at the core of any investment portfolio.

It is pleasing to note that South African investors are slowly making the transition. However, I often come across emotional arguments put to me that our market is somehow different and that our active managers know more than the market. Not only is this mathematically difficult to support - ask William Sharpe - but active managers don't have a crystal ball and are indeed fallible. The bottom line is that our statistics read like most other global markets. Over any prolonged period most active fund managers under perform their benchmark - certainly, those of any major size.

Different, but the same

So what of exchange traded funds and that structure specifically? Like I say, the debate between ETFs vs. Unit Trust index funds really is quite academic, after all they are mostly the same legal entity - one is just listed and the other is not.

Vanguard, the firm which pioneered the first tracker mutual fund in the 1970s, is now the third largest ETF issuer in the world and continues to offer both product sets. Just last week, one of the other major US money managers, Legg Mason announced that it would also be entering the ETF market (albeit in a different capacity).

Globally the exchange traded funds market is booming. PwC predicts that the global ETF market by 2020 will be US$5 trillion – it is already > US$2.5 trillion with 3,169 products listed. Despite being 25 years old, ETFs are still relatively new, particularly in SA, and it is therefore not surprising that many systems and investment platforms are not quite ready for them. This has the effect that some of the efficiencies that exist at a product level are sometimes lost elsewhere in the value chain.

The evolution of trading innovation

This will change. However, software innovation is not just challenging the taxi industry (eg Uber) or the hospitality industry (eg AirBnB), but the money management industry, too. As investment or advice software evolves, our prediction is that ETFs will form a major part of the asset allocation. This is already the trend overseas when looking at the "robo advisor" market.

ETFs are safe and they are undeniably low cost. Their total expense ratios (TERs) are amongst the very lowest in the collective investment scheme (CIS) industry and as I say, I am reluctant to add fuel to the debate other than to make two significant points of clarity which were omitted or perhaps not understood by the ETF protagonists:

1) The bid/offer spread

The gap between the level a seller is prepared sell at and the level an investor is willing to buy at is at the heart of any robust market (whether haggling at a Turkish market over carpets or trading on the formal exchange) eventually the gap is narrowed until a deal is struck. At the moment, most of the trade in the SA ETF market is with the market maker who is appointed to ensure liquidity in the ETF and a fair bid/offer around the Net Asset Value. Over time though more security holders will trade with each other – in this instance, the spread could benefit an investor.

2) When creating or liquidating units, ETFs operate in a fundamentally different way.

Investment costs and flows

As an ETF fund expands or shrinks (via creations or redemptions), the costs involved in the buying or selling of the underlying basket of securities is for that investor's account and not the collective. These also tend to be less frequent and at a larger size, which is beneficial. However, within a unit trust these costs are borne collectively by all unit holders. So, if you are an existing unit holder in a unit trust and another investor invests, you subsidise the brokerage cost involved when the fund buys new securities with those new investment flows.

So one could say the trading costs in the ETF environment are more overt, in the unit trust environment the costs are still there but they come through in a reduction in the net asset value. ASISA is set to bring out a new reporting convention which seeks to highlight the costs incurred at a securities trading level within a portfolio. To date these costs aren't included in total expense ratios.

Grindrod offers both unit trusts (via our asset management business: Grindrod Asset Management), these are mainly actively managed strategies which are outcomes focused, and ETFs (via GTrax our passive business). Our passive business is mainly focused on ETFs - for now anyway. ■

Gareth Stobie, head of capital markets at Grindrod Bank

Today's digital innovators

Developers participate in a financial technology event using Bluemix, IBM's digital innovation platform, to create and enhance banking solutions

Financial service provider Citi and software giant IBM are collaborating to work with developers and build the next generation of financial technology (FinTech) through the Citi Mobile Challenge.

Citi Mobile Challenge is a global virtual competition that launched in 2014, first in Latin America and then in the USA to bring together the most innovative developers and leading technology sponsors to build a unique, global developer ecosystem.

During the challenge IBM will offer mentorship tutorials and access to Bluemix, which is IBM's digital innovation platform to help developers build, test and deploy their FinTech solutions.

Competing virtually

Through the challenge, Citi has worked with more than 165,000 developers across six continents in 62 countries. From the inaugural challenges, Citi has selected 23 top innovations and is working with several of the teams to bring solutions to market. Citi also launched the next Mobile Challenge in Europe, the Middle East and Africa.

Heather Cox, chief client experience, digital and marketing officer for global consumer banking at Citi, said, "IBM's recognition that the Citi Mobile Challenge is fostering the development of the next generation of FinTech solutions serves as great validation of our efforts to accelerate and lead digital innovation. More importantly, the platform of development tools IBM will make available to challenge participants will go a long way towards helping them turn their creative ideas into innovative realities.

Sandy Carter, general manager of cloud ecosystems at Citi added that the banking group and IBM collaboration represents a unique opportunity for developers to create innovative financial services solutions. "The IBM Cloud Platform and industry APIs enable developers to quickly innovate mobile solutions for their personal banking clients offering them new services on their mobile devices like never before," he noted.

The 2015 Challenge participants demonstrate their concepts at events in Nairobi, Jerusalem, Warsaw and London. A panel of industry experts and financial technology leaders will evaluate the solutions at each event.

"Finalists compete for an opportunity to take their technologies into production with Citi's support, plus a share of US$100,000 in cash awards and a suite of services from Citi Mobile Challenge sponsors," added the banking group.

Through the collaboration, Citi Mobile Challenge participants will be offered access to Bluemix to help them build, test and deploy the next generation of FinTech solutions.

Bluemix runs on SoftLayer cloud infrastructure and combines the strength of IBM's middleware software with tools from IBM's partner ecosystem to offer DevOps in the cloud. With access to services and APIs from across the tech industry - including tools in categories such as Watson, open source and third-party tools including services for social, mobile, security and the Internet of Things (IoT) - Bluemix helps developers speed application deployment from months to minutes.

Through the collaboration, Citi Mobile Challenge participants will be offered access to Bluemix to help them build, test and deploy the next generation of FinTech solutions. For example, leveraging a mix of mobile, security and analytics services available through Bluemix, developers could build an application that privately analyses a customer's payment history and alerts the user to potential fraudulent purchases, automatically. Additionally, Citi will host its Mobile Challenge APIs on SoftLayer's global cloud infrastructure. For participants who choose to build applications on Bluemix, IBM will work side-by-side with them, helping them master cloud-based development with face-to-face and virtual product demonstrations, mobile app design guidance, consulting and coding assistance.

In addition to awards available from Citi, IBM will also award the Most Innovative use of Bluemix to entrepreneurs qualifying for the IBM Global Entrepreneur Cloud programme, who will be eligible for as many as 80 hours of technical support and assistance over six months. ■

UD Trucks, part of the Volvo Group SA launchedits new Quester range in March 2015

South Africa's truck sales to inch up in 2015

The forecast for the truck market remains favourable this year as some macroeconomic factors begin to show signs of improvement

Truck sales in South Africa rose by 2.04 per cent in 2014 compared to 2013, to conclude the year on 31,554 unit sales. The market is expected to continue on the same path in 2015 as during the previous year with sales forecasted to increase by 2.05 per cent.

Rory Schulz, managing director of UD Trucks, said, "I think the local truck market still managed to deliver a satisfactory performance in 2014, especially if one takes all the macro and socio-economic challenges into consideration."

Looking at 2014's performance of the various market segments against that of 2013, medium commercial vehicles (MCVs) declined by 4.86 per cent to 11,021 units. Meanwhile, the heavy commercial vehicle (HCV) segment remained flat with a very slight 0.04 per cent increase in sales to 5,476 units, added Schulz.

Positive but slow growth

Forecast for the truck market in the region remains positive for 2015. The GDP is expected to increase slightly to 2.5 per cent, a downward revision from previous forecasts, while some credit rating downgrades remain a concern.

"Exchange rates remain a problem for the industry, with the effects of ZAR weakness in 2013 and 2014 to be felt higher than inflation product price increases in 2015 by all truck manufacturers. We are also hoping that labour relations will be better after the prolonged industrial action in various segments throughout 2014," said Schulz.

Meanwhile, the gross fixed capital formation (GFCF) index is set to decrease marginally as investment in construction and non-residential buildings will decline, which is an indicator that there will be a decrease in demand for construction-related truck applications.

Inflation is expected to ease due to lower crude prices while no interest rate hikes are expected until the third quarter of the year.

Top sellers

In 2014, Mercedes-Benz remained the top selling commercial vehicle brand in South Africa with a 16.35 per cent share of the market, followed by Isuzu with 12.84 per cent and Hino with 12.77 per cent. UD Trucks, in fourth position overall, managed to increase its market share from 9.96 per cent in 2013 to 10.66 per cent last year. In terms of growth, UD Trucks increased overall sales by 9.29 per cent, outperforming the 2.04 per cent industry average.

In the MCV segment, UD Trucks managed to increase sales of its now discontinued U41 range by 3.96 per cent to 657 units. The last unit of this range was produced in October 2014, with more than 13,000 units sold since its introduction in 1996.

"UD Trucks was also once again the top-performing HCV range in the market with a 23.94 per cent market share. The company's best performing segment was its Quon extra heavy range, which grew by a significant 24.9 per cent compared to 7.68 per cent for the total EHCV market. This performance pushed UD Trucks to the fourth position in the segment, gaining ground from its 8.77 per cent market share in 2013 to 10.12 per cent in 2014," said Schulz.

During 2014, UD Trucks also continued to play a significant role in the export market. The company's total sales in sub-Saharan Africa increased by 44.68 per cent compared to 2013. ■

Forecasts for 2015 (Market analysis: UD Trucks)

Total Market	2013	Forecast 2014	Actual 2014	GROWTH	FORECAST 2015	GROWTH
BUS	1046	1050	1253	19.79%	1403	12%
MCV	11584	12200	11021	-4.86%	10911	-1%
HCV	5474	5800	5476	0.04%	5531	1%
EHCV	12820	13500	13804	7.68%	14356	4%
TOTAL	30924	32550	31554	2.04%	32201	2.05%

UD Trucks	2013	2014	GROWTH	FORECAST 2015	GROWTH
BUS					
MCV	632	657	3.96%		
HCV	1323	1311	-0.91%	1275	-3%
EHCV	1124	1397	24.29%	1430	2%
EXPORT	376	544	44.68%	490	-10%
UD Trucks in 2015					

Upgrading shipping sector in South Africa

The introduction of a new legislation will bring commercial seafaring operations in alignment with AU Charter

The South African government is set to launch an ambitious and extensive overhaul of the nation's shipping legislation, which aligns the legislation with modern practices and the laws of its major trading partners. Shipping and maritime sector companies will need to stay in sync with developments to ensure, firstly that they comply and secondly, that they take advantage of any opportunity that is created.

Stung by countrywide service delivery protests and inspired by the AU 2050 African Maritime Charter, the ruling party launched Operation Phakisa in August 2014. This is modelled on the Malaysian big project quick delivery approach to development. It was designed to take advantage of the economic opportunities that the long coastline and extensive maritime areas offer. The programme saw policymakers and advisers cloistered for six weeks and produce a comprehensive programme of action, which has been endorsed by Cabinet and launched by the government.

From a shipping perspective, the major areas affected are:

- A long overdue redraft of the Merchant Shipping Act.
- The adoption of the Nairobi Wreck Removal Convention to incorporate it into domestic legislation.
- The adoption and incorporation of the Rotterdam Rules to replace the Hague-Visby Rules currently incorporated into the South African Carriage of Goods by Sea Act.
- The drafting of pollution regulations and alignment of all pollution legislation with the latest conventions recently adopted.

A progressive Act

The Merchant Shipping Act and its myriad of associated regulations have been around for some 60 years. The fact that it is woefully out of date and the only reason it has been largely unnoticed because South Africa has so few ships on its national registry. Updating the Act will no doubt bring comfort to ship owners who are considering flagging their vessels in South Africa.

The adoption of the Nairobi Convention and its incorporation into domestic legislation will salvage the regime and cure a number of anomalies that exist in the current Wreck and Salvage Act. In particular, it will require compulsory wreck removal insurance for vessels entering South African waters and claimants' rights of direct recourse against the insurers of a ship. The

The African Union adopted the 2050 Africa Integrated Maritime (AIM) strategy in January 2014 to develop an environmentally sustainable and integrated blue economy across the continent

major beneficiaries will be the taxpayers who will no longer have to foot wreck removal costs incurred by national, provincial and local government where the owners of the wreck simply abandon it and the insurers withdraw cover. This would have assisted in recovering the costs of dealing with the grounding of the MT Phoenix off Ballito and the loss of the MV Seli 1 off Cape Town.

Most of the world's maritime nations apply a version of the 1924 Hague or 1968 Hague-Visby Rules to the carriage of cargoes to and from their countries. Several attempts have been made to update those regimes. All of the carriage regimes constitute a compromise between the interests of the owners of the ships carrying the cargo and owners of the cargo being carried in the ships. Risks are allocated between those two principal parties and those risks are then insured.

The Rotterdam Rules mark the latest in this line of compromises. Whether or not they achieve widespread acceptance will depend on whether they are adopted by the world's major trading nations led by the USA, China and the EU. If South Africa's major trading partners accede to and incorporate the Rotterdam Rules then it is likely that we will do so as well. This will mark a significant change to the Hague-Visby based carriage and limitation regime.

South Africa has made significant progress in recent times in acceding to most of the modern pollution convention. The country has also taken steps to allow South African victims of crude oil pollution to claim directly from a global insurance fund. South Africa pollution legislation is, however, contained in a number of separate laws, which are not all consistent with the international conventions that we are party to. A legislative spring clean needs to be carried out to align all of our domestic legislation with our international obligations.

A significant feature of this programme is not only the sweeping changes that it will bring to some areas and may bring to others but also the tight timeframe. Much of the changes are scheduled to take place by the end of 2015, which means that companies trading in these sectors need to educate themselves about the changing legislative face of South African shipping. ■

— Malcolm Hartwell
director of Norton Rose Fulbright

Turning on turbine power at the bay

ZEST WEG Group's benchmark steam turbine project at Mondi Richards Bay and long-term service commitment

The Zest WEG Group, through subsidiary company Zest Energy and its technology providers, completed a benchmark steam turbo generator set contract at Mondi Richards Bay recently, which now acts as a showcase of the group's value addition, innovation and customer focus.

The original contract was awarded in May 2012 and partially handed over in December 2013, with final handed over in March 2014. This contract was followed by a five-year long-term service agreement (LTSA), which sees Zest Energy as responsible for the overall maintenance of the steam turbo generator set.

"The LTSA has also been linked to availability guarantees on this turbine," Coenraad Vrey, managing director at Zest Energy, said.

A reference installation

The scope of work included the design, manufacture and delivery as well as complete installation and commissioning of the steam turbo generator set and associated equipment. Original equipment manufacturer (OEM) supervision services were also provided during installation and commissioning, with 24/7 on call support for a period of four weeks following handover. The flagship project achieved a number of records: the largest ever steam turbine manufactured by technology provider TGM Turbinas.

The steam turbo generator equipment during installation on-site. All major equipment had already been installed, with the thermal blankets just fitted around the turbine casing and the thermal acoustic hood in the process of being erected

"Not only was this the first project to utilise a combination of a TGM turbine with a WEG EM alternator, it was also a first reference for both equipment manufacturers in South Africa," Vrey said.

"Throughout the execution of this project, the Zest WEG Group has proved its ability to be involved in large scale projects, not only from a standalone product supply perspective, but also from an integrated solutions point of view. This is an important achievement that will drive sustainable growth within the Group," Alastair Gerrard, general manager at Zest Energy, observed.

Key equipment partners

Zest Energy supplied the turbo generator set equipment and took the overall lead on the package, which included steam technology from TGM Turbinas of Brazil and generator technology from WEG Electric Machinery of the United States. Local subcontractor Turbine Generator Services (TGS) undertook the mechanical installation portion of the scope. Bosch Projects was appointed by Mondi as the official Engineering, Procurement and Construction Management (EPCM) contractor on the project.

Mondi already had a 38MW extraction back pressure steam turbine and a 34.3MW extraction condensing steam turbine and required a new 48MW multi extraction condensing steam turbine to take up the additional high pressure steam from the plant at full load. The power generated is used on site with the excess exported to the national grid.

The beginning of 2013 saw the design and engineering phase of the project under full swing, with close scrutiny of the finer design details to ensure that no crucial element had been overlooked. Major long lead items such as the turbine casings and forged rotor shaft had already been delivered to turbine manufacturer TGM Turbinas, while WEG Electric Machinery clocked up similar progress. The Zest Energy project team then had the formidable task of transporting the completely manufactured and assembled pieces of equipment, a process which was completed in August 2013.

Professional rigging sub-contractor Lovemore Brothers, under the supervision of TGS, was tasked with lifting and positioning the equipment in areas with constrained access and onto the reinforced concrete floor of the power house, which was extended off the existing floor and designed specifically to accommodate the heavy payload and vibrational characteristics associated with the operation of such mammoth machinery. A 220 t hydraulic jacking system was ultimately used to position the equipment. Full scale installation commenced after all the equipment was positioned correctly.

Installation was completed successfully towards the end of November 2013. Vrey commented, "As the turbine control system had to integrate and operate with the complete steam management system, we had to optimise the design to ensure proper and safe operation with the rest of the equipment. It was a learning curve for us and the client in terms of developing the control system to ensure that it was a fully integrated and optimised system upon final handover."

Gerrard added, "To install a complex system into an existing system that is equally complex to begin with is not an easy task. With Zest Energy's experience in electrical infrastructure, substations and power generation, especially on both standby and continuous power plants, meant we could draw on all this experience and apply it to the Mondi Richards Bay project, with all the electrical integration scope carried out in house, making us unique in the marketplace."


POWERLINK
Power Systems
YOUR PARTNER
FOR POWER
Powerlink UK manufactures disel generators, both open type and soundproof, here in the UK. We serve the world market, covering a power range from 10KVA - 2250KVA. Through our worldwide distributor network, we focus predominantley on the Middle East, European and African markets. We manufacture, both per order and stock units which gives us the best lead times. Please contact our dedicated team based in Leeds, United Kingdom for more information.
powerlinkworld.com
POWERLINK
Vickers Building, Hurricane Close, Sherburn In Elmet, Leeds, LS25 6PB, U.K
Tel: +44 (0) 1977 689 100
Fax: +44 (0) 1977 681 990
Email: Info.uk@powerlinkworld.com

More power to Mozambican miners

APR Energy uses diesel power modules to create a custom-configured power plant to support Vale's operation at Moatize

Located in Southeast Africa, Mozambique has continued to experience real growth of more than six per cent per year over the past decade, with projected growth to continue through 2017. Much of this economic growth has been stimulated by foreign investment in the mining and oil and gas industries. Vale Moçambique Limitada, a subsidiary of Vale, listed as the second-largest mining company in the world, needed a reliable source of backup power for the construction phase of its mining operation in the province of Tete, Mozambique. The interim power solution required transportable generating units and rapid mobilisation, ultimately leading to a seamless, uninterrupted supply of power to cover peak demand.


A stacker at work in the Moatize stocking yard (Photo: Marcelo Coelho/Vale)

Constructing and configuring for coal

The Moatize Mine in Mozambique has been producing coal since July 2011, and represents Vale's biggest investment within the segment.

One of its biggest challenges in Moatize, Mozambique, is logistics. Vale has invested in two African railroads that connect to ports – Sena and Nacala Corridor – in order to transport the mine's output - partnering with, for example, Mitsui for investment into the Nacala Logistic Corridor. However, power is also a huge issue, and Vale also required additional capacity during the commissioning phase of the Moatize Coal Project to supplement supply from the local grid. A reliable, turnkey source of backup power was necessary to ensure constant power availability and avoid costly downtime. The project needed to be successfully implemented within a strict schedule whilst operating in a very challenging environment. The plant would serve to fulfill demand requirements until Vale could construct a large coal-fired power station, which would provide all on-site power.

Upon its selection for the project, APR Energy worked closely with Vale and local contractors to rapidly mobilise, install, and commission the 10MW turnkey plant. Using diesel-fired power generation modules, APR Energy's project engineers created a customised solution, which included the implementation of a volumetric fuel measurement system and design of a 2km overhead line from the plant to nearby substation. APR configured the plant to operate in base load parallel with the grid, with the capability of instantaneously switching to island mode in the event of grid failure. In addition, APR collaborated with Vale's environment, health, and safety managers to ensure that the installation fully complied with company standards.


A truck transports coal at Moatize (Photo: Marcelo Coelho/Vale)

Outcome

APR Energy's power generation units provided reliable, dedicated power to Vale's Moatize Coal Project throughout the critical commissioning phase of the mine site. APR Energy's site engineers worked closely with Vale operations staff to develop a training programme for the operation and maintenance of the units. In 2011, after training the local workforce, APR Energy transferred operation of the power plant over to Vale Moçambique Limitada to ensure a reliable and long-term power solution for the mine site. ■

QSK95 Series Generator Sets
More Power. More Performance. More Reliability.

At the core of the QSK95 Series generator sets is our robust, high-speed, 16-cylinder QSK95 engine, the latest innovation in Cummins' diesel engine technology. Rated at up to 3.5 MW (60 Hz) and 3.75 MVA (50 Hz), it is designed specifically for power generation applications, improving on the efficiencies of its 20-cylinder competitors while delivering comparable power output.

The QSK95 Series generator sets are engineered with the highest kilowatt per square foot ratio in their class, resulting in a smaller footprint that achieves a 20 percent improvement in power density. This means you'll need less space in your facility, which lowers installed costs. And, in multiple-generator applications, fewer generators are required to achieve the desired power output, resulting in substantial cost savings.

The Power of More

Cummins Africa ABO

Johannesburg	**Head Office**	**+27 11 589 8400**
Contact:		
Yolanda Yue	Mobile	+27 79 269 8364

www.cumminspowerofmore.com

Are we ready for green buses and trucks?

There are several questions to be asked about the continent's commitment to next-generation energy technologies

With 16 per cent of the world's population and rapid economic development, Africa relies on cars, trucks, vans and buses to keep people and goods moving. Sales of new buses, trucks, and light vehicles in Africa reached nearly three quarters of a million in 2014. The transport sector here, as elsewhere, predominantly relies on petroleum . Road transport accounts for 13 per cent of world CO2 emissions and it is this that is driving interest in developing cleaner alternative fuels . An alternative fuel vehicle has an engine powered by compressed natural gas (CNG) , Liquid petroleum gas (LPG), biofuels or by hybrid power such as electricity and diesel rather than "traditional" petroleum (petrol or diesel). However, the market for such vehicles is still in its infancy, with sales of alternative powered vehicles reaching just over 6.6mn worldwide in 2014. In Africa, alternatively fuelled trucks and buses are being trialled by some fleet operators in the larger cities, in particular, Johannesburg and Edo City.

Gas power

A public demonstration of the power of gas fuelled trucks was seen in the January 2015 Africa Eco Race in which 3rd place went to a gas- powered Russian KAMAZ truck. Natural gas powered vehicles are in operation in both Nigeria and South Africa where the necessary support infrastructure is being expanded. In Nigeria, CNG, mainly composed of methane, is being trialled as a replacement for gasoline in normal combustion engines. Conversion to CNG takes about five hours allowing drivers to switch between petrol and natural gas, reported Nigeria's Petroleum Industry Review July 2014.

In Edo City, local company Green Gas Limited has constructed 50 kilometres of gas mains to link 8 new CNG stations and 3 conversion workshops at a cost of N17bn (US$85mn). This pilot project enables major truck and bus fleet operators such as Coca-Cola, Dangote Group and Edo City Transport Ltd to use CNG. 'We're Veering into Compressed Natural Gas Because of its Huge Potential', reported Thisdaylive in May 2013 quoting Alhaji Sani Dangote, VP Dangote Group. In South Africa, a large number of vehicles are being converted to use LPG, which is said to offer performance comparable to petrol or diesel . Conversion of petrol and diesel engines to LPG takes between one and three days, notes South African distributor of LPG technology. Elsewhere in Africa, the government of Equatorial Guinea recently announced a joint venture with Britain's BG Group to construct infrastructure to support CNG vehicles reported NGVglobal newswire in August 2014. In addition, dedicated alternative fuelled vehicles are reaching the African market. For example, bus manufacturers like MAN SE of Germany are offering a range of new CNG-equipped buses such as the MAN Lion's City and BMW are offering trucks in its Freightliner range with engines equipped with LPG SG2 Applications.

Biofuels

Biofuels , such as biogas, bioethanol and biodiesel have the advantage of zero CO2 emissions. bioethanol, commonly made from sugar cane or sugar beet, is the most widely used biofuel available as pure fuel and in low blends. Swedish truck and bus maker Scania, has three commercially available bioethanol, biogas and biodiesel engines in its range.

Hybrid

Diesel-electric hybrid buses carry on-board batteries to store electrical energy . When demand for power exceeds battery capacity, the diesel engine comes into play. An integral computer ensures that the bus always uses the most efficient source of power – diesel or electricity – according to driving conditions. For fleet operators, the attractions of the hybrid engine are predominantly economic, reducing maintenance as well as fuel consumption by 25 per cent. In addition, they also bring societal benefits since, their emissions and noise are significantly reduced without losing the operating reliability of traditional propulsion engine buses, reports Cape Town's Golden Arrow Bus Services Newsletter April 2013. Despite such advantages and the presence of hybrid buses from Germany's MANSE, Sweden's Volvo and China's Higer at the Johannesburg International Motor Show, take- up has been poor. Whilst sales of alternative fuelled trucks and buses are counted in the hundreds (with no aggregate figures publicly available), fossil fuelled commercial vehicle sales are counted in the hundreds of thousands as seen in Table 1.

What is driving the change to green fuels?

The governments of Nigeria, Kenya and South Africa are taking a serious look at alternative fuels on the grounds of their environmental benefits , lower fuel costs and the need for energy security notes the United Nations, Environmental Program report 'Clean Technology Options For Gef Sustran Projects In East Africa' of 2012. In particular, they

Table 1 Number of New commercial vehicle sales in Africa 2014

Heavy buses	Heavy trucks	Light vehicles	Total vehicle sales in South Africa
3,865	25,643	197,422	545,913

Source: NAAMSA, Navigant Research

noted that alternative fuelled buses and trucks could significantly reduce emissions hazardous to health such as , particulate matter (PM2.5) and oxides of nitrogen (NOx). To support this objective , the African Development Bank, announced its commitment to spend US$175bn in support of sustainable transport projects over the next ten years reported NGVGLOBAL newswire in September 2014.

For bus and fleet operators, there can be operational cost advantages in adopting natural gas powered vehicles (NGVs). "NGVs have lower maintenance costs," states Lovell Emslie, a technical expert at Vaal University of Technology.

"Because natural gas burns so cleanly, it results in less wear and tear on the engine and extends the time between tune-ups and oil changes," reported NGVGLOBAL in November 2014.

For fossil fuel importing countries such as South Africa, where according to the South African Statistical Office 2014, transport consumes 28 per cent of final energy, a switch to alternative fuels could not only help improve the country's balance of payments but also increase energy security.

Obstacles to widespread adoption of Alternative fuels

The main obstacles to the widespread adoption of alternative fuelled vehicles in Africa are the lack of supporting infrastructure, local regulations and the high purchase price of dedicated buses and trucks. Whereas diesel-powered vehicles, have access to a relatively well-established network of garages and filling stations throughout Africa, diesel- electric hybrids require vehicle charging points. Similarly , the use of LPG is reliant on a well-established extensive network of gas refuelling stations as well as a plentiful supply of gas.

Despite these challenges, economically advanced South Africa is leading the way. Lisa Seftel, executive director of transport for Johannesburg, points to the conversion of 30 additional buses to dual- fuel use by the end of 2014 . Moreover, in 2015, 150 new dual fuel buses will be purchased, as part of a joint Germany South African project, to make Johannesburg, Africa's greenest city , reported AllAFRICA in May 2014. For the future, Avedia Energy is investing US$32mn to, not only increase local production of LPG, but also to increase LPG import storage capacity to 8,000MT at the Port of Saldanha in Cape Province reported Ventures Africa in March 2013. Notably, Avedia had already arranged for annual imports of 100 000 MT of LPG from the Bonny River Terminal in Nigeria.

In most African countries, developing the right supporting regulations to encourage the adoption and large scale use of the new fuel technologies is a work in progress. As Simon Wood, Senior Press & Public Relations Officer of Mercedes-Benz Trucks vividly describes, "Africa is a huge continent with heterogeneous commercial vehicle markets and different emission standards, which reach from Euro 0 to Euro III."

He predicts that "diesel will be the main fuel for trucks and buses for a long time" since alternative fuelled vehicles are relatively costly to purchase and maintain as well as requiring appropriate infrastructure. Wood concludes, "we see, at present, no large potential for alternative propulsion technologies for the African continent."

Scott Shepard, research analyst with Navigant Research, agrees - but notes, "Although gasoline and diesel will still account for the majority of vehicle purchases in 2022, EVs, fuel cell vehicles, and natural gas vehicles will present a growing number of buyers with appealing choices."

The road ahead

Europe leads the way in the adoption of alternative fuelled trucks and buses based on environmental and climate concerns and facilitated by deep pockets. In Africa, South Africa is the current market leader in the adoption of alternative fuelled buses and trucks and there is growing interest in Nigeria, Kenya and Equatorial Guinea. To advance from trials, based largely on converting existing vehicle engines to widespread adoption, will require significant investment in infrastructure ranging from a network of electricity charging stations for dual fuel engines, a ready supply of gas , either as LPG or CNG or a steady supply of biofuels. Despite their environmental and health benefits , cost considerations will determine the size of market for future sales of new dedicated alternative fuelled trucks and buses in Africa in preference to fossil-fuelled.

Atlas Copco brings out the QAS 305-500 portable generator for rental

Sustainable productivity solutions provider Atlas Copco now offers both the 60Hz rental generator, the QAS 360-550,and the 50Hz QAS 305-500 range. These new additions to the Atlas Copco Predictable Power offering have an especially small footprint. They are the only 500kVA generators that can be transported side-by-side on a truck, significantly reducing transportation costs.

The QAS 360 and QAS 550 are the initial 60Hz models, available at 230-3ph and 440V-3ph, delivering 360kVA and 550kVA (standby power ratings). The new 50Hz variants, the QAS 305 and QAS 500, are available in 400V-3ph and deliver 305kVA and 500kVA (prime power ratings). The new 50H units are equipped with Scania engines and WEG alternators.

The new models have been designed specifically for the rental industry. Their robust construction and quality components ensure intensive and reliable performance in heavy-duty applications. These include prime power applications in the mining, quarry, oil & gas and construction industries.

Atlas Copco offers the 50Hz QAS 305-500 range to the rental sector

Transportation is another key factor for the rental industry. The Atlas Copco design team optimised the small footprint of the QAS 305-500, reducing its width to 1.2m. This means that two units can be placed side-by-side on a truck - unique for all 500kVA generators on today's market (except emission regulated countries). Each QAS 305-500 has a sealed and certified chassis that protects the soil from contamination. The unit's robust design and 500-hour service interval ensure optimal performance for the lowest total cost of ownership. Large doors and service plates allow for superior accessibility.

In line with the rest of the QAS range, the new models have a long option list, including the Qc4002 paralleling and power management controller. This controller makes it possible to put multiple QAS units of different sizes in parallel for quick installation of a temporary power plant.

"We are looking forward to introducing the QAS 305-500 to the rest of the world," said Júlio Tomé, product marketing manager, Atlas Copco Portable Energy. "In addition to their supreme transportability, which made the 60Hz variants a big hit for the rental market, the new 50Hz QAS 305-500 really offers the complete prime power package. It's a good example of what Predictable Power means to our customer's daily business."

Creating power for crushing and screening

Volvo Penta's partnership with the world's largest independent crushing and screening company, McCloskey International

Volvo Penta recently formed a partnership with the world's largest independent crushing and screening company, McCloskey International, with the effect that McCloskey will install Volvo Penta D8, D11 and D13 engines in its range of mobile jaw, cone and impactor crushers and the Volvo Penta D5 engine will be installed in mobile screeners and trommels.

The development comes as the first McCloskey crusher with a Volvo Penta engine has been lined up for the first time at three industry shows. The high-capacity J45 heavy-duty jaw crusher was on display at the National Heavy Equipment Show in Toronto, Canada; World of Asphalt, in Baltimore in the USA; and at the international Intermat exhibition in Paris, France.

With approximately 4,000 dealers in more than 130 countries, Volvo Penta is a global manufacturer of engines for leisure boats and commercial vessels, as well as industrial applications. The engine programme includes diesel and gasoline engines with power outputs between 10 and 900 horsepower. Volvo Penta is part of the Volvo Group, one of the world's leading manufacturers of heavy trucks, buses and construction equipment.

McCloskey International Limited designs and manufactures innovative crushers, impactors, trommel screeners, vibrating screeners, feeders, stacking conveyors and picking stations. Since 1985, McCloskey International has been exceeding customer expectations with reliable, durable and high performing products. McCloskey equipment is used in aggregate processing, mining and quarry operations, construction and demolition, road building, topsoil and compost production, as well as waste management and recycling operations.

Close contact

Designed and built in Canada and Northern Ireland, McCloskey equipment is sold through a network of dealers worldwide. Working in tandem During the past two years, McCloskey worked closely with Volvo Penta, holding regular meetings and keeping in constant contact not only with Volvo sales managers and engineers but also a business development manager.

"That, for us, was one of Volvo Penta's key selling points," said John O'Neill, vice president of sales and marketing for McCloskey. "We work closely with our customers in the research and development stages of all our products, and Volvo Penta showed the same commitment to listening to our requirements and delivering the right solution."

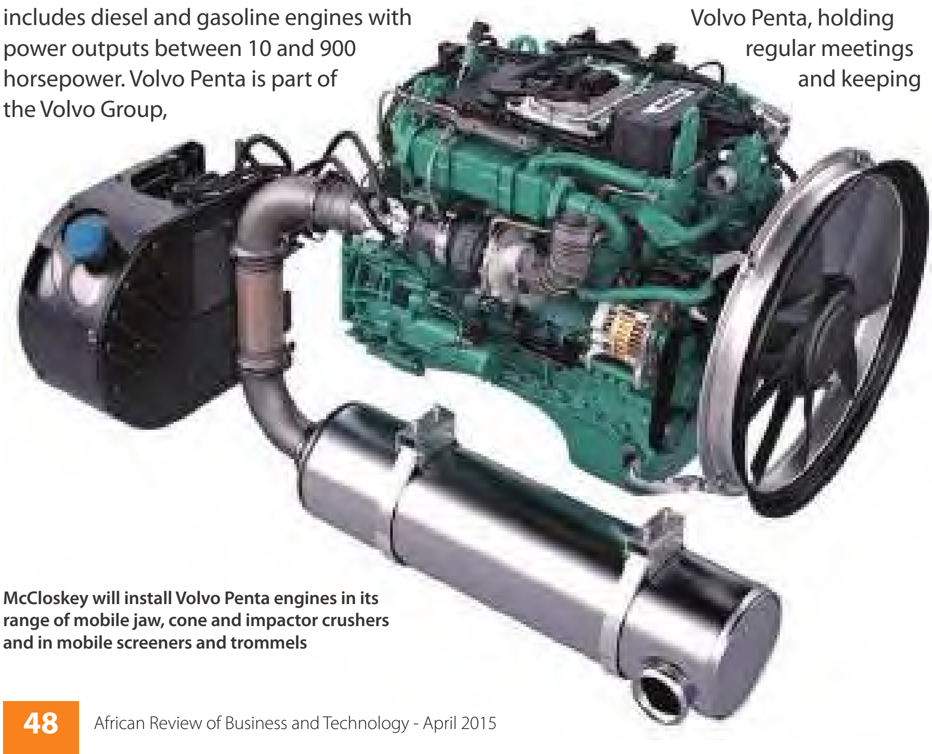
Volvo Penta's team of engineers also worked closely with McCloskey's engineering department, tailoring an engine package to fit McCloskey's unique needs. The supplier also customized its engine assemblies - which include heavy-duty cooling packages - for a perfect fit.

To further demonstrate its versatility and dedication to its customers, Volvo Penta mounted a skid to the bottom of the engine and heavy-duty cooling package so that the engine would slip right into the machine.

"Being attuned to our needs is a key requirement for our partners," O'Neill said. "Volvo Penta made sure the engines were perfectly suited to working in some of the harshest conditions worldwide, from the Arctic Circle to the heat of the outback in Australia."

"Volvo and McCloskey are already two highly complementary businesses: Volvo Penta's sister company Volvo Construction Equipment can often be found working alongside McCloskey machines on job sites," said Shawn Sweet, vice president, industrial sales for Volvo Penta of the Americas. "Volvo Penta was a natural fit and our simple Tier 4 final solution, with no DPF, DOC or regeneration, was also a key factor."

Volvo Penta engines are ideally suited to the power needs and arduous conditions of crushing and screening applications due to their robust design, high torque and excellent power density. ■



McCloskey will install Volvo Penta engines in its range of mobile jaw, cone and impactor crushers and in mobile screeners and trommels

More electricity for northern Mozambique

Aggreko, in partnership with state power utility Electricidade de Moçambique (EDM), has commissioned 11MW of generation capacity in the port city of Nacala, northern Mozambique, and then increased capacity by 7MW, bringing the total capacity of the plant to 18MW. With consistent annual GDP growth of more than seven per cent and a rapidly expanding industrial sector, power demands across Mozambique are increasing exponentially. In its role as the national power utility and system operator in Mozambique, EDM are working to bring high quality electricity by developing transmission and distribution networks.

Critical power for commerce and industry

The strain on power supplies in northern Mozambique has been increased due to recent seasonal flooding that has caused disruption to power networks in a number of Northern provinces.

The additional generation capacity from the Aggreko plant comes on-line at a critical time, helping ensure power supplies are maintained to essential services in Nampula province.

"Nacala is experiencing rapidly growing commercial and industrial activity based around its role as a logistics hub of northern Mozambique. By adding additional generation capacity close to areas of high energy demand, EDM is addressing increased power requirements with fast-track power provision until longer-term sustainable solutions can be deployed," commented Carlos Yum, an executive board member at EDM.

"Aggreko are delighted to once again be working alongside EDM in bringing reliable power to the people of Mozambique," commented James Shepherd, managing director, Aggreko Southern and East Africa. "By delivering this fast-track power solution, we are helping to provide a more consistent and reliable power supply to the people of Nacala while helping to support the economic growth in the northern region." ■

Electricity shortages and power projects

Analysts anticipate significant developments in Africa, but they also expect major challenges

Africa's patchy electricity infrastructure is well known. Both homegrown and international companies frequently cite electricity as one of the major fundamental challenges to doing business. According to the Africa Energy Outlook report, which the IEA published in 2014, over 620mn people living in sub-Saharan Africa (in effect two thirds of the region's population) do not have access to electricity. It is an alarming fact that the typical electricity consumption per capita is not even sufficient to power one modest 50-watt light bulb continuously.

Long term predictions about how this situation might develop are mixed. The bottom line seems to be that total electricity production is likely to improve, along with power infrastructure. Nonetheless, it seems that it may not necessarily be enough to meet rising electricity demands due to rising populations. 950mn people in sub-Saharan Africa should enjoy electricity access by 2040. However 635mn people in sub-Saharan Africa will not have access to electricity by this date. It is estimated that Africa's population will double to 2.4bn people by 2050.

Although the ultimate situation regarding electricity access is likely to remain troubled, there is little doubt that investment in power infrastructure is on the rise. 2015 should be a year of progress for many of the most ambitious power plant projects on the continent.

They include the Ethiopia's plans to build Africa's biggest power plant, which is due to be finished by early 2016. Interestingly, this will be a hydropower plant. The country has already spent 27bn birr (US$1.3bn) on the project, which has been costed at 75.5bn birr. The 1,870 megawatt Gibe III power plant should be game changing in Africa's second most populous country where the current electricity capacity is just 2,000 megawatts. Ethiopia needs this electricity plant. The economy has grown at a typical rate of 9.3 percent over the last four years. The country is now chasing double figure economic growth. Analysts estimate that this will inevitably cause the electricity demand rate to soar by as much as 35% each year.

Ethiopia also plans to generate significant income by selling the excess electricity that it does not consume. The country is likely to target African countries within its own region as potential customers. These include Sudan and Djibouti, two countries which is already does flog some power to. Kenya is also likely to be another lucrative customer. Ethiopia is currently constructing a transmission line to Kenya. Last year Addis Ababa said it was also in discussions with Yemen and South Sudan. Overall Ethiopia could rake in as much as US$2bn a year from exporting its excess electricity production.

Although the dam's construction has experienced many delays, it is expected that the dam could be generating electricity by June and be completely operational by the early months of 2016. The project was at first anticipated to be completed in 2011 after work first started on it in 2008. However, cash shortages and debates over the environmental implications got in the way.

It does seem that progress is being made on the project. Azeb Asnake, the CEO of the Ethiopian Electric Power Corporation said in an interview with Reuters in January that 88 percent of the power plant project was already done.

Ethiopia is also engaged in a larger project on the Nile. It plans to build the 6,000 MW Grand Renaissance Dam. Construction began in 2011 and it is hoped that this huge project will be successfully concluded by 2018.

Progress in Kenya

Meanwhile, Kenya is making progress with its plans to construct three geothermal plants in the Rift Valley. Overall, the project could produce up to 750MW of power. It is anticipated that when the plants first come into operation in 2018 they will be producing 300MW of electricity. This forms part of the Kenyan government's ambitions to improve Kenya's power generation by a further 5000MW by 2017.

The project is widely seen as a necessity rather than a luxury; Kenya's power demand is expected to reach 15,000MW by 2030. In an investment prospectus for 2013-2016, Kenya's Ministry of Energy and Petroleum pledged to improve power generation from wind power by 630MW. In March 2014, Kenya also inked a financing deal for the Lake Turkana Wind Project. The wind farm is being constructed in northeastern Kenya and will be made up of 365 wind turbines and stretch across 40,000 acres to pump out 300MW of electricity. It is hoped that the wind project will be operating at full capacity by 2016.

There were signs of progress with the project as 2014 drew to a close. Danish wind energy company Vestas announced that it had been called upon to supply the 365 V52-850kW turbines needed for the Lake Turkana Wind Power project.

"We are very pleased to continue this great journey with Vestas as we progress toward our aim of reducing Kenya's need for hydro and expensive fossil fuel-based power generation," said the Chairman of Lake Turkana Wind Power Ltd, Mugo Kibati in a statement. "We want to ensure that Kenya has access to low and consistent power prices, and with the Lake Turkana Wind Power Project, we can do that."

Big projects big challenges

Nonetheless, 2015 is likely to be a year full of challenges for ambitious power generation projects such as these. Debate over the environmental implications of Ethiopia's dam-based power projects shows little sign of abating. Some hydrologists have argued that Ethiopia's Gibe 111 dam could cause flow to

Lake Turkana in neighbouring Kenya to plummet by as much as 70 percent. The end result? Annihilation of entire ecosystems and a massive fall in the lake's water levels. This is turn has serious implications of for the tens of thousands of people who rely on the lake for their survival.

Egypt is also likely to maintain its opposition to the Grand Renaissance Dam. Ethiopia fears that the construction of the dam will have a negative impact on its share of water from the Nile river. In January, Egypt opposed proposals for the dam's high storage capacity, pointing to studies that seem to corroborate the argument that it will have implications for Egypt's national water security.

Financing questions and Power Africa

Questions over financing of ambitious power infrastructure projects will continue to loom large in 2015, particularly in relation to the most ambitious plans. One solution that is likely to get a fair share of coverage is Power Africa. It is going to continue to be an important driver of international funding and investment for Africa's power projects.

Barack Obama first launched Power Africa in 2013. When it was introduced, the aim of Power Africa was to boost Africa's power generation capacity by 10,000MW so that 20mn additional businesses and households would have access to electricity. However, last year Obama tripled this initial target to 30,000MW to connect a minimum of 60mn businesses and households to reliable electricity sources. The grant assistance program of Power Africa also enjoyed a further capital injection of US$300mn.

Overall private sector investment under the umbrella of Power Africa has increased to more than US$20bn. Some of the key participants in the project are General Electric and the African investment firm Heirs Holdings. A number of international and government organisations are also providing financing under the Power Africa projects. They include the Government of Sweden, the Overseas Private Investment Corporation, the African Development Bank and the World Bank.

The projects that Power Africa is currently helping to fund include the Lake Turkana Wind Power Project, the Corbetti Geothermal Power Plant in Ethiopia and the Kiwira River Hydro Project that is ongoing in Tanzania.

South Africa in the headlines again

Meanwhile, prospects for South Africa's electricity situation are likely to be difficult this year. Troubles with the power supply in 2015 could well be reminiscent of the frequent blackouts that the country suffered in 2008. This is because there is little end in sight to the troubles that the state power producer is experiencing. Observers argue that the crisis is the inevitable outcome of years of poor planning and inadequate investment. Eskom is responsible for the production of over 95 percent of the country's electricity but the company has built no new plants since South Africa hosted the 2010 football World Cup. Furthermore its plant availability is dragging around the 75 percent mark, compared with 85 percent a decade ago.

Eskom's infrastructure is under severe strain at the moment, too. Perhaps most high profile was the collapse of the Majuba plant in November. The plant's output has severely decreased because staff are not forced to transport coal from a stockyard via truck before offloading it onto mobile conveyors.

There is a silver lining that we are likely to hear more about this year: Eskom is currently constructing two coal plants that it is hoped will produce 9,600MW. However, the successful completion of the project has been pushed back by over two years, in part due to strikes. Nonetheless, one of these, called Medupi, should be ready in 2015. ■

New products from Doosan Portable Power

At Intermat 2015 in Paris, France, the Doosan Portable Power display showcases a number of important new products, including the redesigned and Stage IIIA compliant G40-IIIA and G60-IIIA generators, the new Stage IIIA compliant 7/53 and 7/125-10/110 Stage IIIB Dual Mode portable compressors models.

New generator platform

Providing 40kVA and 60kVA prime power, respectively, the G40-IIIA and G60-IIIA models are part of the new platform of generators from Doosan and share a common design with the G80-IIIA to G200-IIIA models launched over the last two years. The Yanmar-powered G40-IIIA and John Deere-powered G60-IIIA generators will both be available with electronic speed regulation (optional on the G60-IIIA model) providing, in addition to stability and better load take-over capabilities, a flexible dual frequency 50/60Hz working mode (optional for both models).

Like all Doosan generators, the new G40-IIIA and G60-IIIA models offer robustness and reliability, high performance and a wide choice of features to meet the needs of every rental and temporary power application. The output performance stability of the generators is ensured by an optimised powertrain featuring a combination of the new Stage IIIA engines and Leroy Somer AREP alternators.

New stage IIIA portable compressor

The new 7/53 portable compressor is a 36kW Stage IIIA compliant replacement for the 7/51 model and has been redesigned to allow Doosan to keep this model in the Stage IIIA category, avoiding the need to transition to meet Stage IIIB regulations. The new features on the 7/53 portable compressor include forklift slots and a new bunded base option.
The 7/53 compressor has an intuitive, simple key-start sequence, ideal for rental companies because of the reduced risk of machine abuse by untrained operators. The user-friendly control panel offers an open layout of instruments and warning indicators. A folding lift bail reduces the risk of theft by keeping the lifting eye within the compressor enclosure. A built-in toolbox compartment offers ample storage space.

DPP introduces new generators at Intermat

New 'Dual Mode' feature

The 7/125-10/110 Stage IIIB model has a new 'Dual Mode' feature as standard, with a choice of two pressure and flow ratings on the same machine. By pushing a button on the keypad, the operator can switch between 'LO' (low pressure mode: rated pressure 6.9 bar/free air delivery 12m^3/min) and 'HI' (high pressure mode: rated pressure 10.3 bar/free air delivery 10.6m^3/min). This 'two-for-one' solution replaces the need to choose between different models as used to happen in the past and offers much greater operational flexibility from the same machine.
The new 7/125-10/110 portable compressor is powered by the Stage IIIB Cummins QSB 4.5 water-cooled diesel engine providing 97kW of power and meeting emission regulations through the use of cooled exhaust gas recirculation (EGR) and diesel oxidation catalyst (DOC) after-treatment technologies, without the need for a DPF.


RR RENTAL RANGE
ADAPTED
TO BE STRONG,
VERSATILE AND RELIABLE
STAGE IIIA
RENTAL RANGE
INMESOL
The INMESOL RENTAL RANGE provides ample and reliable power where and when it´s needed.
INMESOL
RR RENTAL RANGE
www.inmesol.com

The energy cost of connectivity

Data centres are the world's greatest energy guzzlers, consuming up to three per cent of all global energy production

Data centres have for years been known to be excessive consumers of power, consuming up to 3% of all global electricity production, and roughly ten times more per square metre than the average office. Previously, energy efficiency wouldn't necessarily be at the top of an information technology (IT) organisation's priority list, but rising power costs, and an ongoing need for more hardware and equipment as well as booming data consumption is changing the way data centre operators are planning and running their facilities.

Peter Greaves, Aurecon's expertise leader, data & ICT facilities, explained recently why data centres consume so much energy; how design principles can help minimise a data centre's energy needs; dealing with load-shedding; and possible future trends that may help reduce energy consumption.

African Review: As the uptake of data centres increases globally, there are rising concerns around the availability of electricity to support this trend. Why do data centres consume so much energy?

Peter Greaves: Data centres are complex environments that have been created to house IT equipment. Within these, the primary driver of energy consumption is the IT equipment itself. The IT equipment that supports a data centre includes communication systems, storage systems and other IT systems such as processors, server power supplies, network infrastructure and hardware, computers, Uninterrupted Power Supply and connectivity systems.

Most of the energy that is consumed within a data centre needs to pass through various stages of distribution before it can be used by IT systems. This energy is converted to heat, which is why these facilities require a significant amount of cooling.

As server densities continue to rise, cooling systems are under increased pressure in order to keep IT equipment and servers cool enough for them to operate efficiently. If temperatures or the humidity is too high, IT equipment can be damaged and tape media errors can occur.


Peter Greaves, Aurecon's expertise leader, data & ICT facilities

AR: There are a number of opportunities available that can help IT organisations and data centre developers optimise their energy consumption. What do these include?

PG: Examples of these opportunities are the virtualisation and the use of ARM-based processors, which are designed to perform a smaller number of types of computer instructions so that they can operate at a higher speed. This provides outstanding performance at a fraction of the power. The technological development of both these options is making them a viable solution, but they are still outside of the remit of most data centre developers.

Good practical management of data centre space is still a suitable, basic way of reducing energy consumption. Making use of aisle containment systems, installing blanking panels into unused rack slots and providing brushed grommets into raised floor penetrations are all simple, yet effective energy saving methods that can be implemented but they are still forgotten in many smaller facilities.

Implementing aggressive power usage effectiveness (PUE) targets will also drive more energy saving initiatives and improvements within data centres. New facilities will find it easier to implement PUE targets as high efficiency equipment can be selected to reduce parasitic load requirements.

Implementing low PUE targets, such as energy efficient lighting, in existing facilities is also achievable, but it takes more financial backing and careful planning to realise. When equipment needs to be replaced, more energy efficient options can also be chosen, for example.

AR: Cooling systems in data centres seem to be the largest power guzzler. Do you believe that more data centres could be using natural cooling and night cooling opportunities to save energy?

PG: Free cooling opportunities are possible in many locations, including in South Africa, especially if the air temperature that is supplied is in line with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) guidelines (18°C-27°C).


NEW
QS
RANGE
G20QS – G220QS DIESEL GENERATORS
DURABLE CANOPY
All steel, phosphate dipped and pre-treated panels.
Sound power as low as 64dBA at 7m.
PERFORMANCE DRIVEN ALTERNATOR
Digital AVR on all models ensuring excellent control and feedback to load.
300% overload for motor starts as standard – no PMG required.
JCB
G115QS
EFFICIENT ENGINE
Proven JCB engines, fitted in over 200,000 construction machines.
Multiple stage filtration to protect the injection system.
SAFE ELECTRICAL ENCLOSURES
Separate A/C and D/C enclosures for maximum safety.
Range of simple, easy to use control panels to suit any application.

With supply air temperatures of up to 27°C, we need outside air temperatures at 25°C or less in order to get significant benefits from free cooling. Data centre managers then need to decide whether they are going to use direct or indirect free-cooling. I tend to prefer indirect free-cooling via a heat wheel or heat exchanger as outside air contaminants or humidity levels do not restrict the use of free-cooling.

There's definitely more opportunities to use this type of indirect free-cooling in certain areas of South Africa, particularly where the temperature falls below 19°C and the humidity is below 60 RH (relative humidity) for more than 2,500 hours per year.

AR: Is running a data centre at a higher ambient temperature (than has been the norm to date) a practical option to reduce energy consumption that is needed for cooling?

PG: Operators are still concerned about the efficiency of their data centres when they walk into a hot aisle. This perception, however, is gradually changing and people are becoming used to the idea that a hot aisle isn't necessarily a problem.

Warmer data centres do pose a health and safety concern because anyone working in elevated temperatures cannot work for extended periods. Health and safety in warmer data centres can be managed by limiting the need to access the hot aisle, either through use of specific chimney type racks, or arranging all connections and operator works to be located in the cold aisle.

Elevated temperatures need some form of aisle containment in order to achieve optimal efficiency and this can cause problems for code compliances. Installing a sprinkler and gas suppression system can be problematic because enclosed aisles can create an extra layer of infrastructure with the associated costs.

AR: How will load shedding – if it is implemented on an ongoing basis – affect data centres?

PG: Load shedding will drive a greater level of reliance on the backup generator systems that are installed in data centres.

Facility operators will need to carefully manage fuel delivery protocols and facilities that have better supply chain management systems will run less risk once fuel demand ramps up. On-site fuel quantities will be a key asset with longer storage requirements becoming commonplace to deal with any local disruptions.

If load shedding is generally implemented, facilities with cogeneration energy systems will become more viable as they will be able to reduce their cost base substantially in comparison to operators that are running exclusively on diesel supplies.

Older facilities that have standby rated generator systems will need to consider downgrading their generator capacity as they will effectively be running in prime or continuous operational modes, favouring facilities rated to the Uptime Institute (a standardised methodology used by data centres as a way to measure their performance and return on investment) as they will have been designed to cater for this requirement.

AR: Can some activities in a data centre be timed to take place after peak hours?

PG: It is possible for some users to schedule key processing tasks to occur on an overnight cycle, however, this is limited by the business type and probably isn't a workable solution for most operators. Other options to consider include:

- Provision of energy storage systems may provide some ability to defer energy usage to off- peak periods.
- Larger battery strings could provide an alternative to diesel generation; however, continuous deep cycling of batteries will significantly reduce their lifespan, necessitating early change out.
- Use of capacitor banks may be a viable alternative to batteries. These banks could be charged overnight for progressive use throughout the day. As the level gets low, the engines could be kicked in to replace or supplement.
- Cooling storage may be a more viable alternative to reduce the mechanical cooling loads; however, some form of free cooling would probably negate the benefit of this.

AR: As data centres are largely run off UPSs, to what extent could solar power be used to keep the UPSs charged?

PG: A lot of solar panels would be needed to reduce the amount of electricity from the grid

Data Centre Concept Stage BIM

MTN Innovation Centre, South Africa

that most data centres would need. The most likely application is to reduce the demand on the grid by a percentage.

Although solar energy could supply a data centre with energy, it would need to be ramped up to be usable by the UPS. At this time, I would be very hesitant to suggest that this is a potential solution due to the inherent unreliability of solar energy.

Big operators like Google, however, are making use of solar energy by establishing solar generation plants that offset their data centre usage on the grid. The use of small panel arrays coupled with battery storage could be used to reduce the parasitic loads on site that are non-critical such as fuel polishing, engine heaters, office air conditioning and lighting.

AR: How do you think data centre design and development in South Africa will change in the future?

Data centres in South Africa are in the early, exciting stages of development. As such, owners and operators are in an advantageous position to integrate sustainable, and, importantly, cost-effective energy solutions such as wind energy to significantly drive energy costs down.

If we look at what big operators are achieving overseas, then we are in the ideal position to start designing and developing more sustainable facilities. For example, Google's data centre in Hamina, Finland, is aiming to reach its goal of becoming carbon neutral and it recently signed a deal with a wind farm operator in Sweden to power its Finnish facility with wind turbines.

Companies like Google are always looking for a competitive edge. They are looking for smarter solutions in their engineering for a variety of things including data centres, corporate headquarters and research and development facilities. Wind investment is just another competitive solution, but there are many more.

As South African data centres continue to develop, I predict that a growing number of operators will be more willing to tackle sustainability challenges head-on and incorporate more progressive solutions into their data centre designs and development.

The power of product supply with full service

How Mantrac Nigeria's MD Edmund Martin-Lawson makes Caterpillar's power portfolio work for West African homes and business

As the sole authorised Caterpillar dealer in Nigeria, with a long history of operating in the country, beginning in 1945, Mantrac has constantly demonstrated its commitment to improving the Nigerian national infrastructure. Mantrac specialises in the supply of construction equipment to enable project management across a wide variety of industries. It is also a big player in power, holding a third of the country's market for power generation in all forms, from small standby generating sets to large turnkey installations. In interview with *African Review of Business and Technology*, Edmund Martin-Lawson, MD at Mantrac Nigeria, spoke of the company's commitment to the nation, and how its power portfolio keeps businesses moving and makes homes more comfortable.

In business to supply and to serve

Mr Martin-Lawson has vast experience in African commerce, across numerous territories. Before becoming managing director at Mantrac Nigeria in 2012, he was responsible for leadership of the company's Mantrac's operations across East Africa and prior to that elsewhere in West Africa - specifically, addressing the operational requirements of customers in Ghana, and then Kenya, Tanzania and Uganda. He is regarded highly, as an advocate of operational management, core commercial strategies, business and sales development and customer service.

Mr Martin-LawsonMartin-Lawson affirmed Mantrac's commitment to supply power equipment of all sizes for all purposes. He also gave insights into the kind of Nigerian businesses buying power products from the firm. Mantrac is regarded as a partner for power precisely because it is prepared to supply equipment to a single factory as much as an entire community, or to a residence and then to back up supply with service and support from its dealer network of branches in both urban or rural locations. The key for Mr Martin-Lawson is to practice leadership in delivering power plant solutions for the production of reliable, fuel-flexible energy.

Mantrac Nigeria supplies generator sets from 13.5kVa through to 220kVa, and diesel engines with ratings from 54hp to 13,600hp (40-10,000kW). As Mr Martin-Lawson says, "The sky is the limit." Nothing is too large or too complex, too small or too simple. Unlike most power product suppliers, Mantrac Nigeria can provide turnkey services to clients covering all stages of power systems projects - including system design, engineering, testing, installation, commissioning, training, field service, long-term maintenance and repair. Its customers include home-owners, telecommunications companies, hotels, banks, hospitals, road contractors, quarry operators, oil and gas companies, marine companies, and more.

Made to last, made to work

Caterpillar's power products are known for durability and reliability - hence, the current demand for Cat's power systems makes Mantrac the largest player in the Nigerian market. But the quality of product is not all that makes a sale - and Mantrac's Nigerian network of ten dealer outlets are dedicated to customer support; the Lagos dealership in Victoria Island stands out here, with round-the-clock support throughout the week.

Mantrac Nigeria as part of the Mantrac Group, which also holds dealerships in Ghana, Sierra Leone, Kenya, Tanzania, Uganda, Kenya, Iraq, Egypt and large parts of Russia. In all territories it serves, Mantrac works with Caterpillar Finance to arrange an array of finance options through local financial institutions. It also caters to generator set rental customers to meet all jobsite needs. Rental, indeed, is a key offering. Mantrac appeals to the market because its rent newer equipment that is fully-serviced by expert mechanics, so customers can start working right away and can get their requirements for electric power whenever and wherever they are - taking advantage of competitive rates, on-site delivery, and knowledgeable service personnel. ■

Power for service provision at airlines and airports

Mantrac Nigeria has recently completed the FAAN project, which is worth well over US$30mn. The Federal Airports Authority of Nigeria (FAAN) situated in Lagos, is responsible for managing all commercial airports in Nigeria and providing services to both passengers and airlines.

Before now, there was a 30MW power plant (provided by Caterpillar) which had been existing since 1980. Around 2007, a technical crew was setup by Mantrac to visit the site because the plant had dropped in performance as a result of age and wear. This brought about the need for an alternative power supply. Mantrac was awarded the project to provide this alternative power supply.

Mantrac Nigeria has worked with the Federal Airports Authority of Nigeria in Lagos

The project was in four phases and comprised of 6 x 3612 rated 4,500kVA, 11KV generator sets with 15MW step up transformer.

Sub-Sahara: a case for cautious optimism

Africa's notable economic growth story is generating excitement among global investors. The continent that has long been identified with stagnation, poverty and elevated risk is now catching the eyes of entities looking for a fertile land to grow their businesses on. According to a document, titled "Africa at a Crossroads", produced by the Center for Strategic and International Studies, Sub-Saharan economies are expected to achieve growth rates of more than six per cent in the next decade, surpassing the estimated average of any other region in the world.

The onus is now on the Sub-Saharan economies to capitalize on the economic growth at hand. Experts unanimously say that the foremost factor that can further accelerate the growth of the region's economy is infrastructure development. If the regional economy aims to compete with the established and stable markets of other regions, it will need access to reliable and sustainable energy supply, and dependable communications and transportation lines that would allow for smooth and cost-efficient movement of goods and services.

Bringing power to the mining sector

The mining industry is a key contributor to the growth of the Sub-Saharan economy. One of the foremost economic drivers of most of the region's countries, the industry has the potential to attract a significant number of foreign investors, largely owing to the huge amount of resources naturally available in Sub-Saharan countries.

After the large-scale energy shortage in South Africa in 2008, the region's mining sector was compelled to make inroads into self-sufficiency. With the introduction of South Africa's Renewable Energy Independent Power Producer Procurement Programme and other similar programmes in other countries, and the growing popularity and availability of wind turbines and solar panels, mining companies gradually embraced alternative energy generation facilities to support their electricity requirements.

The initiatives of African mining companies to establish local power generation systems are laudable. Wind, solar and thermal energy facilities, however, may encounter operational challenges that may cause its production to recede in certain instances. Without the primary sources of energy, the output of the plants may not be sufficient to supply for the mining operation's electricity needs. The effects of these predicaments to the productivity of the sites may result in huge losses for the companies that have heavily invested in the facilities.

In times when both the permanent large-scale and the local energy supplies are unreliable, mining companies may find merit in tapping the potential of rental power plants. Temporary power plants are capable of providing a viable supply of energy in times when existing electricity generation facilities are challenged by overwhelming demand. Rental generator sets represent supplemental electrical energy sources while the permanent power generation facilities are being constructed, repaired or maintained. Temporary energy systems are cost-effective alternative solutions to seasonal energy insufficiencies, as mining or utility companies will not need to shell out a sizeable initial investment to have them running, as opposed to building permanent power plants that will only be used sparingly.

Owing to the flexibility of its core technology, rental power plants are able to provide electricity as required

Owing to the flexibility of its core technology, rental power plants are able to provide electricity as required by the users. This feature allows customers to ramp up or scale down the supply of power as needed. Due to their modularity, temporary power stations can be transported from a yard wherever in the world to practically anywhere. This attribute can be of particular interest to mining companies, as their operations are usually located in remote areas. By virtue of their plug-and-play configuration, interim power plants can be installed and turned on in a matter of days. During times of interrupted production or emergency cases, rental power stations can immediately restore electricity without considerable latency.

Power is within reach

Investors in the mining industry describe the present situation of the sector as "full of cautious optimism". They are optimistic because despite present energy issues in the industry, mining companies are determined and willing to surmount the impediments to the growth of the industry. On the other hand, investors are not letting their guards down as they would want to see the will of the industry converted into practical programmes.

The mining industry plays a major role in the development and growth of the Sub-Saharan economy. To further encourage the development of the regional economy, the industry needs to resolve energy-related problems that are still hounding its operations. The solutions currently on offer give the industry the power to translate their determination to tangible, sustainable electrification programmes that may restore the full confidence of transformative investors throughout the world. ■

Robert Bagatsing, marketing manager, Altaaqa Global

MTU's new engines at Middle East Electricity

The 2015 Middle East Electricity event held in Dubai, int he UAE, provided the backdrop for the first ever joint presentation by Rolls-Royce of the product portfolio available from MTU Onsite Energy and Bergen Engines - MTU Onsite Energy and Bergen Engines are part of Rolls-Royce Power Systems within the Land & Sea division of Rolls-Royce.. At the event, the company showcased high and medium speed diesel and gas gensets in the 24kWe to 9,400kWe range.

"We see great market potential in the Near and Middle East for our extensive range of power generation products. That is why we have now strengthened our on-site presence with a new regional subsidiary based in Dubai," explained Matthias Vogel, head of power generation business at Rolls-Royce Power Systems. MTU Middle East provides support for distributors and business partners associated with products from MTU and MTU Onsite Energy and with land-based Bergen Engines products in 21 countries in the Near and Middle East as well as in North Africa.


The MTU Onsite Energy genset based on the new 12, 16 and 18-cylinder versions of the Rolls-Royce Series 2000 engine

At Middle East Electricity, MTU Onsite Energy presented its range of high-speed diesel gensets up to 3,250 kWe and gas engine systems up to 2,530 kWe.

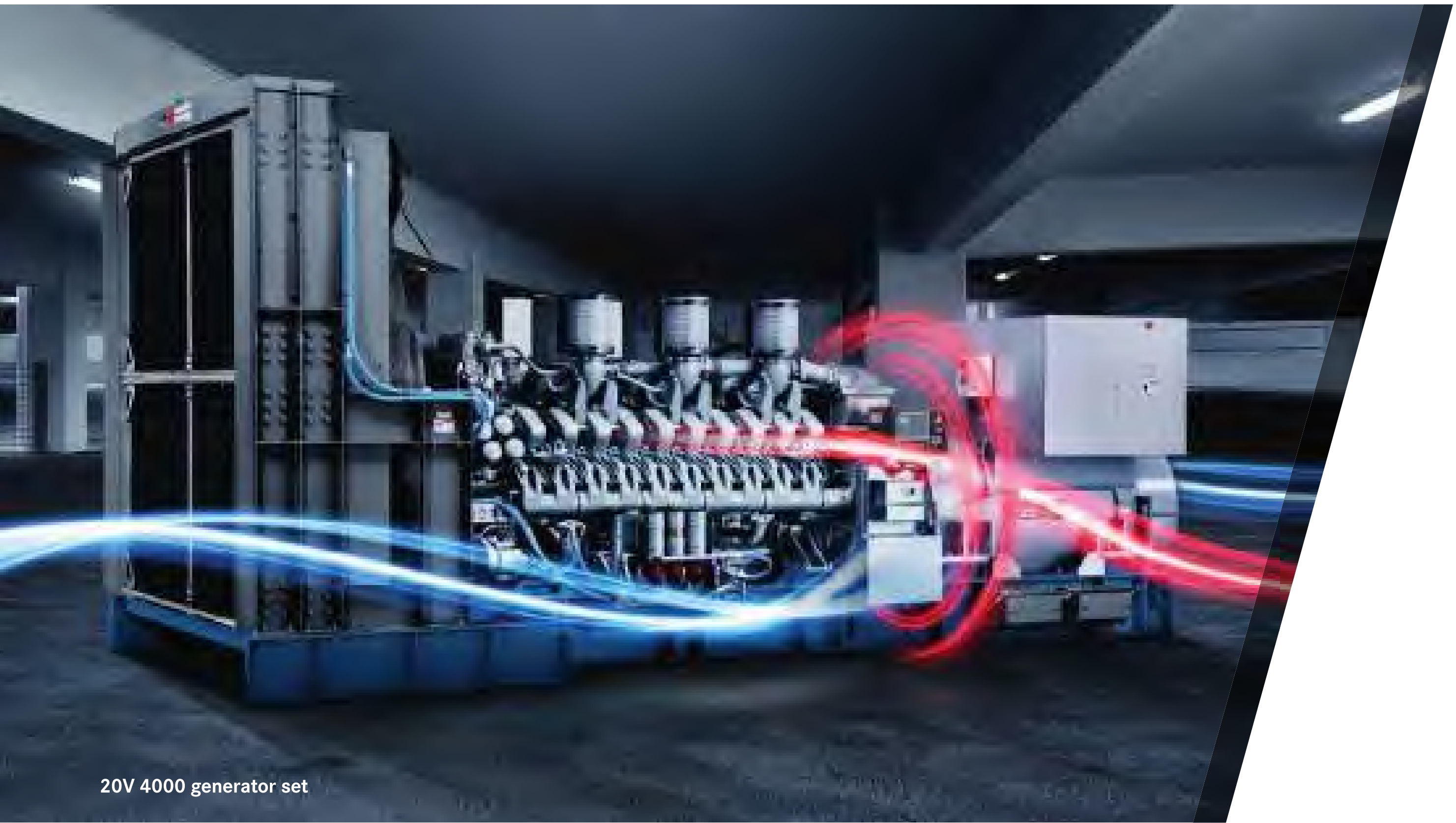
Across Africa, Rolls-Royce offers an MTU Onsite Energy genset based on the new 12, 16 and 18-cylinder versions of its Series 2000 engine. The gensets produce between 750 and 1,400 kVA (600 and 1,120 kWe). By using redesigned versions of the Series 2000 engine, the gensets will offer an output range roughly 12 per cent larger than the previous product. The diesel engines have been redesigned by MTU specifically for power generation applications.

The highly-advanced diesel engines in the new generator sets are the result of many years of development. They are equipped with a common-rail high-pressure fuel-injection system and more space-saving air filters and outlets. The new engine management module (ECU9) used by the gensets has a larger RAM and a processor four times faster than its predecessor.

"The new genset is quieter, more compact and more efficient than the models previously available in this output class," explained Matthias Vogel, head of power generation business at MTU Onsite Energy.

"Our aim is to have the right solutions available for the client's individual energy requirements. The new genset gives us precisely that capability."

The genset is available as MTU 18V 2000 DS, MTU 16V 2000 DS and



20V 4000 generator set

Volvo Penta produces power with SDMO

For over 20 years, Volvo Penta and SDMO have worked together to keep commercial facilities and civilian sites online. Based in Brest, France, SDMO is the third largest generator set manufacturer in the world, producing more than 60,000 gensets each year, of which 20,000 are diesel industrial gensets. SDMO is one of Volvo Penta's largest customers for 13- and 16-litre powergen engines.

In autumn 2014 SDMO received the 500,000th 13-litre engine to roll off Volvo's assembly line - and SDMO specifically received its 25,000th Volvo engine in November, the result of a 20-year working relationship.

"Because Volvo Penta works with the Volvo Group to produce engines, we can supply OEMs with units like the D13 that are produced in high volumes and proven through many hours of field testing and real-life use," said Martin Skoglund, acting vice president of product management industrial at Volvo Penta. "This is good news for our customers because when they partner with Volvo Penta, they get engines with a long history of innovation."

SDMO is one of Volvo Penta's largest customers for 13-litre powergen engines

"It's very important in our industry to have suppliers whom we consider to be partners," says Stéphane LeGoff of SDMO's purchasing department.

"And you don't get the strong relationship we've built today if you switch suppliers every few years. That's why we've stuck with Volvo Penta for such a long time." ■

What to know when buying a generator

When the power dies, there is no need to sit in the dark. One of the best options for a light source is a solar-powered lantern or flashlight, both of which are generally cheap and easy to buy. In South Africa, for example, shops such as Builders Warehouse stock a huge range of solar-powered lights. It s true that the larger units come with a separate solar panel that needs to be powered for a relatively long time, but it will be worth it.

But what if you want to keep more than lights on?

Buying a generator

The most important thing to remember when buying a generator is that not all are made equal. Some ae cheap - again, in South Africa, you can buy one up for less than R1,500 (US$122 - but be careful. Modern electronics are delicate things and a power source that spikes all over the place is likely to fry that expensive TV on your wall.

The two main types of generator are standby and portable generators. Standby generators are big, fixed into position and take over supplying your home with power when the local utility goes down. They're expensive to install, but the idea is that you carry on as normal. More practical for most of us is the portable generator. These range from cheap and nasty to pricey and digitally-controlled, but all boil down to basically being a petrol or diesel engine with a plug socket on the front. They're a bit more limited in that you can only run one multiplug adaptor from one - and they can be noisy, too.

One thing you need to bear in mind is that a portable generator may not be waterproof - especially at the power outlet - and you won't want to run one indoors because of exhaust fumes.

Why you should get an inverter

The best kind of generator for loadshedding, a particularly thorny issue in South Africa, is an 'inverter generator'. Most household appliances require an alternating current (AC) power supply, which is what the spinning motor in an electric generator creates. But if you plug, say, a TV directly into a petrol generator the fluctuation in the supply produced by the generator is likely to fry it.

In an inverter generator, the AC power produced by the engine - which is likely to fluctuate in output dramatically and damage sensitive electronics - is pushed through an rectifier and turned into DC energy. This is then passed through a second circuit which flattens out the load and turns it into a nice steady stream of power. It's then passed through an inverter which turns it back into AC electricity suitable for the home.

It is not quite as efficient and costs more, but it is worth the extra expense over that of a new TV or laptop.

How big a generator do I need?

Inverter generators generally are built with portability and low noise levels in mind, so they aren't as powerful as conventional generators. But with that said, they do come in some powerful variation ranging from about 1,000 to 4,000 watts.

To give you an idea of what you need at home, a desktop PC should use about 100W of power unless you're running a demanding application (like a video game) and an Xbox One consumes 72W while in use (a PS4 draws 88W). A 40-inch Samsung LED TV draws a maximum of 70W. A microwave oven can pull well over 1,000W.

Portable LED lamps are generally in the single digits.

To get an idea of what you use at home, look for the label on the back of your appliances that tells you the maximum power draw and add up what you want to keep on during load shedding.

According to www.inverters.co.za, a 1,500Watt inverter with 25A 24V battery charger should be able to run a television with DStv, three household lights for three hours and about two computers for the same amount of time. For bigger demands, a 2,000W inverter with a 25A 24V battery charger is recommended. ■

Source: htxt.africa

Why rental firms choose HIMOINSA gensets

The numbers speak for themselves. Profitability is what counts in the rental sector, along with quality and durability. Rental generator sets must offer excellent performance and reliability. However, the rental company is not the user of the equipment; it is an intermediary between the manufacturer and the end-user. So, the design phase is more complicated for the generator set manufacturer, because it must account for the needs of the rental company as well as those of the end user.

Rental sector equipment may be used in many applications including events, oil & gas, construction, mining, IPP, water treatment, retail, hospitals or hotels. "Each of these applications has its own important unique features and very different requirements, which is why at HIMOINSA we have designed the HR rental range, which meets each and every one of these needs in a single product", says Massimo Brotto, business development manager. "What sets our generator sets apart from the competition are four values underpinning the design and manufacturing process: transportability, reliability, durability and simplicity."

Transportability

HIMOINSA generator sets and lighting towers are simple to transport, thanks to unique lifting points and forklift rails, avoiding

HIMOINSA diesel generators are well-suited to rental markets

bending and displacement of components during lifting. The equipment is also suited to modes of transport, as HIMOINSA designs canopies to optimise load capacity, for wheeled land platforms, and in 20' or 10' ISO containers. "For containers, we have a special kit that makes it possible to handle to units of 10' containers as if they were 20'. In addition, HIMOINSA offers CSC approval for containers, so they can be transported both by land and by sea", adds Brotto.

Weather resistance

HR rental generators sets can withstand water ingress, corrosion due to humidity and high salinity, ice and snow build-up, and power loss due to high temperatures. The structure is made of DD11-quality carbon steel sheet, in accordance with EN10111.2008. Thicknesses of up to 8mm for structural components. All welds are made using robotic MIG-MAG technology.

"As a result, we offer equipment that can withstand over 1000 hours of salt-spray testing. We also complete canopy assembly by sealing all physical joints to prevent any water or moisture ingress. Air inlet and outlet construction has developed significantly over years of testing in a very wide range of extreme environments. Today we can guarantee water ingress protection that is unique on the market, as well as effective filtration of solid elements, such as sand, or mineral dust", says Mr Brotto.

It should also be emphasised that these results were obtained without sacrificing any acoustic performance or ventilation or cooling capacity of the engine, which is guaranteed up to 55ºC.

Ease of use

The commitment to providing products with a user interface that is simple, user-friendly, intuitive and effective drives HIMOINSA to design and manufacture electronic systems; CEMx and Mx controllers can communicate with the new Stage 3A engine protocols and interpret and handle complex safety algorithms, simplifying them to offer a productive user experience. The system is built on a modular and flexible structure, in which a central "PHG" unit, with a microprocessor, connects via a CAN protocol, expanding various uses: display and keyboard, analogue and digital input, operating relay boards, MODBUS communication interfaces, Ethernet, GPRS and interface with Fleet Manager, which enables centralised monitoring and management of the rental fleet.

Reliability

Guaranteeing that the equipment will function throughout its useful life without needing to stop for unplanned maintenance is vital. That is why the selection of the materials and components that will eventually go to make the generator set is of paramount importance. ■

HR - Rental Generator Sets

HIMOINSA manufactures rental generator sets with stage IIIA engines, with power ranging from 30 to 665 kVA. The company also designs generators with higher power and special configurations and connections in parallel that can increase and/or reduce the power by adapting it to meet the needs of the client at any given time.

At present, HIMOINSA generator sets and lighting towers form part of the equipment fleets of major rental companies such as Loxam, Ramirent, Red-D-Arc, Speedy, Woodlands Generators, Charles Wilson Engineers, Atut Rental, Power Rental, Power Hire, etc., with the UK representing one of the main markets for the multinational company.

HIMOINSA showcased its generators at the Executive HIRE Show

Performance parts for portable power

New Middle East and Africa Parts Distribution Centre for Bobcat/Doosan Portable Power Products in Dubai

Doosan Construction Equipment has opened a new Parts Distribution Centre (PDC) for Bobcat and Doosan Portable Power products in Dubai in the United Arab Emirates. The new PDC is a collaboration with Agility, a leading global logistics provider, which is hosting and managing the new facility at the Jebel Ali Free Zone in Dubai.

The new Dubai PDC will provide parts support for dealers and customers of Bobcat and Doosan Portable Power products in the Middle East and Africa (MEA) region. In combination with the existing Doosan PDC at Puurs in Belgium, the company will now be able to deliver parts to over 90 per cent of the region within 24 hours.

Caption for pictures 1 & 2 – Left to Right: Gaby Rhayem, regional director for Doosan Construction Equipment in Middle East and North Africa; Martin Knoetgen, president of Doosan Construction Equipment in Europe, Middle East and Africa (EMEA); and Erik Van Der Goot, head of parts for Doosan Construction Equipment in EMEA

A strong commitment to MEA market s

Addressing dealers and other guests at the PDC's inauguration, Gaby Rhayem, Regional Director in Middle East and North Africa, said: "With the opening of the new Dubai PDC, we will be able to provide a much better parts service for our dealers and customers throughout the MEA region. As well as enhancing our aftermarket service, the new PDC demonstrates our strong commitment to the MEA market."

Bobcat also presented the 2/154 compressor model at MEE

The storage space for Bobcat and Doosan Portable Power parts covers an area of 1540 m2 in the Agility warehouse, stored in 3500 separate parts locations.

Erik Van Der Goot, head of parts for Doosan Construction Equipment in Europe, Middle East and Africa (EMEA), commented, "The new Dubai PDC will strengthen brand loyalty for Bobcat, whilst creating more customer solutions. Our dealers do a wonderful job of selling the first machine into our customers, but with the increased parts support from the Dubai PDC, we can have a very important role in helping to secure the sale of further machines to the same customers."

Martin Knoetgen, President of Doosan Construction Equipment in EMEA, also spoke to the audience at the opening of the Dubai PDC, saying: "I have been part of this project right from the start and it is a great honour for me to be attending the opening today. I am very confident the new facility will have a significant positive impact on the regional business for Doosan and its partners." ■

For more information about Bobcat and Bobcat products, visit the website www.bobcat.eu

For more information about Doosan Portable Power, visit www.doosanportablepower.eu

Genset Buyers' Guide

Section One: Suppliers Listing / Section Two: Agents in Africa
Please mention African Review when contacting your supplier

Section One: Listings by Supplier

ABZ-Aggregate-Bau GmbH Co. KG

Gutenbergstrasse 11
Henstedt-Ulzburg, 24558
Germany
Tel: +49 4193 90360
Fax: +49 4193 93473
Web: www.abz-power.com
E-mail: info@abz-power.com

ABZ manufactures, installs and services custom-built diesel gensets of 50kVA to 5000kVA capacity for continuous, stand by or peak load operation for all possible applications as stationary, mobile, containerized or canopied units. A wide range of control systems and switchboards for all kinds of operations is available.

Advanced Diesel Engineering Ltd.

14 Langthwaite Business Park
South Kirkby, Pontefract
West Yorkshire, WF9 3AP
United Kingdom
Tel: +44 1977 658100
Fax: +44 1977 608111
Web: www.adeltd.co.uk
E-mail: enquiries@adeltd.co.uk

For nearly 20 years Advanced Diesel Engineering has supplied diesel generators for standby operation, emergency backup power and primary power operation. We hold a large stock of diesel generators from 11 to 3300kVA, specialising in the acoustic treatment, containerisation and climate control of medium to high power generator systems.

Aggreko International

PO Box 17576, Jebel Ali, Dubai
United Arab Emirates
Tel: +971 4 8086888
Fax: +971 4 8834145
Web: www.aggreko.com
E-mail: enquiries@aggreko.com

Aggreko International Power Projects provides complete power packages including design, installation, operation and maintenance. Aggreko can offer rental of multi-megawatt power packages from 30kVA to 200MW and over. Also HV/LV transformers, resistive/reactive load banks, switchgear, cable and ancillary products and services.
Engine type: Cummins - suitable for 50Hz or 60Hz operations

Agents:

Nigeria - Aggreko Projects Ltd.

South Africa - Aggreko Energy Rental SA (Pty) Ltd.

AKSA Jenerator San. AS

Rüzgarlibahçe Mahallesi Selvi Çikmazi No:10
Beykoz/Istanbul
34805
Turkey
Tel: +90 216 6810000
Fax: +90 216 6815784
Web: www.aksa.com.tr
E-mail: aksa@aksa.com.tr

For over 30 years AKSA Power Generation has manufactured generator sets from 1kVA upto 3000kVA, supplied comprehensive spare parts, rental solutions and customer focused after sales services all around the world.
For sourcing in Africa, please contact:

AKSA Power Generation FZE (AKSA Africa Headquarters)
PO Box 18167
Warehouse No.RA08 / LC07
Jebel Ali, Dubai
UAE
Tel: +971 4 8809140
Fax: +971 4 8809141
Web: www.aksa.ae
Email: sales@aksa.ae

Agents:

Algeria - EURL AKSA Générateurs Algérie

Altaaqa Global CAT Rental Power

PO Box 262989
Dubai
United Arab Emirates
Tel: +971 4 8808006
Fax: +971 4 8808007
Web: www.altaaqaglobal.com
E-mail: rbagatsing@altaaqaglobal.com

Altaaqa Global, subsidary of Zahid Group, has been selected by Caterpillar Inc. to deliver multi-megawatt turnkey temporary power solutions. The Company owns, mobilizes, installs and operates temporary independent power plants at customer sites, focusing on markets in Sub-Sahara Africa, central Asia, Indian Subcontinent, Latin America, South East Asia and MENA.

Agents:

Kenya - Altaaqa Global CAT Rental Power, East Africa

South Africa - Altaaqa Global CAT Rental Power, Southern

Ansaldo Energia S.p.A.

Via Nicola Lorenzi, 8, Genova
16152
Italy
Tel: +39 0606 551
Fax: +39 010 6553411
E-mail: ansaldoenergia@ansaldoenergia.it

With an installed capacity of over 180.000mW in more than 90 countries and workforce of about 3.500. Ansaldo Energia is Italy's largest supplier, installer and service provider for power generation plants and components. A leading international player and one of the finest expressions of Italina Technology and Innovation in the energy sector.

Agents:

South Africa - Ansaldo Energia S.p.A.


Delivering temporary power to the most difficult places on earth
Altaaqa Global is able to provide large-scale turnkey temporary power solutions anytime, anywhere at extremely short notice. We have state-of-the-art equipment and focused expertise to quickly deliver power projects of 20MW or more.
Bringing Power to Solutions
Altaaqa Global
CAT
Rental Power
Tel: +971 4 880 8006
sales@altaaqaglobal.com
www.altaaqaglobal.com

Ascot Industrial S.r.l

Zona Industriale
Terza Strada, 93012
Italy
Tel: +39 0933 901192
Fax: +39 0933 917682
Web: www.ascotinternational.com
E-mail: sales@ascotinternational.com

Ascot is an Italian company providing Power Solution tailored according to customer needs. Innovative hybrid technology, equipped with remote control, are realized in order to guarantee a full management and highest efficiency. More than 5000 Ascot Hybrid Power Unit are installed worldwide The Ascot mission is "Energy Everywhere".

Atlas Copco Portable Energy Division

Grupos Electrógenos Europa S.A.U
Polígono Pitarco II, Parcela 20
Muel, 50450
Spain
Tel: +34 97 6145432
Fax: +34 97 6145431
Web: www.atlascopco.com
E-mail: communication.power@es.atlascopco.com

Portable Energy is a division within Atlas Copco's Construction Technique business area. It develops, manufactures and markets portable compressors, high pressure boosters, generators, light towers and portable dewatering pumps worldwide. Products are offered under several brands to a wide range of industries including construction, mining, oil and gas and rental. The divisional headquarters and main development centre are located in Antwerp, Belgium. Its Portable Power Competence centre is based in Zaragoza, Spain. Production facilities are located around the world, mainly Belgium, Spain, USA, India, Brazil and China.

Agents:

Algeria - Atlas Copco Algeria S.p.A
Angola - Atlas Copco Angola, Lda.
Benin - Atlas Copco Senegal SARL
Botswana - Atlas Copco South Africa (Pty) Ltd. Construction Technique
Burkina Faso - Atlas Copco Senegal SARL
Burundi - Atlas Copco Tanzania Ltd.
Cameroon - Atlas Copco Senegal SARL
Central African Republic - Atlas Copco Senegal SARL
Chad - Atlas Copco Senegal SARL
Congo DR - Atlas Copco Zambia Ltd.
Cote D'Ivoire - Atlas Copco Senegal SARL
Djibouti - Atlas Copco Tanzania Ltd.
Eritrea - Atlas Copco Tanzania Ltd.
Ethiopia - Atlas Copco Tanzania Ltd.
Gabon - Atlas Copco Senegal SARL
Gambia - Atlas Copco Senegal SARL
Ghana - Atlas Copco Ghana Ltd.
Guinea - Atlas Copco Senegal SARL
Atlas Copco Senegal SARL
Guinea Bissau - Atlas Copco Senegal SARL
Kenya - Atlas Copco Tanzania Ltd.
Liberia - Atlas Copco Senegal SARL
Madagascar - Atlas Copco Tanzania Ltd.
Malawi - Atlas Copco Zambia Ltd.
Mali - Atlas Copco Senegal SARL
Mauritania - Atlas Copco Senegal SARL
Mauritius - Atlas Copco Tanzania Ltd.
Morocco - Atlas Copco Maroc SA
Mozambique - Atlas Copco South Africa (Pty) Ltd. Construction Technique
Namibia - Atlas Copco South Africa (Pty) Ltd. Construction Technique
Niger - Atlas Copco Senegal SARL
Nigeria - Atlas Copco Nigeria Ltd.
Rwanda - Atlas Copco Tanzania Ltd.
Senegal - Atlas Copco Senegal SARL
Seychelles - Atlas Copco Tanzania Ltd.
Sierra Leone - Atlas Copco Senegal SARL
Somalia - Atlas Copco Tanzania Ltd.
South Africa - Atlas Copco South Africa (Pty) Ltd. Construction Technique
Tanzania - Atlas Copco Tanzania Ltd.
Togo - Atlas Copco Senegal SARL
Uganda - Atlas Copco Tanzania Ltd.
Zambia - Atlas Copco Zambia Ltd.
Zimbabwe - Atlas Copco Zimbabwe Pvt. Ltd.

Ayerbe Industrial de Motores SA

C/ Oilamendi 8, Pol. Ind. Jundiz
Vitoria, 01015
Spain
Tel: +34 94 5292297
Fax: +34 94 5292298
Web: www.ayerbe.net
E-mail: ayerbe@ayerbe.net

Ayerbe has been manufacturing generators since 1992 and nowadays is one of the leading manufacturers in Spain. The range goes from 2 to 250kVA.

Balton CP Ltd.

CP House, Otterspool Way
Watford, WD25 8HG
United Kingdom
Tel: +44 1923 228999
Fax: +44 1923 222929
Web: www.baltoncp.com
E-mail: tk@baltoncp.com

Balton CP Ltd. Group, through its local subsidiaries in Sub-Saharan Africa, supply, install and maintain a comprehensive range of power generators from 5kVA to 2000kVA with Perkins, Yanmar and Engines. Also included in our range are hybrid systems, lighting towers, UPS/Voltage regulators and fuel cell technology based "Power Cube (TM)" power generation units for the telecom industry.

Agents:

Ghana - Dizengoff Ghana Ltd.
Rwanda - Balton Rwanda SARL
Tanzania - Balton Tanzania Ltd.
Uganda - Balton (U) Ltd.

Barloworld Power

136 Main Reef Road
Boksburg North, Johannesburg
South Africa
Tel: +27 11 8980000
Web: www.barloworldpower.com
E-mail: snaidoo@barloworldpower.com

Barloworld Power, Cat dealer for 87 years, is strategically positioned to meet a broad range of energy and commercial engine solutions in the southern African market. The commercial offering extends to include mining and construction equipment in the form of diesel and gas generators, marine propulsion and locomotive engines.

Broadcrown Ltd.

Airfield Industrial Estate, Hixon
Stafford, ST18 0PF
United Kingdom
Tel: +44 1889 272200
Fax: +44 1889 270971
Web: www.broadcrown.com
E-mail: info@broadcrown.co.uk

Broadcrown offers a comprehensive range of diesel and gas generator systems. Broadcrown standard sets range from 6kVA to 3350kVA and up to +30mVA for bespoke systems.
All packages are designed and built in the UK using components from globally established, reputable suppliers. All Broadcrown products carry world-wide warranties. Full technical support and after sales services are provided throughout Africa by a network of agents. For detailed technical specifications visit www.broadcrown.com

Agents:

Angola - Socinter
Ghana - B & D Consultancy Co. Ltd.
Ghana - Power Logistics Co. Ltd.
Kenya - Holman Brothers (EA) Ltd.
Madagascar - S.R.C.D.
Mozambique - Macquip Lda.
Nigeria - Broadcrown (West Africa) Ltd.
Sierra Leone - CEMMATS Group
South Africa - Innovative Power Equipment
Sudan - Ibrahim Abu Hassanein & Co.
Uganda - Terrain Plant Ltd.
Zambia - Cable Network Solutions
Zimbabwe - Desthold Pvt. Ltd.

C. Woermann GmbH & Co. KG

Afrikahaus, Grosse Reichenstrasse 27
Hamburg, 20457
Germany
Tel: +49 40 3281110
Fax: +49 40 32811122
Web: www.c-woermann.com
E-mail: info@c-woermann.de

Technical supplier for industrial machinery, workshop equipment and services, handling equipment, construction machines and agricultural equipment, forestry equipment, generators, spare parts.

Agents:

Angola - C. Woermann Angola Lda.
Ghana - C. Woermann (Ghana) Ltd.
Nigeria - C. Woermann (Nigeria) Ltd.

Caterpillar Inc.

PO Box 610, Mossville
IL, 61552-0610
USA
Tel: +1 309 5786298
Fax: +1 309 5782599
Web: www.cat.com

For more than 80 years, Caterpillar® has been supplying diesel and natural gas generator sets for continuous duty and temporary power customers. As a leading global power supplier, Caterpillar offers a broad range of integrated power systems pre-configured products for optimum performance – all supported by the worldwide Cat® dealer network.

Clarke Energy

Power House Senator Point
South Boundary Road
Knowsley Industrial Park
Liverpool, L33 7RR
United Kingdom
Tel: +44 151 5464446
Fax: +44 151 5464447
Web: www.clarke-energy.com
E-mail: uk@clarke-energy.com

Clarke energy is a provider of gas fuelled captive power plants. These facilities use gas engines to provide stable base load power. Clarke energy is an authorised distributor and service provider for GE power & water's Jenbacher gas engine.

COELMO Spa

Agglomerato Industriale ASI
Acerra (NA), 80011
Italy
Tel: +39 081 8039731
Fax: +39 081 8039724
Web: www.coelmo.it
E-mail: sales@coelmo.it

Coelmo is one of the oldest European manufacturers of industrial and marine generators from 3kVA up to 3000kVA. Based in Italy, with a large stock of Generating Sets available to be shipped overnight to any destination in the world. Company profile, products and models are available online at www.coelmo.it.

Crestchic Loadbanks

Second Avenue, Burton on Trent
Staffordshire, DE14 2WF
United Kingdom
Tel: +44 1283 531645
Fax: +44 1283 510103
Web: www.crestchic.co.uk
E-mail: sales@crestchic.co.uk

Crestchic manufactuers loadbanks which provide accurate and stable electrical test loads for the commissioning and maintenance of power systems; including diesel generators, gas turbines and UPS systems. Our resistive loadbanks offer capacities as small as 20kW up to 6000kW and resistive-reactive units from 50 to 6250kVA at various voltages 110V-34kV.

Cummins Generator Technologies Ltd.

Fountain Court, Lynch Wood, Peterborough, PE2 6FZ
United Kingdom
Tel: +44 1733 395300
Fax: +44 1780 484100
Web: www.stamford-avk.com
E-mail: info@cumminsgeneratortechnologies.com

Cummins Generator Technologies manufactures premium quality alternators from 2 - 10,000kVA under the brands STAMFORD and AvK. Established in 1904 and with over 100 years' experience, a history of continual growth and innovation over this period has created a strong global company employing over 3,700 people across 27 locations in 15 countries worldwide. Supporting an extensive portfolio of products and services to OEMs, utility and end user customers they have established a sales and services network spanning more than 60 countries. All products are designed for optimum performance, durability and longevity and manufactured to achieve the highest possible industry accreditations for quality and consistency.

Agents:

South Africa - Cummins South Africa

Cummins Power Generation

Power Generation

8 Harrowdene Office Park
Western Service Road
Woodmead, Johannesburg
South Africa
Tel: +27 11 5898400
Fax: +27 11 5898450
Web: www.cumminspower.com
E-mail: cpg.uk@cummins.com

Agents:

Algeria - Cummins Energie Algerie
Angola - Cummins Angola
Congo DR - BIA Overseas
Congo Republic - Approvisionnement Congo Service
Cote D'Ivoire - Cummins Cote D'Ivoire SARL
Egypt - EIM - Egyptian International Motors
Ghana - Cummins Ghana Ltd.
Kenya - Car & General (K) Ltd.
Libya - United Group Co.
Morocco - Soberma Groupe Auto Hall
Nigeria - Cummins West Africa Ltd.
Senegal - Matforce
South Africa - Cummins South Africa
Tunisia - Sotudis

Deep Sea Electronics PLC

Highfield House, Hunmanby Industrial Estate, Hunmanby
North Yorkshire, England
United Kingdom
Tel: +44 1723 890099
Fax: +44 1723 893303
Web: www.deepseaplc.com
E-mail: sales@deepseaplc.com

DSE is a UK manufacturer of Genset & ATS Controls, Battery Chargers & Power Supplies. With an outstanding worldwide reputation for a range of expertly engineered products that offer user friendly operation, and with 24hr global support there's no surprise DSE is the worlds number 1.

DEUTZ DIESELPOWER

5 Tunney Road, Elandsfontein, 1406
South Africa
Tel: +27 11 9230600
Fax: +27 11 9230685
Web: www.deutz.co.za
E-mail: info@deutz.co.za

DEUTZ DIESELPOWER, a member of the HUDACO Group is the Sole Distributor of DEUTZ products and services for South Africa and certain key Anglophone African countries. Long service life, reliability and cost effectiveness are synonymous with DEUTZ engines and it is characteristics that have made them world-famous.

DiPerk Power Solutions

Kingsbridge Centre
Sturrock Way
Peterborough, PE3 8TZ
United Kingdom
Tel: +44 1733 334500
Fax: +44 1733 334553
Web: www.diperk.co.uk

Dresser-Rand

Barrio de Oikia 44
Zumaia, Gipuzkoa, 20759
Spain
Tel: +34 94 3865200
Fax: +34 94 3865210
Web: www.dresser-rand.com
E-mail: guascor@dresser-rand.com

Dresser-Rand Guascor is the company that customer focus can offer the most reliable Energy Solutions with more than 45 years of experience as engine, genset, generation plants manufacturer for all type of applications. Being the factor of the bioenergy with the energy effiency the most outstanding ones. Offering service in more than 40 countries.

Agents:

Egypt - Proserve
Mozambique - Tecnel Service Lda.
South Africa - Zest Energy (Pty)
Tunisia - SIGMA Industrie

Elgris Power

Langerweher Str 10, Inden, 52459
Germany
Tel: +49 1744 710535
Web: www.elgrispower.com
E-mail: info@elgrispower.com

Elgris is a company specializing in hybrid power generators with a direct interface for solar power. We have a special focus on Telecom applications and Large Scale power generating for villages.

ENDRESS Power Generators

Neckartenzlinger Strasse 39
Bempflingen, 72658
Germany
Tel: +49 7123 973745
Fax: +49 7123 973750
Web: www.endress-generator.com
E-mail: sales@endress-generator.com

German manufacturer of power generators for construction & rental industry and supplier to civil defense units like fire brigades, vehicle builders or disaster management units. We can provide smart generator solutions from 2 - 3,500 kVA including remote control and monitoring systems for mobile and stationary use.

FG Wilson

1 Millennium Way
Springvale Business Park
Springfield Road, Belfast,
Co. Antrim, N. Ireland
BT12 7AL
United Kingdom
Tel: +44 28 90495000
Fax: +44 28 28261111
Web: www.fgwilson.com
E-mail: sales@fgwilson.com

FG Wilson has almost 50 years of experience in the supply of diesel and gas powered generator sets. With more than 370 Authorised Dealers operating in over 150 countries, our global experience and engineering expertise, ensures we are best placed to deliver the most cost effective and technically advanced power generation systems around the world.
Our standard product range from 6.8 to 2,500kVA, includes open and enclosed generator sets for standby domestic use, right up to power modules with the ability to operate as complete power stations. Our generator sets are used for a wide range of industries including telecommunications, retail, healthcare, events, construction and emergency aid relief, etc.
Please visit www.fgwilson.com for details of your local FG Wilson Dealer.

Firefly Solar Generators Ltd.

Unit 20, Cliffe Industrial Estate
South Street, Lewes, BN8 6JL
United Kingdom
Tel: +44 1273 409595
Web: www.fireflysolar.net
E-mail: sales@fireflysolar.net

Firefly is the leading manufacturer of Hybrid Power Generators (HPGs) for Fuel Management, UPS and Stand-Alone Power. The Cygnus™ HPG is available from 5kVA to 24kVA with up to 48kWh autonomy. It can be linked to any diesel generator to save up to 50% in fuel consumption, CO2 and service costs.

Forest City Export Services Ltd.

Bowden Hall, Bowden Lane
Marple, Cheshire, England, SK6 6NE
United Kingdom
Tel: +44 161 4490660/0770
Fax: +44 161 4490880
Web: www.forestcitygenerators.com
E-mail: sales@forestcitygenerators.com

Suppliers of deisel generators from 7.5kVA to 3045kVA. Perkins, Volvo, MTU and Deutz engines. Stamford and Mecc-Alte alternators. All associated spare parts and control panels.

FPT Industrial S.p.A.

Via Puglia 15, Turin, 10156
Italy
Tel: +39 011 0073111
Fax: +39 011 0074555
Web: www.fptindustrial.com
E-mail: sales1@fptindustrial.com

FPT Industrial is a company of CNH Industrial dedicated to the design, production and sales of powertrains for on and off-road vehicles, marine and power generation applications. The company employs approximately 8,000 people worldwide, in ten plants and six R&D centres. The FPT Industrial sales network consists of 100 dealers and over 1,300 service centres in almost 100 countries. A wide product offering, including six engine ranges from 31 kW up to 740 kW and transmission with maximum torque from 200 Nm up to 500 Nm, and a close focus on R&D activities make FPT Industrial a world leader in industrial powertrains.

Agents:

Congo DR - Prodimpex SARL
Angola - Unicar
Madagascar - Autodiffusion
Morocco - SEHI
South Africa - Peninsula Power Products
Tanzania - Incar Tanzania Ltd.
Tunisia - Le Moteur Diesel

G & J Technical Services Ltd.

PO Box KA30249, Accra
Energy House 2, 43 Ring Road West
Obetsebi Lamptey Circle
Korle-Bu Road
Ghana
Tel: +233 302 689178/9/682177/8
Fax: +233 302 689177
Web: www.gjtechghana.com
E-mail: sales@gjtechghana.com
customer.service@gjtechghana.com

We are a company solely involved in the sale, installation and maintenance of diesel engine driven generating sets. Since inception in March 1994, we have supported various sectors of the Ghanaian economy through back-up power supply to a total of over 200megawatts. Our operations are backed by first class after sales support.

Genpower Ltd.

Isaac Way, Pembroke Dock
Pembrokeshire, SA72 4RW
United Kingdom
Tel: +44 1646 687880
Fax: +44 1646 686198
Web: www.genpower.co.uk
E-mail: paul.williams@genpower.co.uk

Established in 2006 by our MD Roland Llewellin, Genpower market and distribute power products under our Evopower brand. Rolands' Agricultural and rural upbrining means his technical and pratical knowledge is second to none. Our company's values ensure we offer relevant solutions to consumers and excellent margins to our approved stockists.

Green Power Systems S.r.l.

Localita Maiano SN
Caprazzino di Sassocorvaro (PU) 61028
Italy
Tel: +39 0722 726411
Fax: +39 0722 720092
Web: www.greenpowergen.com
E-mail: giovanni@greenpowergen.com

Manufacturer of generating sets up to 2200kVA, 50 and 60Hz.
Green Power Generators offers:

- Generating sets with different engine types: Perkins, Cummins, Deutz, Volvo, John Deere, Iveco, Lombardini, Yanmar, Mitsubishi and Honda.
- Generating sets with different alternator types: Mecc Alte, Stamford, Leroy Somer and Marelli.
- Telecommunication power solutions.
- Customised gensets.
- Natural gas and LPG gensets.
- Lighting towers.
- Welding machines.
- Irrigation systems (motorpumps).
- Certifications ISO:9001/2000 and ISO:14001/2004.

HIMOINSA S.L.

Ctra. Murcia - San Javier
Km. 23.6, San Javier/Murcia, 30730
Spain
Tel: +34 96 8191128
Fax: +34 96 8191217
Web: www.himoinsa.com
E-mail: info@himoinsa.com

HIMOINSA is established as a worldwide benchmark among manufacturers of gensets. With outputs ranging from 3 to 3,000kVA, they have been designed to provide both standby and continuous power. Their ultra-silent eclosures feature curved edges corners, with a 25mm double radius of curvature. Internally lined with rock wool, an insulation material with outstanding acoustic and thermal properties, HIMOINSA gensets lead the market in terms of quality. Designed for exposure to extreme environment conditions, they are highly waterproof and protected from any contact with water and moisture. Its comprehensive offering of diesel generators is complemented by a full range of gas generators, from 8kW to 3.5MW, using a variety of gas fuels such as natural gas, biogas and LPG.

Agents:

Angola - HIMOINSA Angola

Huegli-Tech Ltd.

Murgenthalstrasse 30
Langenthal, 4900
Switzerland
Tel: +41 62 9165030
Fax: +41 62 9165035
Web: www.huegli-tech.com
E-mail: sales@huegli-tech.com

Huegli-Tech is an engine and genset control company, a leading supplier and wholesaler of accessories for combustion engines, fuelled by diesel and/or gas. Our core competences are generating set controls, engine governing systems, hydraulic starting system, gas engine management systems, ignition systems, engine protection devices, dual fuel conversions, etc.

Inmesol, S.L.

Ctra. Fuente Alamo
2 Corvera (Murcia)
Spain
Tel: +34 968 380300
Web: www.inmesol.com
E-mail: africa@inmesol.com

Inmesol is an important manufacturer of generator set in a period of industry maturity; it is present in a large number of markets and continues to multiply its production capacity. Inmesol is present across 4 continents with equipment installed in a wide variety of industries, residential areas, sports complexes, public work hospitals, hotels, data centres and telecom, among others.

Interpower International Ltd

PO Box 70, York
YO18 7XU
United Kingdom
Tel: +44 1751 474034
Fax: +44 1751 476103
Web: www.interpower.co.uk
E-mail: info@interpower.co.uk

Established for over 25 years, Interpower is a manufacturer of diesel generating sets built to customer specification, ranging from 4 to 4000kVA.
Units built to suit all applications including, industrial, marine, containerised, low noise level, multi-set systems and high voltage generators. Suppliers include Cummins, Perkins, MTU, Mitsubishi, John Deere, Volvo, Scania, Deutz, Iveco, MAN, JCB, Yanmar, Newage, Mecc Alte, Leroy Somer, AMCO, Marathon and Sincro.
All sets supplied with 1 year unlimited hours international warranty.
New distributors wanted.

IREM S.p.A.

Via Abegg 75
Borgone (Torino), 10050
Italy
Tel: +39 011 9648211
Fax: +39 011 9648222
Web: www.irem.it
E-mail: svm@irem.it

IREM specialises in electro-dynamic voltage regulators and line conditioners for indoor and outdoor installation. Power ratings from 1 to 4750kVA.
In business since 1947, IREM is a medium size company (110 members of staff) exporting all over the world. Company certification according to ISO 9001, ISO 14001, BS OHSAS 18001.
Typical application fields: broadcast, telecommunication, industrial applications, electro-medical applicances, machine tools, manufacturing plants, banks and insurance companies, construction, oil and gas, mining, etc.

Agents:

Ghana - Modern Age Technologies Ltd.
Kenya - Specialised Power Systems Ltd.
Tanzania - Specialised Power Systems Ltd.

ITCPower Group, Kat Power International S.L.

Avda. Alguema, 6C
Sta. Llogaia, Girona, 17771
Spain
Tel: +34 972 538521
Fax: +34 972 980537
Web: www.itcpower.com
www.itc-power.com.cn
E-mail: info@itcpower.com

ITCPower Group is a company specialized in the development, manufacturing and distributions for Generating Sets from Portable range up to 1200 kVA and Petrol/diesel driven Water Pumps. Our facilities with 120 people, 20.000 sqm and 20.000 sqm allows us to produce over 100.000 units per year.

James Dring Power Plant Ltd.

8 Eagle Road
Quarry Hill Industrial Park
Ilkeston
Derbyshire, DE7 4RB
United Kingdom
Tel: +44 115 9440072
Fax: +44 115 9440235
Web: www.jamesdring.co.uk
E-mail: james.dring@talk21.com

Bespoke generators, designed, built, installed and maintained up to 3500kVA in single units, with the option to synchronise and parallel any multiple. Most prime movers and alternator brands are available to customer's choice. Established in 1964, other products include: Frequency Converters, Welders, Fire Pumps, Marine Generators and Auto Load Banks.

JCB Power Products

Lakeside Works, Denstone Road
Rocester, Staffordshire
ST14 5JP
United Kingdom
Tel: +44 1889 590312
Web: www.jcbgenerators.com
E-mail: generator.sales@jcb.com

JCB offers a range of high specification diesel generators ranging from 8-3300kVA. At the heart of each model is a range of robust and reliable engines to meet any customer power requirements; residential, rental, construction, quarrying and mining, agricultural and for use as back-up power supply for hospitals and offices.

Agents:

Algeria - S.A.R.L Alger Engins
Angola - M.T.A – Maquinas e Tractores de Angola
Botswana - BH Botswana (Pty) Ltd.
Burkina Faso - CFAO Equipment Burkina Faso
Cameroon - CFAO Equipment Cameroon
Chad - CFAO Motors Chad
Congo DR - CFAO Equipment DRC
Congo DR - CFAO Equipment RD Congo
Congo Republic - CFAO Equipment Congo
Congo Republic - CFAO Equipment Congo
Cote D'Ivoire - CFAO Equipment RCI
Djibouti - A G Tractor FZE / Select International Services
Egypt - Arab Development & Trading Co.
Egypt - IPC
Ethiopia - Ethio-Nippon Technical Company S. Co.
Ethiopia - Gedeb Engineering PLC
Gabon - CFAO Equipment Gabon (Port Gentil)
Gabon - CFAO Equipment Gabon (Libreville)
Gambia - CFAO Equipment The Gambia
Ghana - CFAO Equipment Ghana
Guinea - CFAO Equipment Equatorial Guinea
Kenya - Ganatra Plant and Equipment Ltd.
Lebanon - The White Alnoras
Mali - Groupe Electrogène Services (GES)
Mauritius - Izumi Systems Ltd.
Morocco - CFAO Equipment Morocco
Nigeria - A G Leventis
Nigeria - RT Briscoe
Senegal - CFAO Equipment Senegal
South Africa - Kemach Equipment (Pty) Ltd.
South Sudan - A G Tractor FZE
Sudan - Diesel Heavy Equipment
Tanzania - Machines and Tractors Tanzania Ltd.
Togo - CFAO Equipment Togo

Tunisia - SAM – Société de l'Automobile et du Matériel

Tunisia - Techni-Air

Uganda - Farm Engineering Industries Ltd.

Zimbabwe - JCB Link

JMG Ltd.

15A Redemption Cresent
Apapa - Oshodi Expressway
Gbagada
Lagos
Nigeria
Tel: +234 7000112233
Web: www.jmglimited.com/nigeria
E-mail: marketing@jmglimited.com

Leader in the Power Generation industry, JMG is the official dealer & assembler of FG Wilson in Nigeria and has been appointed as a dealer of Mitsubishi Heavy Industries and Legrand products. JMG provides Sales & After-Sales of Power Solutions for Residential and Industries as well as Turnkey Power Plants.

John Deere Power Systems

Orléans-Saran Unit
BP 11013
Fleury Les Aubrais Cedex
45401
France
Tel: +33 2 38826119
Fax: +33 2 38846266
Web: www.johndeere.com
E-mail: jdengine@johndeere.com

John Deere Power Systems manufactures and markets engines for industrial applications such as crushers, loaders, drilling equipments, etc. JDPS also powers agricultural applications, material handling equipment, compressors and generator sets.

Agents:

Egypt - Orascom Trading Co. SAE

Morocco - Societe de Realisations Mecaniques

Nigeria - Stag Engineering

South Africa - New Way Motor & Diesel Engineering Ltd.

Jubaili Bros

Jebel Ali Free Zone
United Arab Emirates
Tel: +971 4 8832023
Fax: +971 4 8832053
Web: www.JubailiBros.com
E-mail: jbdubai@jubailibros.com

Jubaili Bros is one of the leading providers of power solutions in the Middle East, Africa and Asia. With over 35 years of experience in the field of power generation, Jubaili Bros is a perfect choice for your power solution needs. Jubaili Bros serves its customers from 8 countries with 23 branches and through a strong dealer network.

Agents:

Ghana - Jubaili Bros

Nigeria - Jubaili Bros Engineering Ltd.

Uganda - Jubaili Bros

Kipor - South Africa

2 Lascelles Rd, Meadowbrook,
Edenvale, Gauteng
South Africa
Tel: +27 11 2842000
Fax: +27 11 2842100
Web: www.kiporsa.co.za
E-mail: robertk@smithpower.co.za

Kipor – South Africa imports and distribution agents representing world-wide leading brand Kipor in the materials handling and power generation market. These products are distributed throughout South Africa by a comprehensive dealer network. Full after sales service, support and parts are provided on all our products. We have a dedicated forklift division offering the following products: sales, service, parts, long-term rental, short-term hire and maintenance contracts.

Kirloskar Oil Engines Ltd.

L. K. Road, Khadki
Pune
411003
India
Tel: +91 20 25810341/66084574
Fax: +91 20 25813208/0209
Web: www.kirloskar.com
www.koel.co.in
E-mail: shashikant.adsul@kirloskar.com

Kirloskar Group is counted amongst India's largest multi-product, multi-location diversified engineering conglomerates with annual sales of US$ 1.6 billion, Kirloskar Oil Engines was incorporated in 1946 and is the flagship company of the Kirloskar Group. Today KOEL is an acknowledged leader in the manufacturing of Diesel Engines, Agricultural Pumpset's and "Kirloskar Green" Generating Sets Company has state-of-the art manufacturing units in India that offers world class products. KOEL has a sizeable presence in international markets, with offices in Dubai, South Africa and Kenya and representatives in Nigeria. KOEL also has a strong distribution network throughout the Middle-East and Africa.

Agents:

Ethiopia - Ultimate Motors PLC

Kenya - Kirloskar Kenya Ltd.

Malawi - HISCO House

Morocco - HIB Agricole SA

Nigeria - Bhojsons PLC

South Africa - Kirloskar Engines South Africa (Pty) Ltd.

South Africa - Kirsons Trading SA (Pty) Ltd.

Sudan - CTC Group

Tanzania - Incar Tanzania Ltd.

Zambia - Saro Agro

KM Products Europe Ltd.

The Forum, Units B + D
Hanworth Lane Business Park
Hanworth Lane, Chertsey
Surrey, KT16 9JX
United Kingdom
Tel: +44 1932 571991
Fax: +44 1932 571994
Web: www.kmpbrand.com
E-mail: sales@kmpuk.com

Suppliers of Quality KMP Brand Diesel Engine Parts.

Agents:

South Africa - KM Products Europe Ltd.

KOHLER Co. | Kohler Power Systems

Kristallaan 1, Zevenbergen, 4761 ZC
The Netherlands
Tel: +31 168 331630
Web: www.kohlerpower.com
E-mail: powersystems.emea@kohler.com

Kohler Power Systems offer a complete range of Industrial Generator Sets from 20 to 3300 kVA including sychronising controls, transfer switches, synchronising panels and accessories which work together with integrated communication to power critical applications.

Agents:

Angola - Jembas Assistencia Tecnica Lda.

Leroy-Somer Electric Power Generation

Boulevard Marcellien Leroy CS 10015, Angouleme Cedex 9, 16915
France
Tel: +33 5 45945975
Fax: +33 5 45685665
Web: www.leroy-somer.com
E-mail: succursaleisangouleme.ials@emerson.com

Leroy-Somer alternators from 3 kVA up to 20 MVA are built to fit a wide range of applications: prime power, stand-by, construction, rental, marine, cogeneration, telecom.
They can be driven by reciprocating engines, gas, steam and water turbines. Their standard characteristics enable them to be used in difficult conditions including motor starting, distorting loads, overloads or short circuits (AREP excitation).

Linz Electric S.p.A

Viale del Lavoro, 30, Arcole (VR), 37040
Italy
Tel: +39 045 7639201
Fax: +39 045 7639202
Web: www.linzelectric.com
E-mail: info@linzelectric.com

Linz Electric S.p.A is specialised in the production of alternators from 1.7kVA up to 800kVA and rotating welders up to 500 amps. The main focus of Linz Electric is the customer's satisfaction through the top product quality, quick and complete service.

Lister Petter Ltd.

Long Street
Dursley
Gloucestershire
GL11 4HS
United Kingdom
Tel: +44 1453 544141
Fax: +44 1453 546732
Web: www.lister-petter.com
E-mail: sales@lister-petter.co.uk

Lister Petter manufactures a range of diesel powered generators from 2 to 280kVA. These are available open or canopied, 50 and 60Hz, either 1500, 3000, 1800 or 3600rpm and in various voltages. These generators are available in single or three phase configuration and are designed for both standby and prime applications.

Lovato Electric S.p.A.

Via Don E
Mazza 12
Gorle (BG)
24020
Italy
Tel: +39 035 4282111
Fax: +39 035 4282200
Web: www.lovatoelectric.com
E-mail: info@lovatoelectric.com

World leader manufacturer of electrochemical and electronic components for genset control panels. Our range includes generator controllers, automatic transfer switch controllers, battery chargers, changeover contactors and switches and more!

Mahindra & Mahindra Ltd. Mahindra Powerol Business

Gate No. 2, Powerol Building
Akurli Road
Kandivali E
Mumbai, 400101
India
Tel: +91 22 66483051
Web: www.mahindrapowerol.com
E-mail: ghosh.joy@mahindra.com

Mahindra group, the tractor & multi-utility vehicles major in India, forayed into Gensets in 2002. Today, Powerol are powering over 240,000 Gensets in India & in global markets.
Powerol comes with the rating upto 200kVA in global markets.
Mahindra Powerol products are presently available in over 20 Countries across Africa, Middle East & Asia.
Mahindra group in 2011, featured on the Forbes Global 2000 list. In 2010, Mahindra is featured in the Credit Suisse Great Brands of Tomorrow.

Agents:

Ghana - Svani Ltd.

Malawi - ETC Agro Tractors & Implements Ltd.

Niger - Sapex Energie

Nigeria - SCOA Nigeria Plc

Rwanda - I Engineering Rwanda Ltd.

Sierra Leone - Esscon Services Ltd.

Tanzania - ETC Agro Tractors & Implements Ltd.

Uganda - ETC Agro Tractors & Implements Ltd.

MAN Diesel & Turbo SE

Stadtbach Str 1, Augsburg, 86153
Germany
Tel: +49 821 3220
Fax: +49 821 3221460
Web: www.mandieselturbo.com
E-mail: powerplant@mandieselturbo.com

MAN Diesel & Turbo can look back at more than 250 years of industrial history and is the leading provider of large-bore reciprocating engines and turbo machinery for marine and stationary applications. With our fast product range from reciprocating engines running or liquid or gaseous fuels, steam turbines and industrial gas turbines for the energy business, from single engines and generating sets to complete made-to-measure power plants on EPC basis as main contractor MAN Diesel & Turbo is well situated to accommodate this.

Agents:

South Africa - MAN Diesel & Turbo South Africa (Pty) Ltd.

Mantrac Group

(B-17) Smart Village Km 28
Cairo Alexandria Desert Road
Giza, 12577
Egypt
Tel: +20 2 35314000
Fax: +20 2 35370798
Web: www.mantracgroup.com
E-mail: hdeeb@mantracgroup.com

Mantrac Group is the authorized Caterpillar dealer, distributing and supporting Caterpillar construction machines, power systems and material-handling equipment in Egypt, Kenya, Tanzania, Uganda, Nigeria, Ghana, Sierra Leone, Iraq and Siberia- Russia. With over 3000 employees and decades of experience as a Caterpillar dealer, we provide customers with comprehensive solutions backed by technical know-how, experience and in-depth knowledge of their local markets.
We supply CAT diesel generators from 250 kVA up to 8000 kVA, Olympian fully enclosed generators sets from 8kVA-220 kVA, Automatic transfer switches, Natural gas engines and Gensets, CAT marine propulsion engines, Marine Gensets, Power modules.
More than a supplier of generator sets, we specialize in power plant turnkey installations and heat-recovery applications. Our extensive work scope includes engineering, design, testing, installation, on-site commissioning, and training as well as long term service and support.

Agents:

Ghana - Mantrac Ghana Ltd.
Kenya - Mantrac Kenya Ltd.
Nigeria - Mantrac Nigeria Ltd.
Sierra Leone - Mantrac Sierra Leone Ltd.
Tanzania - Mantrac Tanzania Limited
Uganda - Mantrac Uganda Ltd.

Marelli Motori S.p.A.

Via Sabbionara, 1
Arzignano
Vicenza, 36071
Italy
Tel: +39 0444 479711
Fax: +39 0444 479888
Web: www.marellimotori.com
E-mail: sales@marellimotori.com

Marelli Motori S.p.A. is a leading manufacturer of:

- Synchronous generators in low voltage 10 - 5.000kVA and medium/high voltage 500 - 9.000kVA.
- Generators for Hydropower application in low, medium and high voltage range up to 6.000kVA (4-22 poles).

Applications include prime, hydro/marine engines and water/gas turbines. The company offers worldwide support.

Massey Ferguson Power Series

1 Charlestown Drive
Craigavon
Northern Ireland
BT63 5GA
United Kingdom
Tel: +44 28 38356000
Web: www.masseyferguson.com
E-mail: sales@mfgen.co.uk

930 9 - 33 kVA Perkins Engine, MeccAlte alternator
950 60 - 330 kVA AGCO Power (Sisu) engine, MeccAlte alternator
970 300 - 710 kVA Scania engine, MeccAlte alternator
990 715 - 3350 kVA MTU engine, MeccAlte and Stamford alternators (to 11kV)
All option including canopies, remote access and synchronising.

Mecc Alte

6 Lands End Way
Oakham
Rutland, LE15 6RF
United Kingdom
Tel: +44 1572 771160
Fax: +44 1572 771161
Web: www.meccalte.com
E-mail: steve.ohara@meccalte.co.uk

Mecc Alte are proud to be the world's largest independent producer of synchronous alternators ranging from 1kVA to 3,000kVA. Quite simply, we manufacture the worlds widest range of low voltage alternators through 'made for manufacturing' product designs. As a specialised manufacturer of synchronous alternators / welders and special rotating machines within the electromechanical sector, we can produce bespoke equipment to cover a highly diverse range of applications.

Agents:

South Africa - Sub Sahara Power Distributors (Pty)

Mecc Alte International

Ze La Gagnerie
Saint Amant De Boixe, 16330
France
Tel: +33 545 397562
Fax: +33 545 398820
Web: www.meccalte.com
E-mail: info@meccalte.fr

Mecc Alte is a world leading producer and supplier of synchronous alternators. As a totally independent company we are focused totally on producing world class alternators.

Mikano International Ltd.

Plot 34/35 Acme Road
Ogba, Ikeja, Lagos, Nigeria
Tel: +234 802 5119697/806 66802525
Fax: +234 1 4602146
Web: www.mikano-intl.com
E-mail: info@mikano-intl.com

Generator sales and service with basic and sound proof type. Diesel generators from 9-5000kVA and gas generators from 250-2000kVA. Large stock of genuine spare parts. State of the art steel fabrication factory with latest CNC & laser cutting machines. Wide rental fleet, 24/7 after sales service, switchgear, ATS, AMF synchronisation panels, low and medium voltage. Turnkey power projects, full project-electrical solutions. Also, we are the "channel partner of ABB" in Nigeria. So we do sell and service all of ABB materials in LV and MV category.

Motorenfabrik Hatz GmbH & Co. KG

Ernst-Hatz-Str. 16, Ruhstorf a.d. Rott
94099, Germany
Tel: +49 8531 3190
Fax: +49 8531 319418
Web: www.hatz-diesel.de
E-mail: marketing@hatz-diesel.de

Hatz Diesel is a specialist in 1 to 4 cylinder diesel engines which are used in all manner of applications such as construction machinery, compressors and utility vehicles. Besides, Hatz produces generating sets up to several hundred kVA as well as scalable electricity stations for independent power supply.

Agents:

Algeria - Dieselec SARL
Burundi - Metalubia
Cameroon - EMEI Diesel SARL
Cote D'Ivoire - Prestige-Auto
Gabon - MIAG - Matériel Industriel et Automobile Gabonais
Ghana - Agria Machinery Services & Co. Ltd.
Kenya - First Machineries Ltd.
Mali - Dupe SA
Mauritania - Sodeq SA
Morocco - Sonacom
Nigeria - A1 Multi Services Ltd.
Senegal - Mat Force (CRE Technology)
South Africa - Hatz Diesel SA (Pty) Ltd.
Tunisia - S.I.A Ben Djemaa & Cie

MTU South Africa (Pty) Ltd.

PO Box 215
Milnerton
7435
South Africa
Tel: +27 21 5295760
Fax: +27 21 5511970
Web: www.mtu-online.co.za
E-mail: info@mtu-online.co.za

MTU Onsite Energy is one of the core brands of Rolls-Royce Power Systems which is a world-leading provider of high and medium-speed diesel and gas engines, complete drive systems, distributed energy systems and fuel injection systems for the most demanding requirements.

Agents:

Namibia - Namib Diesel CC
Nigeria - Stag Engineering
Zimbabwe - R&S Diesel Pro Services (Pvt) Ltd.

ORTEA S.p.A.

Via dei Chiosi
21 Cavenago B.za (MB)
20873
Italy
Tel: +39 02 95917800
Fax: +39 02 95917801
Web: www.ortea.com
E-mail: ortea@ortea.com

Founded in 1969, ORTEA is now a leading company in manufacturing and engineering voltage stabilisers, magnetic components, generators and electrical equipments.
Beside standard production, ORTEA is able to be extremely flexible in developing and manufacturing special equipment according to user's specifications, thanks to the experience gained in over 40 years.

Agents:

Cote D'Ivoire - ORTEA AFRICA

Perkins Engines Company Limited

Frank Perkins Way
Peterborough
Cambridgeshire
PE1 5FQ
United Kingdom
Tel: +44 1733 583000
Web: www.perkins.com
E-mail: webmaster_perkins@perkins.com

Perkins is a leading supplier of off-highway diesel and gas engines, offering powers up to 2500 kVA in diesel or 1000 kWE prime in gas. Our cost effective and trusted solutions, from competitive fuel consumption to ease of maintenance, whatever the power requirement, add real value to our customers' equipment.

PowerLink Machine (UK) Co. Ltd.

Vickers Building
Hurricane Close
Sherburn in Elmet
LS25 6PB
United Kingdom
Tel: +44 1977 689100
Fax: +44 1977 681990
Web: www.powerlinkworld.com
E-mail: info.uk@powerlinkworld.com

PowerLink UK manufactures diesel generators from 10kVA - 2250kVA, open type and soundproof. We serve the world market through the PowerLink Group, and our worldwide distributor network, focusing on the Middle East, European and African markets. Please contact our dedicated team based in Leeds, United Kindom for more information.

Powersource Projects Ltd.

PowerPro House
Unit 4
Capital Park Industrial Estate
Combe Lane
Wormley
Godalming
Surrey
GU8 5TJ
United Kingdom
Tel: +44 1428 687979
Fax: +44 1428 687799
Web: www.power-source-pro.co.uk
E-mail: sales@power-source-pro.co.uk

PowerPro range of Diesel Generators from 7.5-2000kVA, supported by full range of genuine spare parts for engines, alternators and control systems.

PR Industrial

Località il Piano snc
Casole d'Elsa
53031
Italy
Tel: +39 0577 965200
Web: www.pramac.com
E-mail: info@pramac.com

PRAMAC is an Italy-based company engaged in the manufacturing of the power generation equipment and materials handling equipment. The Company divides its activities into two business sectors: Power Systems e Power Engineering, which comprises generators for electric power, including low voltage portable generators and medium and high voltage generators and similar machineries; Handling, which includes the manufacturing and distribution of the machinery for handling logistic.

PR Middle East FZE

1206 JAFZA View 18
Jebel Ali Free Zone - South 1
Dubai
United Arab Emirates
Tel: +971 4 8865275
Fax: +971 4 8865276
Web: www.pramac.com
E-mail: dubai@pramac.com

PR Middle East FZE is under PRAMAC group which specialize energy generation solutions - Lighting solution, prime power/standby standard solution, portable solution, rental solution and telecom solution. Product portfolio also includes material handling systems.

Prime Electric

Prime Tower 287-288
Udyog Vihar Phase II
Gurgaon, 122016
India
Tel: +91 124 4111999/6656999
Fax: +91 124 4871698/99
Web: www.primeeelectricltd.com
E-mail: sales@primeelectricltd.com

Rolls-Royce plc

The Iceni Centre
Warwick Technology Park
Warwick
CV34 6DA
United Kingdom
Tel: +44 1926 307700
Fax: +44 1926 307987
Web: www.rolls-royce.com

Rolls-Royce is a leading supplier of low emission, high efficient Aeroderivative gas turbine power generation packages from 3.8 – 66mw and Bergen reciprocating engines up to 9.4mw. All products are supported by a world class service organisation.

SAB, Evers & Co. Standard Aggregatebau KG

Oststrasse 11
Norderstedt, 22844
Germany
Tel: +49 40 522501125
Fax: +49 40 522501144
Web: www.generatingset.com
E-mail: info@generatingset.com

Reputable German manufacturer of diesel-driven generating sets from 50 to 4000 kVA in stationary, transportable or mobile executions for standby, peak load or base load applications world-wide. Main competencies are the planning, designing, manufacturing, installation and servicing of global plant constructions under consideration of individual customer and project requirements.

Sakr Power Generation

PO Box 98, Jbeil, Halat
Lebanon
Tel: +961 9 442000
Fax: +961 9 445444
Web: www.sakr.com
E-mail: lebanon@sakr.com

Sakr Power Generation deals with the world's leading names in Power Generation:

- Mitsubishi, MBH, Cummins, Lister Peter for high speed diesel engines.
- GE Transportation for medium speed diesel engines.
- Marathon, MBH and Stanford alternators.

SPG is among the most reputed solution providers in their segments with a presence across MEA, Africa and Europe.

Agents:

Nigeria - Sakr Power Generation Nigeria Ltd.

Sudan - Sakr Power Generation Ltd. Khartoum

Scania

Vagnmakarvägen 1
Södertälje
Sweden
Tel: +46 8 55381000
Fax: +46 8 55381037
Web: www.scania.com
E-mail: engines@scania.com

Scania is one of the world's leading manufacturers of trucks and buses for heavy transport applications and of industrial, marine and power generation engines. Employing some 41,000 people, Scania operates in about 100 countries. Research and development activities are concentrated in Sweden, while production takes place in Europe and South America.

SDMO Industries

12 bis rue de la Villeneuve
CS 92848
29228 Brest Cedex 2
France
Tel: +33 2 98414141
Fax: +33 2 98416307
Web: www.sdmo.com
E-mail: sdmo@sdmo.com

SDMO Industries is one of the world's leading generating sets manufacturers. A wide range of standard products from 1 kVA to several Megawatts through an efficient engineering department meets non-standard requirements. Present in over 150 countries through a dense network, SDMO Industries devotes its energy to supporting you in the successful completion of each of your projects world wide.

Agents:

Algeria - SDMO Alger

Egypt - SDMO Cairo

Kenya - SDMO Kenya

Nigeria - SDMO Nigeria Ltd.

South Africa - SDMO South Africa

Togo - SDMO West Africa

SES SMART Energy Solutions

Jebel Ali Free Zone, Dubai
United Arab Emirates
Tel: +971 4 8862066
Fax: +971 4 8862067
Web: www.sesrent.com
E-mail: sales@sesrent.com

SES is a leading turnkey power solutions provider serving temporary and medium term energy needs across middle east, africa and south east asia region.
SES provides rental power solutions including remote and embeded power generation using diesel, gas and hybrid generating sets from 5 to 100 mw at each site running at low, medium and high voltage levels.
The solutions offered include consultancy, design, installation, commissioning, operation, maintenance and demobilization or relocation of the power plants.

Agents:

Kenya - SES SMART Energy Solutions Kenya

Nigeria - SES SMART Energy Solutions Nigeria

Rwanda - SES SMART Energy Solutions Rwanda

State Enterprise Plant Electrotyazhmash

299 Moskovsky Avenue
Kharkov, 61089
Ukraine
Tel: +38 57 7275002
Fax: +38 572 949890
Web: www.spetm.com.ua
E-mail: etm@spetm.com.ua

Design and production of turbogenerators, hydrogenerators, large electric machinery and traction electrical equipment.

Teksan Generator

Yenidoğan Mah.
Edebali Cad. No: 12 Sancaktepe
Istanbul, 34791
Turkey
Tel: +90 216 3120550
Fax: +90 216 3126909
Web: www.teksangenerator.com
E-mail: info@teksangenerator.com

Teksan Jenerator is one of the largest manufacturers of diesel, natural gas generator sets and CHP systems all around the world. Teksan Jenerator has extensive knowledge with skilful staff who concentrate on custom built products in specialised fields. Teksan Jenerator currently supplies power solutions to Africa through appointed dealers.

Agents:

Egypt - Mabrouk Brothers

Kenya - Famiar Generating Systems Ltd.

Visa S.p.A.

VISA GENERATING SETS مجموعة المولدات

Via 1° Maggio, 55
Fontanelle (TV)
31043
Italy
Tel: +39 04 225091
Fax: +39 04 22509350
Web: www.visa.it
E-mail: visa@visa.it

Visa S.p.A is a modern Italian company manufacturing around 4000 gensets per year, for continuous and emergency services, ranging from 9 to 3000kVA, in standard or customised versions (construction, telecommunication, etc). It has a network of distributors in more than 80 countries around the world. Visa is amongst the most qualified companies in the sector, guaranteeing a highly operational flexibility and qualitative standards for which is has become a leader in the market for more than 50 years.

Volvo Penta

VOLVO PENTA

Gropegardsgatan
Gothenburg
40508
Sweden
Tel: +46 31 235460
Fax: +46 31 508187
Web: www.volvopenta.com
E-mail: info.volvopenta@volvo.com

Volvo Penta is a world leading and global manufacturer of engines and complete power systems for both marine and industrial applications. The Volvo Penta Industrial engine range covers diesel engines for electrical power generation and industrial diesel engines for different stationary and mobile off-road applications. Our engines meet both the most stringent exhaust emission levels, Tier 4/Stage 4, but are also available in lower Tier versions. Volvo Penta has a global coverage with around 4000 dealers in 130 countries.

Volvo Penta is a part of the Volvo Group, one of the world's leading manufacturers of trucks, buses and construction equipment.

Agents:

Congo DR - SMT RD Congo (Kinshasa)

Congo DR - SMT RD Congo (Lubumbashi)

Congo Republic - SMT Congo (Brazaville)

Congo Republic - SMT Congo (Pointe Noire)

Egypt - Orascom Trading Co.

Nigeria - Marine and Land Logistics Ltd.

Nigeria - SMT Nigeria (Abuja)

Nigeria - SMT Nigeria (Lagos)

Nigeria - SMT Nigeria (Port Harcourt)

Yamuna Cable Accessories Pvt. Ltd.

AL YAMUNA DENSONS FZE

3/101, Kaushalya Park, Hauz Khas
New Delhi, 110016
India
Tel: +91 9811022689
Fax: +91 11 43577708
Web: www.yamunadensons.com
E-mail: ravisardana@ yamunadensons.com

- 11 kV to 36 kV cold shrinkable, heat shrinkable terminations and joints.
- Vacuum circuit breaker up to 36 kV.
- Polymeric insulator for outdoor/indoor switch yards.
- Cable accessories for utilities and projects.

Agents:

Kenya - Subsahara Supplies Ltd.

Yellogen Ltd.

YelloGen

24 Oroory Hill
Dromore
County Down
Northern Ireland, BT25 1LE
United Kingdom
Tel: +44 1430 850001
Fax: +44 1430 850002
Web: www.yellogen.com
E-mail: mail@yellogen.com

Yellogen Ltd is a specialist supplier of power generation products and carry large stocks of used equipment from 10 to 2000 kVA.

All our used machines are located in the UK Mainland, near York.

We can also provide new Diesel Generators utilising all major engines such as Perkins, Cummins, Volvo, JCB.

To complement our extensive stock we also provide a full range of spare parts for engines, alternators and Control Systems.

We pride ourselves on supplying a prompt, reliable and helpful service at all times and are confident that the quality of our equipment and standard of service is second to none.

For more information, please contact us or visit our website at www.yellogen.com

Zest Weg Group

ZEST WEG Group

47 Galaxy Ave Linbro
Business Park
Johannesburg
South Africa
Tel: +27 11 7236000
Fax: +27 11 7236001
Web: www.zest.co.za
E-mail: marketing@zest.co.za

The Zest WEG Group, a leading supply of low, medium and high voltage electric motors, vibrator Motors, variable speeds drives, softstarters, Distribution and power transformers, MCC's, e-houses and custom built containerised substations, diesel generator sets, mobile power generation, distribution and protection solutions switchgear and co-generation and energy solutions, LV and MV Electrical Reticulation, Control and Instrumentation Installations as well as overhead lines.

Agents:

Botswana - Zismo Engineering

Cameroon - NAL Business and Corporation

Ghana - Zest Electric Ghana Ltd.

Kenya - Repelectric

Mauritania - INTEQ - International Equipment

Namibia - Walfish Electric

Tanzania - Commercial Sales and Services (T) Ltd

Zambia - E.C. Mining Ltd.

Zimbabwe - Powerspeed Electrical

Section Two: Agent

Algeria

Atlas Copco Algeria S.p.A

Tel: +213 770539585/539612
E-mail: azzedine.achour@ dz.atlascopco.com

Cummins Energie Algerie

Lot no.93 Zone d'activité de Dar El Beida
16100
Tel: +213 770118422
Fax: +213 21 751146
Web: www.cumminsalgerie.com
E-mail: c.mansour@ cumminsenergie.dz

Dieselec SARL

7 Rue Kaddour Rahim
Hussein-Dey
Alger, 16040
Tel: +213 23776568
Fax: +213 23776721
E-mail: info@dieselec-dz.com

EURL AKSA Générateurs Algérie

Zone Industrielle Oued Smar
CP 16270 Lot N°55, Harrach
Alger
Tel: +213 5 5501270004
Fax: +213 5 5501270004
Web: www.aksa-dz.com
E-mail: sezerg@aksa-dz.com

S.A.R.L Alger Engins

RN 61 Haouche-el-Mekhfi
Ouled Haddadj
Boudouaou
35400
Tel: +213 24857584
Web: www.algerengins.com
E-mail: mohamed.habtiche@ algersengins.com

SDMO Alger

5 rue Girardin, Alger
16004
Tel: +213 21 681212

Angola

Atlas Copco Angola, Lda.

Tel: +32 96 1750828
Web: www.atlascopco.com
E-mail: redolfo.neves@ pt.atlascopco.com

C. Woermann Angola Lda.

Caixa Postal 3419
Estrada de Cacuaco
km 4.5, Luanda
Tel: +244 22 7270185
Fax: +244 93 7003101
Web: www.woermann-angola.com
E-mail: info@woermann-angola.com

Cummins Angola

Viana Park, Estrada de Calumbo
Polo Industrial de Viana
Tel: +244 927 443578
Fax: +244 226 433590
Web: www.cummins.com
E-mail: vendas.angola@cummins.com

HIMOINSA Angola

Kikuxi Park - Modulo 13
Viana/Luanda
Tel: +244 936 255891
Fax: +244 998 902112
Web: wwww.himoinsa.com
E-mail: angola@himoinsa.com

Jembas Assistencia Tecnica Lda.

88 Largo do Soweto
CX Postal 10013, Luanda
Tel: +244 222 637000
Web: www.jembas.com
E-mail: jembas@jembas.com

M.T.A – Maquinas e Tractores de Angola

Rua Cônego Manuel das Neves
n.º 19, Viana
Web: www.mta-angola.com
E-mail: ricardo.magalhaes@ mtaangola.com

Socinter
PO Box 6282
Rua Amilcar Cabral 39
Luanda
Tel: +244 2396440
Fax: +244 2395875
E-mail: f.campos@socinterangola.com

Unicar
Rua Luther King, 85b, Luanda
Tel: +244 22 2332409/2239/543
E-mail: jccarvahlo@unicar-angola.com

Benin

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

Botswana

Atlas Copco South Africa (Pty) Ltd. Construction Technique
Tel: +27 11 8219000/83 6312429
E-mail: david.stanford@za.atlascopco.com

BH Botswana (Pty) Ltd.
Plot 695500
Lejara Rd
Broadhurst
Gaborone
1460
Tel: +267 391 2811
Web: www.bh.co.bw
E-mail: aliceluza@bh.co.bw

Zismo Engineering
Unit 1 Dumaquari Road
Gaberone West Industrial
Tel: +267 3932711
Fax: +267 3936939
Web: www.zismo.co.bw
E-mail: zismo@botsnet.bw

Burkina Faso

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Equipment Burkina Faso
2280
Boulevard Tansoba Kiema
01, Quagadougou
BP 232
Web: www.cfao-equipment.com
E-mail: louedraogo@cfao.com

Burundi

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Metalubia
Boulevard du 1er Novembre
Bujumbura
BP 3028
Tel: +257 22 213775

Cameroon

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Equipment Cameroon
Zone Industrielle Bonaberi
BP 468553
Douala
Tel: +33 6 29981640
Web: www.cfao-equipment.com
E-mail: mvellat@cfao.com

EMEI Diesel SARL
777, Rue Drouot
Douala, BP 4509
Tel: +237 3428751
Fax: +237 3426843
E-mail: emei.diesel@yahoo.fr

NAL Business and Corporation
PO Box 1628, Rue Joffre
Akwa-Douala Cameroon
Graniteside, Douala
Tel: +237 3343 4337
Fax: +237 3343 9394

Central African Republic

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

Chad

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Motors Chad
340 Avenue Felix Eboue
Rond Point de L'Union
N'djamena BP 474
Web: www.cfao-equipment.com
E-mail: cnamblard@cfao.com

Congo DR

Atlas Copco Zambia Ltd.
Tel: +260 2 12311281/978 999175
E-mail: daniel.banister@zm.atlascopco.com

BIA Overseas
(Lubumbashi Branch - Katanga)
Avenue Hewa Bora 17
Lubumbashi, BP 1872
Tel: +243 848443000
Web: www.biaoverseas.com
E-mail: info.cod@biagroup.com

CFAO Equipment DRC
17 Avenue des Poids Lourds
Kinshasa, BP 1499
Web: www.cfao-equipment.com
E-mail: jpioger@cfao.com
smassamba@cfao.com

CFAO Equipment RD Congo
590 Avenue des Savonniers
Lubumbashi, BP 2200
Tel: +33 6 29981640
Web: www.cfao-equipment.com
E-mail: sduchateau@cfao.com

SMT RD Congo (Kinshasas)
Avenue du Militant
Kinshasa
4478
Tel: +243 82 0666964
Web: www.smt-rdc.com
E-mail: info@smt-rdc.com

SMT RD Congo (Lubumbashi)
Route de Likasi
2841
Tel: +243 81 5656565
Web: www.smt-rdc.com
E-mail: info@smt-rdc.com

Congo Republic

Approvisionnement Congo Service
Avenue William Guynet
BP 130, Brazzaville
Tel: +242 22 2811284/06 5090939
Fax: +242 2810777/+33 1 70248652
Web: www.acs-congo.com
E-mail: bzvagence@acs-congo.com

CFAO Equipment Congo
13, Rue Cotes Mateve
Pointe-Noire, BP 1110
Tel: +242 5 6275050
Web: www.cfao-equipement.com
E-mail: ebergeron@cfao.com
abecart@cfao.com

CFAO Equipment Congo
Boulevard Denis Sassou-Nguesso
M'Pila, Brazzaville, BP 247
Tel: +242 5 5049333
Web: www.cfao-equipment.com
E-mail: aduchon@cfao.com

SMT Congo (Brazaville)
Avenue Bayardelle, Brazaville
Tel: +242 57549538
Web: www.smt-congo.com
E-mail: info@smt-congo.com

SMT Congo (Pointe Noire)
113 rue Denis Ngomo
Pointe Noire
Tel: +242 57549538
Web: www.smt-congo.com
E-mail: info@smt-congo.com

Cote D'Ivoire

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Equipment RCI
Boulevard de Vridi 15
Abibjan
BP 720
Tel: +33 6 29981640
Web: www.cfao-equipment.com
E-mail: olamoure@cfao.com

Cummins Cote D'Ivoire SARL
Residence Abety Boulevard De Face Notre Dame D'afrique
01 BP 11591 Abidjan, 01
Tel: +225 2 1355057
Fax: +225 2 1355065
Web: www.cummins.com
E-mail: franck.nguettia@cummins.com

ORTEA AFRICA
8, Chevalier de Clieu Street
Zone 4 / Abidjan
Registred Free Zone of Grand Bassam
Tel: +225 21 253366
Fax: +225 21 253365
Web: www.ortea.com
E-mail: dable@ortea.com

Prestige-Auto
Département Agricole
BTP
Industriel
Boulevard de Vridi
Abidjan BP 1691
11
Tel: +225 21 756555
Fax: +225 21 756569
E-mail: gkrasker@pa-ci.com

Djibouti

A G Tractor FZE / Select International Services
Zone Industrielle Sud
Rue Djama Maitre
East Africa
Tel: +253 77 793847
E-mail: moktar.abdi@sisdj.com

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Egypt

Arab Development & Trading Co.
ADG Headquarters
25 Pyramids St
Giza
1572
Tel: +20 2 03854001
Web: www.adg-eg.com
E-mail: hgamal@adg-eg.com

EIM - Egyptian International Motors
Autostrad Road
El Kalaa
Cairo
11411
Tel: +20 2 5061600
Fax: +20 35391155
Web: www.eim-eg.com
E-mail: cummins@eim-eg.com

IPC
9 Mohamed Adly
Kafafy Street, Heliopolis
Cairo
E-mail: samir.wahib@ipcmachinery.com

Mabrouk Brothers
77 Road 104 Maadi Cairo
Tel: +202 2526 5621
Fax: +202 2526 5622
Web: www.teksangenerator.com
E-mail: m.mabrouk@teksangenerators.com

Orascom Trading Co.
160, 26th July St
Agouza, Giza
Cairo, 1191
Tel: +20 2 33452510/16
Fax: +20 2 33034936/766
Web: www.orascom-trading.com
E-mail: youssef.mounir@orascom-trading.co

Orascom Trading Co. SAE
160B 26th July Street
Agouza, Cairo
Tel: +20 2 33452510
Fax: +20 2 33473191
Web: www.orascom.com
E-mail: marianm@orascom.com

Proserve
4 Mahmoud Shokri St.
Smouha
Alexandria
Tel: +20 12 2337185
E-mail: mdaoud@proserve-egypt.com

SDMO Cairo
22 Rushidi Street
Heliopolis
Cairo
Tel: +20 2 24195866

Eritrea

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Ethiopia

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Ethio-Nippon Technical Company S. Co.
PO Box 2250
Kirkos Sub City
Addis Ababa
Web: www.ethio-nippon.com
E-mail: addisgirma2013@gmail.com

Gedeb Engineering PLC
Nifas Silk / Lafto Sub City
Woreda 06
House Number 683
Addis Ababa
E-mail: ukieew@gmail.com

Ultimate Motors PLC
PO Box 3900
Addis Ababa
Tel: +251 1 1655350
E-mail: ummarketing@ethionet.et

Gabon

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Equipment Gabon
Port Gentil
BP 1381
Web: www.cfao-equipment.com
E-mail: sferrante@cfao.com

CFAO Equipment Gabon
Zone Industrielle Oloumi
Libreville, BP 7661
Tel: +33 6 29981640
Web: www.cfao-equipement.com
E-mail: kchekroun@cfao.com

MIAG - Matériel Industriel et Automobile Gabonais
BP 186, Libreville
Tel: +241 7 60031
Fax: +241 7 41889
E-mail: societemiag@ifrance.com

Gambia

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Equipment The Gambia
PO Box 297
Mamadi Manjang Highway
Kanifinf Industrial Division
Tel: +33 6 29981640
Web: www.cfao-equipment.com
E-mail: tbanjols@cfao.com

Ghana

Agria Machinery Services & Co. Ltd.
No. 5 Royal Castle Road
Kokomlemle
Accra
Tel: +233 30 2222169
E-mail: info@agriamachinerygh.com

Atlas Copco Ghana Ltd.
Tel: +233 302774512
E-mail: nicholas.yamoah@gh.atlascopco.com

B & D Consultancy Co. Ltd.
1 Forest Link Avenue
Behind Fiesta Royale Hotel
Dworzulu
Accra
Tel: +233 244327607
E-mail: bdconsult.main@gmail.com

C. Woermann (Ghana) Ltd.
Block No. C362/1
Avenor Junction
Accra
Tel: +233 30 2225141
Web: www.woermann-ghana.com
E-mail: info@woermann-ghana.com

CFAO Equipment Ghana
PO Box 10348
6 Otublohum Road
Accra North
Tel: +33 6 29981640
Web: www.cfao-equipement.com
E-mail: mlaviolette@cfao.com

Cummins Ghana Ltd.
PO Box WJ773 Weija
Accra
Tel: +233 30 2301451
Fax: +233 30 2301201
Web: www.cummins.com
E-mail: bernard.bosompem@cummins.com

Dizengoff Ghana Ltd.
PO Box 3403
West Industrial Area
Feo Oyeo Road W5
Accra
Tel: +233 30 2221831
Fax: +233 30 2227601
Web: www.dizengoffgh.com
E-mail: nir@dwagh.com

Jubaili Bros
Accra
Tel: +233 30 2817700
Fax: +233 30 2817700
Web: www.JubailiBros.com
E-mail: jbghana@jubailibros.com

Mantrac Ghana Ltd.
PO Box 5207
Ring Road West
North Industrial Area
Accra North
Tel: +233 30 2213777
Fax: +233 30 2221950
Web: www.mantracghana.com
E-mail: wfakhry@mantracghana.com

Modern Age Technologies Ltd.
PO Box 16125
31/1/28th February Road, OSU
Castle Junction, Airport
Accra
Tel: +233 30 2778841
Fax: +233 30 2778038
Web:
www.modernagetechnologies.com
E-mail: support@matghana.com

Power Logistics Co. Ltd.
PO Box 8693
Accra - North
Tel: +233 30 2223138
Fax: +233 30 2222704
E-mail: powerlogistics3@gmail.com

Svani Ltd.
PO Box 9916, Airport
Accra
Tel: +233 540101458
Web: www.svanigroup.com
E-mail: glustig@svanigroup.com

Zest Electric Ghana Ltd.
15 Third Close Street
Airport Residential Area
Accra
Tel: +233 30 276 6490
Fax: +233 30 276 6493

Guinea

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@
sn.atlascopco.com

CFAO Equipment Equatorial Guinea
Km 4 Carreterra Del Aeropuerto
Malabo
BP 561
Web: www.cfao-equipment.com
E-mail: eboutjme@cfao.com

Guinea Bissau

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@
sn.atlascopco.com

Kenya

Altaaqa Global CAT Rental Power, East Africa
Victoria Office Suite Unit 5
Second Floor River Side
Drive No. 74
Nairobi
Tel: +254 73 1030674
Web: www.altaaqaglobal.com
E-mail: osomolo@altaaqaglobal.com

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@
tz.atlascopco.com

Car & General (K) Ltd.
PO Box 20001
New Cargen House
Lusaka – Dunga Road
Industrial Area
Nairobi
00200
Tel: +254 20 6943000/100
Fax: +254 20 554668/76
Web: www.cargen.com
E-mail: info@cargen.com

Famiar Generating Systems Ltd.
PO Box 31757, Road C
Off Enterprise Road
Industrial Area
Nairobi, 00600
Tel: +254 20 3588037
Web: www.famiar.co.ke
E-mail: sales@famiar.co.ke

First Machineries Ltd.
PO Box 48415
Lusaka Close off Lusaka Road
Nairobi, 00100
Tel: +254 20 557786
Fax: +254 20 557785
E-mail: info@firstmachineries.com

Ganatra Plant and Equipment Ltd.
PO Box 31024
Baba Dogo Road
Nairobi, 00600
Web: www.gpe.co.ke
E-mail: altaf@gpe.co.ke

Holman Brothers (EA) Ltd.
PO Box 42044
Bunyala Road
Nairobi, 00100
Tel: +254 20 550626
Fax: +254 20 6530481
E-mail: info@holman.co.ke

Kirloskar Kenya Ltd.
PO Box 60061
Off Dunga Road, Nairobi
Tel: +254 20 533421
Fax: +254 20 533390
E-mail: rspatil@kirloskar.co.ke

Mantrac Kenya Ltd.
PO Box 30067
Witu Road off Lusaka Road
Nairobi
00100
Tel: +254 20 4995300
Web: www.mantrackenya.com
E-mail: kkamau@mantrackenya.com

Repelectric
Baba Dogo Rd, Ruaraka
Nairobi
00619
Tel: +254 73 3612433
Fax: +254 20 861830
E-mail: info@repelectric.net

SDMO Kenya
Nairobi
Tel: +254 707 605400

SES SMART Energy Solutions Kenya

Specialised Power Systems Ltd.
PO Box 18435
Melili Road
Next to Marshall's Showroom
Off Mombasa Road
Nairobi
00500
Tel: +254 20 2077219/8019435/6/7
Fax: +254 20 3532986
Web: www.spsafrica.com
E-mail: info@spsafrica.com

Subsahara Supplies Ltd.
PO Box 18741
Off Langata Road
Nr Nairobi Pentacostal Church
Karen
Nairobi
00500
Tel: +254 72 1125222
E-mail: sub.sahara@hotmail.com

Lebanon

The White Alnoras
Swani Road, Tripoli
E-mail: y.azzouzi@alnoras.co.ly

Liberia

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@
sn.atlascopco.com

Libya

United Group Co.
PO Box 83294
Krimia Swani Road KM 11
Tripoli
Tel: +218 21 7313310
E-mail: i.swayah@uglibya.com

Madagascar

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@
tz.atlascopco.com

Autodiffusion
101 Borosy Talatam
Antananarivo
E-mail: mihantarasonanarivo@
sodiat.mg

S.R.C.D.
6 Rue Fredy Rajaofera
BP 5063 Antananarivo
101
Tel: +261 20 22 63221
Fax: +261 20 22 63219
E-mail: srcd@freedsl.mg

Malawi

Atlas Copco Zambia Ltd.
Tel: +260 2 12311281/978 999175
E-mail: daniel.banister@
zm.atlascopco.com

ETC Agro Tractors & Implements Ltd.
G1, City Plaza, Maselema, Limbe
Blantyre
Tel: +265 99 3029284
Web: www.exporttradinggroup.com
E-mail: cm.malawi@etcagro.com

HISCO House
Plot No. B115, Kristwick
Along Masauko
Chipmebere Highway, Blantyre
Tel: +265 1 871720/820
E-mail: mahesh@hiscohouse.com

Mali

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@
sn.atlascopco.com

Dupe SA
BP 680, Bamako
Tel: +223 2 215230
Fax: +223 2 218301
E-mail: dupesa@ikaso.net

Groupe Electrogène Services (GES)
Zone Industrielle
Route de l'Abbatoir
Bamako
Tel: +223 20 215054
E-mail: fenotges@gesmail.com

Mauritania

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@
sn.atlascopco.com

INTEQ - International Equipment
Immeuble Ocean
Km 1
Rte de la Plage
Nouakchott
Tel: +222 525 6543
Fax: +222 525 6413

Sodeq SA
BP 40250
Nouakchott
Tel: +222 5 254730
Fax: +222 5 250632
E-mail: sodeq.sa@gmail.com

Mauritius

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@
tz.atlascopco.com

Izumi Systems Ltd.
47 Sir Virgil Naz St.
Port Louis
Tel: +230 597 95400
Web: www.izumisystems.net
E-mail: izumi.dd@gmail.com

Morocco

Atlas Copco Maroc SA
Tel: +212 52 2600522
Web: www.atlascopco.com
E-mail: mounir.laaribi@
ma.atlascopco.com

CFAO Equipment Morocco
Web: www.cfao-equipment.com
E-mail: amoatassim@cfao.com

HIB Agricole SA
18 BD Mohamed V
Kenitra
E-mail: hibagri@menara.ma

SEHI
47, Rue Planquette Belveder
Casablanca
20300
Tel: +212 660402654
Web: www.sehi.ma
E-mail: sehi@menara.ma

Soberma Groupe Auto Hall
Bd, Ali Yaâta Ex. Chemin Ain
Beausite
Ain Sebaâ- Casablanc
Tel: +212 522 666642
Fax: +212 22 666645
Web: www.soberma.ma
E-mail: soberma@soberma.ma
a.boutsarmine@soberma.ma

Societe de Realisations Mecaniques
Route d'el Jadida
Km 14 RP1
Casablanca
20 300
Tel: +212 522 633700
Fax: +212 522 636839
Web: www.groupe-premium.com
E-mail: mohammed.derouich@
premium.net.ma

Sonacom
14 Bd Ba Hmad
MA-Casablanca
Tel: +212 5 22249700
Fax: +212 5 22245776
E-mail: sonacom1@menara.ma

Mozambique

Atlas Copco South Africa (Pty) Ltd. Construction Technique
Tel: +27 11 8219000/83 6312429
E-mail: david.stanford@za.atlascopco.com

Macquip Lda.
Estrada Nacional N°6
Bairro de Manga, Beira
Tel: +258 23 354424
Fax: +258 23 354425
E-mail: altad@macquipmoz.com

Tecnel Service Lda.
Av. Das Industrias
760 - C.P. 99
Machava, Maputo
Tel: +258 82 3005350
E-mail: johan.akesson@tecnel.co.mz

Namibia

Atlas Copco South Africa (Pty) Ltd. Construction Technique
Tel: +27 11 8219000/83 6312429
E-mail: david.stanford@za.atlascopco.com

Namib Diesel CC
PO Box 2449, Walvis Bay
Tel: +264 64 203971
Fax: +264 64 203255
Web: www.namibdiesel.com
E-mail: frankb@namibdiesel.com.na

Walfish Electric
109 Hage Geingob Street
Walvis Bay
Tel: +264 64 205891
Fax: +264 64 205007
Web: www.walfishelectric.com
E-mail: sales@walfishelectric.com

Niger

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

Sapex Energie
BP 11584
Niamey
Republique Du Niger
Tel: +227 90905858
E-mail: olivier.merenne@sapex.com

Nigeria

A G Leventis
PO Box 390
2 Wharf Road
Apapa, Lagos
Tel: +234 8128990496
Web: www.agleventis.com
E-mail: mkahloun@agleventis.com

A1 Multi Services Ltd.
PO Box 80277
32, Olorunfunmi Street
Lafiaji, Lagos
101223
Tel: +234 80 37123006
Fax: +234 1 3450588
Web: www.a1ip.com
E-mail: ip@a1ip.com

Aggreko Projects Ltd.
4 MacPherson Avenue
Ikoyi
Lagos
Tel: +234 1 4612988
Fax: +234 1 4612989
Web: www.aggreko.com
E-mail: richard.goulden@aggreko.ae

Atlas Copco Nigeria Ltd.
Tel: +234 70 68621253/817 7183400
E-mail: stanley.musau@ng.atlascopco.com

Bhojsons PLC
29 C Kofo Abayomi Street
Victoria Island
Lagos
Tel: +234 1 2618322
E-mail: pra1234@yahoo.com

Broadcrown (West Africa) Ltd.
Plot 4/6 Kudirat Abiola Way
Alausa
Ikeja
Lagos
Tel: +234 1 7617107
Web: www.broadcrownwestafrica.com
E-mail: info@broadcrown.com.ng

C. Woermann (Nigeria) Ltd.
6 Badejo Kalesanwo Street
Matori Industrial Estate
Lagos
Tel: +234 1 7736498
Web: www.woermann-nigeria.com
E-mail: info@woermann-nigeria.com

Cummins West Africa Ltd.
8 Ijora Causeway
Ijora
Lagos
Tel: +234 1 7927462
Fax: +234 5873011
Web: www.cumminswestafricaltd.com
E-mail: service@cumminswestafricaltd.com

Jubaili Bros Engineering Ltd.
Ikeja, Plot 2
Ikosi Road
Oregun, Ikeja
Lagos State
Tel: +234 81 40111111
Fax: +234 1 4977784/5
Web: www.JubailiBros.com
E-mail: jb.ikeja@jubailibros.com

Mantrac Nigeria Ltd.
PO Box 21480
2 Billingsway
(Off Secretariat Road)
Oregun Industrial Estate
Ikeja, Lagos
Tel: +234 703 4081297
Web: www.mantracnigeria.com
E-mail: Ibassiouny@mantracnigeria.com

Marine and Land Logistics Ltd.
12d Osborne Road
Foreshore Estate II
Osborne
Ikoyi, Lagos
Tel: +234 802 3219004/806 3049869
Web: www.marineandland.com
E-mail: info@marineandland.com

RT Briscoe
PO Box 2104
18, Fatai Atere Way Matori
Oshodi
Web: www.rtbriscoe.com
E-mail: deshpande@rtbriscoe.com

Sakr Power Generation Nigeria Ltd.
Plot 15, Akin Adesola Street
Victoria Island, Lagos
Tel: +234 1 2705551
Fax: +234 1 2705553
Web: www.sakr.com
E-mail: nigeria@sakr.com

SCOA Nigeria Plc
157, Apapa-Oshodi Express
Isolo, Lagos
Tel: +234 803 4027262
E-mail: scoatrac@scoaplc.com

SDMO Nigeria Limited
Lagos
Tel: +234 805 6666444

SES SMART Energy Solutions Nigeria

SMT Nigeria (Abuja)
Plot 412, Opp. Julius Berger
IDU Industrial Estate, Abuja
Tel: +234 802 3747678
Web: www.smt-nigeria.com
E-mail: info@smt-nigeria.com

SMT Nigeria (Lagos)
322 A Ikorodu Road
Lagos
Tel: +234 802 3747678
Web: www.smt-nigeria.com
E-mail: info@smt-nigeria.com

SMT Nigeria (Port Harcourt)
200 Airport/Airforce Road
Eliozu, Port Harcourt
Tel: +234 802 3747678
Web: www.smt-nigeria.com
E-mail: info@smt-nigeria.com

Stag Engineering
PO Box 353, Lagos
Tel: +234 1 7742300
Fax: +234 1 7738187
Web: www.stagengineering.com
E-mail: stagengineering@gmail.com

Rwanda

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Balton Rwanda SARL
21 Avenue de la Paix
Kigali, BP 2972
Tel: +250 788308826
Fax: +250 78570073
E-mail: bob@balton.co.rw

I Engineering Rwanda Ltd.
PO Box 6295, Nyarutarama, Kigali
Tel: +250 78838446
E-mail: jlingatong@ieng-group.com

SES SMART Energy Solutions Rwanda

Senegal

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CFAO Equipment Senegal
Km 2.5 Boulevard du
Centenaire de la Commune
de Dakar, BP 27306
Tel: +33 6 29981640
Web: www.cfao-equipement.com
E-mail: plafont@cfao.com

Mat Force (CRE Technology)
Belair Route de
Hydrocarbures
Dakar
BP 397
Tel: +221 33 8649500
Fax: +221 33 8673736
Web: www.matforce.sn
E-mail: sambadoune@matforce.sn

Matforce
VDN Taif Building Dakar
Bel Air Road Hydrocarbons
Tel: +221 33 8649500
Web: www.matforce.com
E-mail: matforce@matforce.com
vilas@matforce.sn

Seychelles

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Sierra Leone

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@sn.atlascopco.com

CEMMATS Group
Beyoh House
7A Cantonment Rd
Off Kingharman Rd
Brookfields
Freetown
Tel: +232 76 626126
E-mail: cemmats@sierratel.sl

Esscon Services Ltd.
26 Steward Street
Freetown
Tel: +232 76 613907
E-mail: esscon_sl@yahoo.co.uk

Mantrac Sierra Leone Ltd.
PO Box 127
6-8 Blackhall Road
Freetown
Tel: +232 22 223317
Web: www.mantrac-sl.com
E-mail: kgyan-tawiah@mantrac-sl.com

Somalia

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

South Africa

Aggreko Energy Rental SA (Pty) Ltd.
Poplar Place Unit 2
16B Axle Drive, Clayville
Olifantsfontein
Gauteng, 1666
Tel: +27 11 3578900
Fax: +27 11 3166371
Web: www.aggreko.co.za
E-mail: rentals@aggreko.co.za

Altaaqa Global CAT Rental Power, Southern
Unit 8D-1 Sinosteel Plaza
159 Rivonia Road, Sandton
Johannesburg
Tel: +27 84 4760602
Web: www.altaaqaglobal.com
E-mail: pheyns@altaaqaglobal.com

Ansaldo Energia S.p.A.
401 & 402 Strauss Daly Place
41 Richefond Circle
Ridgeside Office Park
Umhlanga Ridge
4319

Atlas Copco South Africa (Pty) Ltd. Construction Technique
Tel: +27 11 8219000/83 6312429
Web: www.atlascopco.co.za
E-mail: david.stanford@
za.atlascopco.com

Cummins South Africa
8 Harrowdene Office Park
Western Service Road
Woodmead
Johannesburg
Tel: +27 11 5898400
Web: www.stamford-avk.com
E-mail: robin.kuriakose@cummins.com

Cummins South Africa
13 Eastern Service Rd
Kelvinview
Sandton
Johannesburg, 2144
Tel: +27 11 3218700
Fax: +27 11 3218888
Web: www.cummins.com
E-mail: kobus.coetzer@cummins.com

Hatz Diesel SA (Pty) Ltd.
9 Jersey Drive
Longmeadow East Business
Estate
Edenvale
Tel: +27 11 5740900
Fax: +27 11 5740939
Web: www.hatz.co.za
E-mail: info@hatz.co.za

Innovative Power Equipment
Unit 1
Kellco Park
14 Cyclonite Street
The Interchange
Somerset West
7130
Tel: +27 21 8517538
Fax: +27 21 8511577
E-mail: ettienne@ipepower.com

Kemach Equipment (Pty) Ltd.
Porion 6
Aerostar Park
Jet Park Rd, Witfield
1459
Tel: +27 11 3971755
Web: www.kemachjcb.co.za
E-mail: buks@kemachjcb.co.za

Kirloskar Engines South Africa (Pty) Ltd.
PO Box 35168
Los Angeles Road
Johannesburg
Tel: +27 11 4933330
Fax: +27 11 4933336
E-mail: dieselelec@icon.co.za

Kirsons Trading SA (Pty) Ltd.
PO Box 652492
Unit B1
The Stables Business
Cnr of 3rd Rd & 2nd Ave
Limbro Park
Modderfontein
Johannesburg, 2065
Tel: +27 11 5536900
Fax: +27 11 6664745
E-mail: kirsons@kirloskar.co.za

KM Products Europe Ltd.
Unit 8 Panache House
CNR 22 Broadway and 52
St. Andrews Drive
Durban North
4051
Tel: +27 31 5636442
Fax: +27 31 5630668
Web: www.kmpbrand.com
E-mail: craig@kmpbrand.com

MAN Diesel & Turbo South Africa (Pty) Ltd.
14 North Reef Road
Elandsfontein, 1406
PostNet Suite 233
Private Bag X19
Gardenview
2047
Tel: +27 11 8420700/4504641
Fax: +27 11 8420743
Web: www.mandieselturbo.co.za
E-mail: power-subsaharaafrica@
mandieselturbo

New Way Motor & Diesel Engineering Ltd.
30-38 Jacoba Street
Alberton North
Gauteng
1449
Tel: +27 11 6133836
Fax: +27 11 9025233
Web: www.newway.co.za
E-mail: newway@icon.co.za

Peninsula Power Products
PO Box 61
Paarden Island
Cape Town
7420
Tel: +27 21 5115061
Fax: +27 21 5115441
Web: www.penpower.co.za
E-mail: alistair@penpower.co.za

SDMO South Africa
PO Box 5102, 1715
Tel: +27 83 2335561

Sub Sahara Power Distributors (Pty)
40 Rawbone Street
Ophirton
Johannesburg, 2091
Tel: +27 11 4930773
Fax: +27 11 4930779
E-mail: marcelle@ssp.co.za

Zest Energy (Pty)
21 Galaxy Ave
Linbro Business Park
Johannesburg, 2146
Tel: +27 82 5783740
E-mail: coenraadV@zestenergy.co.za

South Sudan

A G Tractor FZE
Terekeka Road
Juba, Africa East
Web: www.agtractor.com
E-mail: sammie@agtractor.com

Sudan

CTC Group
PO Box 980
CTC Group Building
Zubeir Pasha Street
Khartoum, 1111
Tel: +249 1 87144132
Fax: +249 1 83787638
E-mail: yahya.gasim@ctcgroupltd.com

Diesel Heavy Equipment
PO Box 8172
Africa Street, Almarat
Khartoum
Tel: +249 183 642095
Web: www.diesel.sd
E-mail: samih@dgcsudan.com

Ibrahim Abu Hassanein & Co.
PO Box 180
Intersection of Horria Street
with Gam's Street
Khartoum
Tel: +249 183 782389
Fax: +249 183 780754
E-mail: info@abuhassasein.com

Sakr Power Generation Ltd. Khartoum
Al Sitteen Street
Before
Intersection with Madani Road
Khartoum
Tel: +249 183 230343/4
Fax: +249 183 230334
Web: www.sakr.com
E-mail: sudan@sakr.com

Tanzania

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@
tz.atlascopco.com

Balton Tanzania Ltd.
23 Coco Cola Road
Dar-Es-Salaam
Tel: +255 658320925
Fax: +255 22 2775989
Web: www.balton-tanzania.com
E-mail: edan@baltontz.com

Commercial Sales and Services (T) Ltd
Plot No. 78
Mbezi
Industrial Area
Dar es Salaam
Tel: +255 222 627 062
Fax: +255 222 627 062

ETC Agro Tractors & Implements Ltd.
PO Box 10295
Plot No. 5
Opp Shoprite
Nyerere Road
Dar es Salaam
Tel: +255 68 4222484
Web: www.exporttradinggroup.com
E-mail: cm.tanzania@etcagro.com

Incar Tanzania Ltd.
PO Box 20479
Dar Es Salaam
Tel: +255 222 8616668/9
Fax: +255 222 863876
E-mail: gm@incartz.com

Machines and Tractors Tanzania Ltd.
Plot 6 Nyrere Rd
Vinginguti
Dar Es Salaam
Tel: +255 22 2863640
Web: www.mttanzania.com
E-mail: ytripathi@mttanzania.com

Mantrac Tanzania Limited
PO Box 9262
Plot No 4A
Nyerere Road
Dar-Es-Salaam
Tel: +255 22 2860161/2/5515200
Fax: +255 22 2864284
Web: www.mantractanzania.com
E-mail: jserre@mantractanzania.com

Specialised Power Systems Ltd.
PO Box 18435
Melili Road
Next to Marshall's Showroom
Off Mombasa Road
Nairobi
00500
Tel: +254 20 2077219/8019435/6/7
Fax: +254 20 3532986
Web: www.spsafrica.com
E-mail: info@spsafrica.com

Togo

Atlas Copco Senegal SARL
Tel: +221 338 698770/773 337384
E-mail: ibrahima.ndao@
sn.atlascopco.com

CFAO Equipment Togo
Boulevard Eyadema
BP 232
Lome
Tel: +33 6 29981640
Web: www.cfao-equipment.com
E-mail: hmannerie@cfao.com

SDMO West Africa
Lome
Tel: +228 9 2229490

Tunisia

Le Moteur Diesel
Avenue de Paris
Megrine/Tunis
Tel: +216 98311389
Web: www.abou-youssef.com
E-mail: ayoussef@abou-youssef.com

S.I.A Ben Djemaa & Cie
28, Rue de Turquie
Tunis
1001
Tel: +216 71 242566
Fax: +216 71 351215
E-mail: bendjemaa@topnet.tn

SAM – Société de l'Automobile et du Matériel
48 Avenue Kheireddine Pacha
Tunis, 1002
Web: www.sam-tunisie.com
E-mail: khaled.benjemaa@planet.tn

SIGMA Industrie
04 - Angles des rues
Saleheddine Ayoubi
et Mohamed Saleheddine
Tunis
1002
Tel: +216 70 728708
Fax: +216 70 728714
E-mail: lobna.ameydi@
sigmaindustrie.com.tn

Sotudis
Parc Industriel Ben Arous
Gp1 Km 5.5
BP211, Ben Arous
Tel: +216 71 384000
Fax: +216 71 384320
Web: www.sotudis.com.tn
E-mail: commercial@sotudis.com.tn

Techni-Air
85 Bis, Rue 8600
ZI Charguia
2035
Tunis
E-mail: dhia.mimouna@techni-air.com

Uganda

Atlas Copco Tanzania Ltd.
Tel: +255 787 740021
E-mail: jessie.kamau@tz.atlascopco.com

Balton (U) Ltd.
PO Box 852
Plot 47/51 Kibira Road
Kampala
Tel: +256 31 2502300
Fax: +256 31 2502301
E-mail: steven@balton.co.ug

ETC Agro Tractors & Implements Ltd.
Plot No. 1367
Block 236
Jinja Road
Opp Shire Fuel Station
Kampala
Tel: +256 78 4203905
Web: www.exporttradinggroup.com
E-mail: madaka.madhukumarrao@etcagro.com

Farm Engineering Industries Ltd.
Plot 127 – 13
6th Street Industrial Area, Kampala
Tel: +256 414340640/1
Web: www.feil.biz
E-mail: marketing5@feilug.com

Jubaili Bros
Kampala
Tel: +256 77 9443360
Web: www.JubailiBros.com
E-mail: jb.uganda@jubailibros.com

Mantrac Uganda Ltd.
PO Box 7126
7th Street
Industrial Area
Plot 17/41
Kampala
Tel: +256 75 9316287/75 9083765
Fax: +256 41 4235425
Web: www.mantracuganda.com
E-mail: arajab@mantracuganda.com

Terrain Plant Ltd.
Plot 4786-8 Tank Hill Road
Muyenga
Kampala
Tel: +256 41 4266749
Fax: +256 31 2260087
E-mail: steve@terrainplant.com

Zambia

Atlas Copco Zambia Ltd.
Tel: +260 2 12311281/978 999175
E-mail: daniel.banister@zm.atlascopco.com

Cable Network Solutions
PO Box 37598
Plot No. 6466
Libala Road
Lusaka
Tel: +260 21 1293121
E-mail: eric@cablenetwork.co.zm

E.C. Mining Ltd.
PO Box 22165
Natwange Road
Kitwe
Tel: +260 212 210642
Fax: +260 212 210645
Web: www.ecmining.com
E-mail: andrew@ecmining.com

Saro Agro
PO Box 35168
Los Angeles Road
Lusaka
Tel: +260 1 287472
E-mail: ashok@saroagri.co.zm

Zimbabwe

Atlas Copco Zimbabwe Pvt. Ltd.
Tel: +263 4 6217616/912 425159
Web: www.atlascopco.com
E-mail: davis.nongera@zw.atlascopco.com

Desthold Pvt. Ltd.
18903 Carlton Street
Graniteside, Harare
Tel: +263 773777756
E-mail: desthold@yahoo.com

JCB Link
Stand 30001 Dagenham Rd
Willowvale
Tel: +263 4 621554
E-mail: willardg@scanlink.co.zw

Powerspeed Electrical
PO Box 942 Graniteside
Kelvin Road North
Harare
Tel: +263 4 771097/8/9
Fax: +263 4 750440
Web: www.powerspeed.co.zw
E-mail: wegzim@powerspeed.co.zw

R&S Diesel Pro Services (Pvt) Ltd.
PO Box GD 968
Greendale, Harare
Tel: +263 4 447869/890/899
Fax: +263 4 485621
E-mail: dunx@rsdieselpro.co.zw

Working to secure safe water supplies

Taking the continent as a whole, African water drilling lags behind the 2015 millennium target

Despite years of drilling for water the availability of safe drinking water in much of sub-Saharan Africa remains well below what is required by the World Health Organisation and United Nations Children's Fund, under their joint Millennium Development Goal (MDG) target for 2015.

The MDG has a global target, set for this year, to halve the total proportion of people in the developing world who don't have sustainable access to safe drinking water. Currently, some 770mn people worldwide lack access to 'improved source' for drinking-water (i.e. protected spring, well, borehole or piped supply). But nearly 40 per cent of these people live in sub-Saharan Africa. And it is a problem that particularly affects Africa's rural population. Although 83 per cent of sub-Saharan Africa's urban population have access to an improved drinking water supply, only 47 per cent of the region's rural population have access to a good supply of drinking water.

Drilling efforts in Africa lag far behind the minimum required. It is estimated that up to 60,000 boreholes per year would need to have been drilled in sub-Saharan Africa, since the target was originally set, in order for the 2015 goal to have been met. This in fact is substantially above what was actually achieved. Nigeria, the continent's largest economy, in particular lags behind. A recent progress report by the World Health Organisation (WHO) and the United Nations Children's Fund on drinking water and sanitation ranks the country very low on the list of countries with high population density that has no access to improved drinking water. According to a NOI Poll conducted last year, 47 per cent of Nigerians still cannot access clean drinking water - 83 per cent of Nigerians sourcing drinking water privately.

Areas for improvement

The reasons for the failure are many. Many commentators point to the tendency for boreholes in much of Sub-Saharan Africa to be drilled on the cheap and in a haphazard fashion before being left unmanaged. The poor quality well construction often leads to the premature failure of the wells and the contamination of the water supply.

Wells are also expensive to dig, especially if drilled in the wrong place. In Kenya, drilling a 7 metre deep well in soft soils costs about US$300-400. But drilling deep boreholes is much more costly. A recent study by the Institute for Globally Transformative Technologies (LIGTT) at the Lawrence Berkeley Lab found that deep boreholes greater than 20 metres in depth can often cost more than US$10,000. Indeed, a case study in Ethiopia reported a borehole costing US$18,000.

The Institute identifies the need for a low-cost lightweight drilling system for shallow (rainfed) groundwater wells, with portable sensors for measuring groundwater depth, as one of its key development aims to alleviate water shortages in Africa. Such systems, which can be transported by motorcycle instead of truck, could potentially reduce the cost of drilling wells to under US$100 per farmer in Africa. In addition, equipment for detecting groundwater would change the hit-or-miss nature of digging for water.

The lack of empowerment to make informed choices about the citing and drilling of water wells in their areas is also an issue for many rural African communities. Last year, Stanford University - funded by the United States Agency for International Development (USAID) - collaborated with 20 African universities on a project to work with vulnerable communities to provide information about water borehole drilling. The project was launched in the Ugandan district of Butaleja and the results, which showed an overwhelming support for greater democratisation over the process, were released in February. A similar project was undertaken in Ghana in the northern city of Tamale in January. But the race is already on to ensure that Africa meets the next set of targets, the Sustainable Development Goals (SDGs) by 2030. And the Rural Water Supply Network (RWSN), a global knowledge for rural water supply technologies and approaches, is calling for the implementation of its' various water drilling guides and code of practices to ensure that best practice is achieved and then maintained.

The network has published a *Code of Practice for Cost-Effective Boreholes*. It covers: the supervision of professional drilling enterprises and consultants; procurement procedures; drilling technology; design and construction; and the monitoring of completed boreholes to ensure their functionality in the medium as well as long term. It has also published an accompanying guide for water well drilling enterprises and other agencies. The guide assists those who manage, or are involved in drilling projects. It provides a step-by-step approach on how to cost and price the construction of drilled water wells in sub-Saharan Africa.

In order for any of these initiatives to be successful it is imperative that the key funding agencies for rural water supplies and implementing organisations - such as the World Bank, the African Development Bank, bilateral donors, international NGOs, as well as national governments and the private sector in sub-Saharan Africa - get fully engaged.

Yet the remedy for Africa's poor quality drinking water could be surprisingly simple. Sitting just below the surface of the arid East African region is a vast previously unknown underground body of water in Kenya that was only discovered in September 2013. Further south in Namibia, the driest country in sub-Saharan Africa, a recently discovered aquifer could also potentially provide water for centuries.

The Kenyan water resource is in Turkana County, which is located in one of the driest parts of the country. It is also an area which has recently begun to play host to a burgeoning refugee population that has placed new demands on the County's water resources. Since the discovery, seven boreholes – many yielding as much as 60 cubic metres of water an hour - have been dug that have now completely transformed the lives of the area.

Satellite-based mapping technology, which was developed by the French company Radar Technologies International (RTI), was used to pinpoint the best areas for drilling. The RTI system relies on ground-penetrating radar to locate the water in aquifers, as well as GPS system and maps. Dominic Gachanja of the Lutheran World Federation, which administers the refugee camps in Turkana said that the transformation brought about by the radar assisted drilling, has been remarkable. Prior to the technology, ten boreholes were drilled in 2011 out of which six were dry, and the best well provided just 25 cubic metres of water an hour. This year, a new well that is to be completed at the main camp will dwarf this amount with the provision of 110 cubic metres of water an hour. But Abou Amani of Unesco says that since the discovery of Turkana's water resource two years ago, progress elsewhere has slowed. Back in 2013, the Kenyan government and Unesco promised to extend drilling. With great fanfare they announced the launch of a nationwide mapping programme to locate similar aquifers and to quantify the reserves and to assess the quality of the water at the two Turkana aquifers – the Lotikipi Basin Aquifer and the Lodwar Basin Aquifer.

Drilling belatedly began in early February to confirm these and three additional aquifers that were identified in other parts of Turkana. Amani says that a budget of £10.9mn (US$16.3mn) is in place to move forward with the work, but he complains that further additional funding has not been forthcoming from the stakeholders.

Meanwhile, communities across sub-Saharan Africa are taking matters into their own hands and striking deals with western partners. Last December, the Baringo county government in Kenya led an initiative to establish a groundbreaking Sh35mn (US$380,000) project partnership with the Tullow Oil Company to construct water boreholes.

The Keteborok Water Project is being set up in Barwessa ward in the Kerio Valley and it is expected to benefit more than 12,000 people. The Baringo County government is sinking five boreholes in collaboration with Japan International Corporation Agency (JICA). Job Tomno, a Baringo Water and Irrigation official, said that there are plans to drill still more boreholes in the next two years. In February this year, ground was broken on another project the $550,000 Kaimoi water project, also in Kenya, which will provide one million cubic metres of water daily.

But the task facing sub-Saharan Africa to first meet the 2015 MDG targets and then successfully pursue the 2030 targets that will be set later this year is immense. Groundwater provides a high proportion of sub-Saharan Africa's population with a drinking water source and access to better and cheaper borehole drilling technology over the coming years is a must. Boreholes equipped with hand pumps is a well-established technology for water supplies in the region and will continue to be so in the foreseeable future.

It also clear that as boreholes are drilled to function over a lifespan of 20 to 50 years, the lowest cost well is not always the most cost-effective solution. There are arguments for constructing boreholes which can subsequently be upgraded from a hand pump source to a submersible pump with a small piped network. But the reality is that in rural areas in sub-Saharan Africa such scheme expansions are very rarely made with the focus instead on installing new water sources in order to outpace population growth. It remains to be seen whether a 'breakthrough' technology, such as the sub-$100 drill, will be developed in time that can make a quantum leap in clean drinking water availability. Until then, the availability of clean drinking water to tens of millions of Africans remains but a distant aspiration. ■

Nnamdi Anyadike

Justmoh makes projects work with Volvo

Volvo CE equipment is used on a number of Justmoh projects in Ghana

The Republic of Ghana is a sovereign state, bordered by the Ivory Coast in the west, Burkina Faso in the north, Togo in the east and the Gulf of Guinea and Atlantic Ocean in the south. With a population of 25mn and a land mass covering 239,000km2, Ghana is rich in natural resources, especially gold, oil and cocoa.

The Justmoh Group is one of the leading construction companies in Ghana with almost a quarter century of experience in road construction. Not just road building, the company is also active in general construction, mining, dam building and quarrying. It also manufactures concrete and carries out cement distribution.

Economic growth

The company has worked on a number of construction projects in Ghana, including the Kumasi Kejetia transport terminal, the Africana road Takoradi and the rehabilitation of feeder roads in the Kapando and Hohoe districts, restoring more than 25km of roads. Justmoh is contracted by many companies in the region, including the Ghana Highway Authority and the Ministry of Roads & Highways. The company uses a fleet of 12 Volvo Construction Equipment (Volvo CE) machines, including seven articulated haulers - two A40F-Series and five A35F-Series models - and four excavators, including EC460, EC700 and EC480 BLC models. It also has one L220G-Series wheel loader to work on its toughest projects.

"Our machines perform like new thanks to the fact that we service them on schedule. They also meet our cost per ton targets, which is making a lot of difference," said Joseph Titus Glover, CEO of the Justmoh Group. "We chose the Volvo brand because we like to have the best in order to do a good job. And if you're given the opportunity to own one of the best construction machines at a competitive price then why not go for it? All of the service and repair items used in the machines are Genuine Volvo Parts resulting in the equipment's efficiency and low fuel consumption. It's always reliable, with less down time and operators like the comfort and safety of the cabs."

A good deal better

Justmoh purchased its Volvo equipment through SMT Ghana - the region's authorised dealer, with a head office in Accra, the country's capital, and two additional branches in Tarkwa and Kumasi.

"We are very happy with the relationship we have with SMT Ghana," said Mr Glover. "The managing director and his team are flexible and take into consideration the current economic situation in Ghana. The company goes out of its way to help us finance our purchases, even when our cash flow poses challenges - they understand our business." ■

Building a new mill for a mine in Zim

Johnson Crane Hire's Heavy Lift Division has completed a major heavy lift project at Zimplats' Selous Metallurgical Complex in Zimbabwe for client FLSmidth. The mechanical contractor was Competitive Construction Services (CCS) of Vanderbijlpark in South Africa. The project was completed lost time injury (LTI) free due to the close working relationship between the professional team and a strong focus on health and safety.

"We were contracted to remove an old mill weighing 225t, with a radius of 31m, and to replace it with a new one weighing 170t," said Grant Parker, project manager at Johnson Crane Hire. The project completion marked two years of detailed planning and engineering.

Johnson Crane Hire had a 250t crawler crane on site at the Selous Metallurgical Complex since the beginning of September 2014, which was used to assemble the new mill. These components weighed about 60t to 70t each. "We then brought in a LR 1600/2,600t crawler crane from Europe to take off the gears and remove the old mill and install the new one, as we were concerned our LR 1750 Liebherr crawler crane was not going to finish on time at a project at Nacala in Mozambique," Parker explained.

Johnson Crane Hire had a tight window - less than a month - to complete the project, during a shutdown period. The 600t crawler crane completed the lift, however, well within the timeframe. Parker affirmed, "The entire project went off very smoothly and we managed to hand the new mill over ahead of time. It was a tremendous team effort in conjunction with our client as well as the mechanical installation crew."

Johnson Crane Hire brought in a LR 1600/2,600t crawler crane from Europe to take off the gears, remove the old mills and install the new one at Zimplats' Selous Metallurgical Complex in Zimbabwe for client FLSmidth

Working closely for completion

Kurt Domain, Project Engineer at FLSmidth, explained that, as the original equipment manufacturer, FLSmidth supplied the replacement shell of the new semi-autogenous grinding mill in sections for assembly on-site.

He said, "At the point where it was ready for installation, the complete mill was lifted by the 600t crane directly into its final position. We worked very closely with the Johnson Crane Hire team during this process." ■

Improving unattractive concrete surfaces

PMSA provides a cure for constructors seeking higher quality finishes to their concrete products

Control curing is an essential process in the manufacture of concrete products, as it ensures a more aesthetically-pleasing and consistent appearance, while increasing overall durability and minimising cement usage.

Pan Mixers South Africa (PMSA) is the largest supplier of concrete brick, block and paving making machinery in Africa. The company is also the exclusive Southern African distributor for German-based Kraft Curing Solutions, a specialist in the manufacture of customised thermal-dynamic and accelerated concrete curing equipment for precast concrete production.

PMSA sales and marketing manager Quintin Booysen confirmed recently that the company directly imports a Kraft kit, which is assembled by PMSA appointed sub-contractors using local insulation and ducting materials. He explained, "This agreement does not only make the equipment more affordable for local precast concrete producers, it also creates new jobs and stimulates the local economy."

PMSA is the exclusive Southern African distributor for Kraft Curing Solutions

Looking better, saving costs

Having designed and installed more than 650 concrete curing systems in 56 countries, Kraft managing director Michael Kraft said that the company is dedicated to making these products stronger, more durable and more aesthetically pleasing while saving the producers time and money.

"By making use of control curing, concrete products will result in less efflorescence and a brighter colour, which will also appear more consistent through secondary processing equipment. This method can result in a reduction of cement costs of up to 10 per cent, as well as a decrease in pigment content. Control curing also makes the concrete product more durable," he states.


Seminars held by PMSA and Kraft have covered a variety of topics on concrete curing

Kraft added that, through the control curing process, the concrete will become more resistant to freeze thaw forces, and will also have a higher resistance to abrasion and chloride penetration. He said, "The corners and edges of the product will also be stronger, which will result in less chipping."

Adding value with concrete knowledge

Through their partnership, PMSA and Kraft aim to provide the local market with high-quality equipment that is complemented by a value-added and comprehensive service offering. This is clearly evident in the fact that the two companies successfully hosted two concrete curing seminars in Cape Town and Johannesburg respectively in late 2014.

The seminars covered a variety of topics relating to concrete curing for; brick, block, paver, roof tile, piping, pre-stress, structural precast, panels and concrete elements. Booysen reveals that the principles of curing and the chemistry of concrete hardening were also discussed, as well as the difference between racking systems and curing systems.

"Another feature was a presentation on the curing solutions for pre-stress elements, structural precast and panels, and pipe and associated water management precast. The Southern African market is ready for this evolution in precast concrete manufacture, and we are prepared to support them with value-added initiatives such as this," he said. ■

Supporting SA's longest viaduct

How Pilosio helped with the construction of a motorway junction in the north of Durban

The Italian company, Pilosio, nailed down a major contract for the supply of temporary structures directly from the yard to the South African branch of CMC, Ravenna (Italy). The project involves the construction of a major motorway junction in the north of the city of Durban, which includes two of the longest viaducts in the country.

And it is in Durban, in the province of KwaZulu-Natal, that the Pilosio formwork arrived , to be exact in the area north of the African metropolis, to supply the CMC company of Ravenna (Italy) for the construction of a major motorway junction, the N2-M41 Mount Edgecombe Interchange.

Custom construction

The Pilosio solutions, of which 70 percent are custom-made, will be used for the construction of two major viaducts made with the launching bridge system, thereby not interfering with the traffic below. With dimensions of 26 metres in height by 947 metres in length, and 18 metres by 443. the first, in particular, when completed, will be the longest viaduct in the entire country. Pilosio supplied:

- 200 square metres of standard P300 formwork for foundations and piers.
- 500 square metres of special steel formwork , divided into five sets for the construction of the viaduct piers and 350 square metres of additional special steel formwork made up of three sets for the construction of pier cups.
- Two sets of formwork model, MAXIMIX, and custom-made products for a total of 940 square metres for the casting of the bridge decks.
- The Omnimode system integrated with customised solutions for the construction of suspended working platforms during the launching phase of the decks,
- Climbing system.

Systems and solutions

Pilosio offered optimal speed of work, site safety, optimisation of equipment, and also of aesthetics, thanks to continuous on-site service. On this site, about 70 per cent of the total equipment is custom-made according to the clients needs. The Pilosio technical department responded quickly and expertly to the various criteria of the project, such as rapid supply times, coordination with the various organisations involved in the project, the need to design a formwork system for the piers adaptable to two different sizes and a scaffolding system optimised for the launching bridge system.

The Pilosio formwork arrived in Durban

CMC has been working on the construction of a major motorway junction


Pilosio offered optimal speed of work, site safety, optimisation of equipment, and also of aesthetics

Construction methods

As foundations showed no significant issues, it was decided to use the standard formwork model P300.

For the casting of piers and pier cups, the modularity of the P300 system would certainly have permitted the casting of octagonal piers, but given the particular characteristics of the project, the times would be more dilated giving less accurate aesthetic results than with a system of customised formwork. With its experience in infrastructure, Pilosio therefore studied and created special steel formwork to guarantee quicker application, a better aesthetic finish, and above all allow the realisation of casting to 5m height at a time to piers of up to 23m in height, as required by the company. The climbing system guaranteed fast feedspeed of jets and high safety for operators. Moreover, these custom formworks leave neat visible holes in the concrete, as the bars are sized and positioned necessary to the hold, but in an 'orderly' manner. Finally, having 26 stacks of identical sections, the cost of the equipment would be softened by the highspeed work of the casting. In fact, with the equipment once delivered, the company could cast three piers simultaneously. For casting the pier cups, the CMC company asked for custom made formwork to cast 3 + 3m in height. The piers are supported by towers in MP with safety access stairs.

The most complex part of the viaduct concerned the casting of the decks of the bridge done onsite with the launching bridge system. For the onsite casting of decks, approximately 20m in length each, a mixed formwork system is used consisting of the Omnimode system for the base and exterior of the ashlar, with major beams in steel and secondary beams in wood to form the outer shape of the Maximix beam. The second phase of the casting of the upper horizontal decking is made with Simplex support towers, which are modular and extremely fast to assemble and handle. ■


The standard formwork model P300 was used

A commitment to construction workflows

How Bentley and Trimble have advanced building information modelling through sophisticated construction software

Bentley Systems and Trimble, both of which provide building information modelling (BIM) technology for engineers and contractors, have been collaborating on construction modelling since Q4 2014, to enhance capital, industrial, and infrastructure project delivery. Aspects of construction modelling include modelling of temporary works, intelligent positioning, "splitting and sequencing", detailing for fabrication, workface planning, construction work packaging, and support for distributed construction – referencing and supplementing design modelling deliverables.

Producing better-performing assets

Today, architects and engineers perform design modelling with BIM toolsets that support optioneering and analytical modelling, and enable owners to make better decisions for better-performing assets, including in respects that would be pertinent and valuable during operations and maintenance. However, some of the most advanced BIM deliverables have simply not been useful for constructors' requirements. Accordingly, the constructors have been left to create their own discrete 3D models for the limited purposes of construction visualisation. As a result, owners have been unable to expect their designers' BIM work to even survive the construction process let alone provide visibility into the engineering and analytics, which otherwise could have been useful during operations. In practice, therefore, this discontinuity has negated the potential benefits of BIM for either better-performing projects or assets. Construction modelling is the response by Bentley and Trimble to fill this gap and to enable all the potential benefits. In construction modelling the architects' and engineers' work is preserved and referenced, with construction modelling overlaid and as-built changes included.

Bentley and Trimble each have contributed to construction modelling advances by pooling resources for product development through:

- sharing schemas across design and construction applications to ensure that constructible models maintain semantic fidelity.
- leveraging i-models for construction deliverables to and from the companies' respective software and hardware, when used together in project delivery.
- joining forces to advance standards, for instance the Open Geospatial Consortium's "intrinsic geo-context" down to construction levels of detail.
- leveraging in certain cases common modelling software for virtual and physical alignment; for instance, Trimble uses Bentley software technology to provide intrinsic 3D geo-context for Trimble® Field Link.

Benefits for building

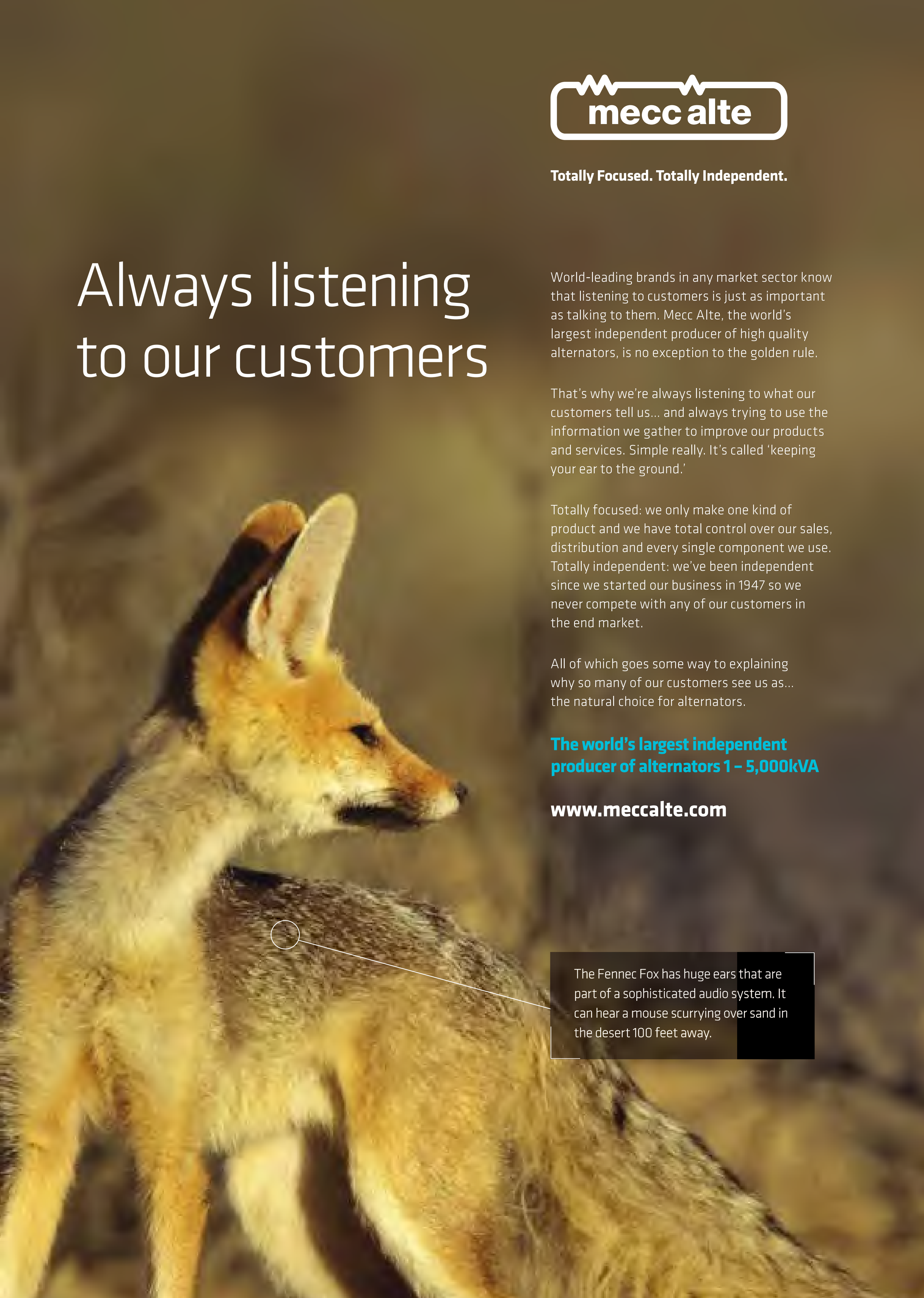
The benefits realised thus far from Bentley and Trimble construction modelling advances include:

- facilitating accurate information mobility between vertical building, plant design, and the construction site by enabling engineers to create intelligent field data in Bentley Navigator, manage those point sets in ProjectWise, and securely deliver them to Trimble Field Solutions via Trimble Field Link, creating high fidelity positioning points between the construction model in the design office and positioning devices in the field.
- saving time, reducing rework, preserving design intent, and accelerating project delivery via the seamless transfer of information from concept through construction. This results from the new link between the Trimble Quantm Alignment Planning System and OpenRoads, which extends the detailed design-to-construction workflow for heavy civil alignment to encompass the corridor planning and value engineering processes, complete with change management and tracking.
- providing contractors the greatest flexibility in performing field layout tasks and enabling the construction of higher-quality buildings by accepting Bentley's i-models in Trimble Field Link to enhance information mobility.

Working together for mutual advantage

Bryn Fosburgh, vice president responsible for Trimble's construction technology divisions, said, "We are now really hitting our stride working with Bentley so that our mutual construction modelling activities help our users, working together on projects, to get the most advantage of constructible models. We see a great many ways to transform workflows so that BIM's lifecycle benefits can be achieved."

Harry Vitelli, Bentley Systems vice president, construction and field, said, "Bentley's ongoing collaboration with Trimble is delivering real-world solutions that will transform the design to construction workflow – for example, by enabling greatly enhanced information mobility through Bentley's recently announced ProjectWise CONNECT Edition and Trimble's Trimble Connect platform. Both of our companies share the belief that construction modelling will offer new levels of construction data visibility. We also share a commitment to the provision of advancements in design-to-construction workflows that bring new value to our users in the project delivery space." ■


mecc alte
Totally Focused. Totally Independent.
Always listening to our customers
World-leading brands in any market sector know that listening to customers is just as important as talking to them. Mecc Alte, the world's largest independent producer of high quality alternators, is no exception to the golden rule.
That's why we're always listening to what our customers tell us... and always trying to use the information we gather to improve our products and services. Simple really. It's called 'keeping your ear to the ground.'
Totally focused: we only make one kind of product and we have total control over our sales, distribution and every single component we use. Totally independent: we've been independent since we started our business in 1947 so we never compete with any of our customers in the end market.
All of which goes some way to explaining why so many of our customers see us as... the natural choice for alternators.
The world's largest independent producer of alternators 1 – 5,000kVA
www.meccalte.com
The Fennec Fox has huge ears that are part of a sophisticated audio system. It can hear a mouse scurrying over sand in the desert 100 feet away.

Building interest and business at Intermat

Previewing a Parisian showcase of solutions and services for all forms of construction projects and companies

For a few busy days in April, Intermat 2015 turns Paris, the French capital, into a city of construction equipment innovation, a source of sophisticated solutions for the building industry, and a vital hub for industry professionals in construction project management to share knowledge and gain a greater understanding of the latest and most viable portfolios in the global machine manufacturing industry. Following African's appraisal of innovations at Intermat in March, this preview is the second of two appraisals of the key solutions and services available at the show. ■

Intermat 2015 takes place in Paris, France from 20 to 25 April. Visit www.intermatconstruction.com to learn more.

Powerscreen's compact Warrior Screen

Mobile crushing and screening equipment provider Powerscreen launches its newest mobile screen, the Powerscreen Warrior 600, at Intermat. Commenting on the company's line up at Intermat, Powerscreen brand leader Colin Clements said, "At this important exhibition we will showcase some of the machine's key features including its compact size which allows it to be transported in a shipping container and makes it easy to move between job sites at minimal cost."

The Warrior 600 is the most recent addition to the Warrior mobile screening product family. The most compact heavy duty mobile screen makes the Warrior range the widest in the market with six machines of varying size to meet a variety of customer requirements. Ease of transport is only one of many exciting features on this new model. The Warrior 600 screen is highly versatile with its ground-breaking simple conversion from the three-way split mode to the two-way split mode, which can be completed in minutes. In fact, the machine's entire functionality has been specifically designed for operators for whom versatility, manoeuverability and transportation are of key importance.

The Powerscreen Warrior 600 screen

The Warrior 600 also features a highly aggressive 8' x 4' screenbox capable of 6g of acceleration. The high-strength, high amplitude, two-bearing screenbox promotes easy handling and separation of large items from material fines in recycling tasks, such as soils from tree stumps and logs, fines and rock from overburden and blasted rock.

Bauer Maschinen brings BG innovations to Intermat

The Bauer Maschinen Group takes part again in Intermat, presenting new machines and innovative designs in the field of specialist foundation engineering.

Bauer's core products are rotary drilling rigs. The BG family will be represented at the exhibition by a BG 30 ValueLine rig. The BG 30 is a drilling rig that has been especially optimised for Kelly drilling. The BT 80 base carrier has been completely designed and built by Bauer. The machine on show at the exhibition is equipped with a 280 kilowatt CAT C 9 engine that meets the Tier 3 flex EU emission standard.

A rotary drive with a maximum torque of 300 kilonewton metres makes it possible to drill with a diametre of up to 2,500 millimetres. Using a four-part kelly bar, it is possible to reach drilling depths of 68 metres. And with a five-part kelly bar, a depth of 87 metres is even possible. Temporary casings can be installed directly by means of the rotary drive. In difficult conditions, a BTM torque converter or a casing oscillator can also be retrofitted.

Bauer's core products are rotary drilling rigs

The BG 30 ValueLine does not only boast high performance, but it also has many new features that make maintenance work, rig assembly and disassembly in particular easier. An integrated service platform enables easy and safe access for all maintenance work in the uppercarriage. There is a metal grating step that is connected to part of the side panelling and that is pulled out from the uppercarriage. The side panelling serves as protection against falling.

Safety covered with Oxford Plastic Systems' reinforced trench covers

Oxford Plastic Systems' reinforced trench covers offer the ideal solution to ensure the safety of contractors, pedestrians and vehicles during utility, cabling and maintenance projects. Moulded from a single piece of glass-reinforced composite, the company's trench covers are much lighter than steel, making them easier to lift into place.

Tested to a distributed vehicle weight of up to 2,000 kg, the covers are every bit as strong and durable as their steel counterparts, with a ribbed framework on the underside providing added strength.

Oxford Plastics Systems' business development director Peter Creighton said, "In the past, when a utility company excavated a hole or trench they would close the pavement, but now they are required to use a trench cover to ensure the path remains open and is safe. Our trench covers can be held rigidly in place and left unattended.

"We encourage our clients to have their covers produced in a bespoke corporate colour and embossed with a corporate logo, which has a number of benefits. As well as deterring theft, it also highlights the fact that the company is a responsible contractor with a focus on health and safety."

Benninghoven brings Batchmix 100 to Intermat

Premièred at Intermat 2015, the Batchmix 100 developed by Benninghoven represents significant a new development in the field of mobile batch plants - offering flexibility, mobility and reliability in a compact design concept.

The complete plant technology for producing high-quality asphalt is mounted on five chassis. With a mixing capacity of 100t/h, the Batchmix 100 guarantees quick and easy installation as well as rapid changes of location. The plant is supplied with the required aggregate fractions via four cold feed hoppers with a convenient loading width of 3,600mm. The drying drum is mounted on the same chassis to ensure quick and efficient drying of the aggregate. The plant includes a powerful four-deck screen capable of separating 90t of aggregate per hour into the four comportments of the hot aggregate bin unit. Up to 20t can be stored here in total.

The Batchmix 100 is well-suited to mobile use

The digital real-time weighing and dosing technology of this plant type once again leaves nothing to be desired and supplies the 1.25t mixer with the right components exactly as required for the specified formula. The complete bitumen supply is also mounted on a chassis. In addition to the 40m^3 tank, the filling and dosing units are also integrated in such a way as to ensure optimum access while saving space. The dust collection unit is a distinctive feature of this concept: in addition to the actual filter and exhauster, it also includes a 15m^3 silo for reclaimed filler and a 25m^3 silo for imported filler.

The Batchmix 100 is well-suited to mobile use throughout the world. The components' user-friendly design and the intuitive control system BLS 3000 make this plant a reliable partner in the production of high-quality asphalt.

Case showcases 360-degree solutions for construction businesses

Machine manufacturer Case Construction Equipment showcases its full line of industry leading equipment and services at Intermat 2015. The Case team welcomes visitors on the ample, 4,150 square metre stand, where it presents the brand's comprehensive offering for urban construction, road building, aggregates and recycling applications complemented by Iveco's vehicles for the construction industry. At the heart of the stand is an area dedicated to Case technologies and services developed to help customers run construction businesses effectively. The brand also launches the new collection of branded apparel and items, available on the stand's Case Shop.

The main theme of the stand aims to highlight the close relationship between the brand's products and services, its teams and its customers, and Case's drive to provide intuitive and straightforward solutions to the challenges of construction businesses.

Building a base for oil and gas

Lafarge South Africa's white concrete solution for Chevron's South African headquarters

When Chevron South Africa, a leading refiner and marketer of petroleum products, looked for a landmark sustainable design for its new headquarters in Century City, Cape Town in 2011, it invited architects to compete for the design contract. Winners, Louis Karol Architects & Interiors, proposed a 'naked' white concrete building but the client was initially sceptical that the local construction industry could successfully build a major structure in white concrete. As the concrete solution, Lafarge South Africa proposed its innovative Artevia decorative concrete.

"Lafarge was totally confident of being able to provide solutions for building in white concrete, no matter what challenges might arise. This was a key factor in Chevron accepting our design concept," said architect Robert Silke, design director at Louis Karol. "The white concept was not purely an aesthetic one; it was also an elegant solution to the client's sustainable development requirement. Most buildings are built twice: the main structure goes up and then a decision is made on the expensive cladding to be used, be it aluminium, stone, glass or plaster and paint. Raw grey shutter concrete can be considered too 'brutal' and is often painted over within six months."

Making materials for new structures

Lafarge South Africa is the local presence of the international Lafarge Group, which specialises in building materials. The group is committed to creating innovative materials and solutions that contribute to Building better cities that are more durable and beautiful environments for all. With the world's leading building materials research facility, innovation is at the forefront of the group's major investment in research and development. It aims to meet the challenges of the fast-moving construction industry and to better serve architectural creativity. Artevia decorative concrete is a high quality structural concrete combining durability and low maintenance with a high standard of aesthetic finish. The product is produced with an integral UV stable colour pigment. The homogeneous mix minimises the effect on appearance if the concrete surface is chipped or damaged in any way. The innovative Artevia range is available in an extensive range of colours and textures, providing almost unlimited scope for architectural expression.

Contracts for construction

Main contractor Stefanutti Stocks Building Western Cape started construction of the 9,500m^2 Chevron head office in 2012, and completed the project in March 2014 at a cost of over R200mn (US$16.2mn). The building has met the client's requirement to achieve a 5 Star Green Star SA Office Design v1 rating and is on track to have a 5 Star As Built rating confirmed. The striking building is a high-end, world-class structure in off-shutter concrete with infill glass panels between the white concrete columns. It is divided into four quadrants by two major expansion joints and consists of three floors of offices with basement parking, as well as recreation areas, a canteen and laboratories on the ground floor, surrounding an open-air courtyard.

"We believe the Chevron project involved the largest volume of white concrete ever used in the Western Cape," commented Johann van der Merwe, contracts manager for Stefanutti Stocks. "The extent of the challenges that had to be addressed was hard to envisage but Lafarge Cape Town Readymix worked closely with us as a team to ensure a successful outcome. Lafarge is very solutions focused and are able to call on the unparalleled technical resources of the international Lafarge Group."

"An area that tested the technical skills of the team at the beginning of the project was maintaining concrete workability for the contractor, which was resolved by our technical team and the admixture supplier," said Lafarge South Africa's Craig Mills, regional technical manager. "We are fortunate in having back up from a team of concrete experts based at the Lafarge Centre of Research in France, should we require assistance with challenging projects such as this one. The problem was due to the reactivity of the white cement. In one instance, a particular cantilever had to be removed due to retardation. Technical Department investigated the problem and, identifying the root cause, put preventative measures in place to mitigate any reoccurrence."

"As a unique high-class white concrete project, cleanliness and quality management throughout the production, supply and placement of our white Lafarge Artevia concrete had to be carefully planned and meticulously controlled," said Lafarge South Africa's Sivuyile Ngobozana, national product manager - readymix. At the Lafarge batch plant, special white cement was used and the white colour of the mix enhanced further with white pigments. The plant team had to use a dedicated truck loading hopper for the white Artevia mix and carefully wash all conveyor belts before loading the Lafarge truck mixers, which had been washed and inspected thoroughly. Sand colour variation was a continual concern and this, combined with the reactivity of the white cement, required a Lafarge technical representative to monitor the concrete for all the pours.

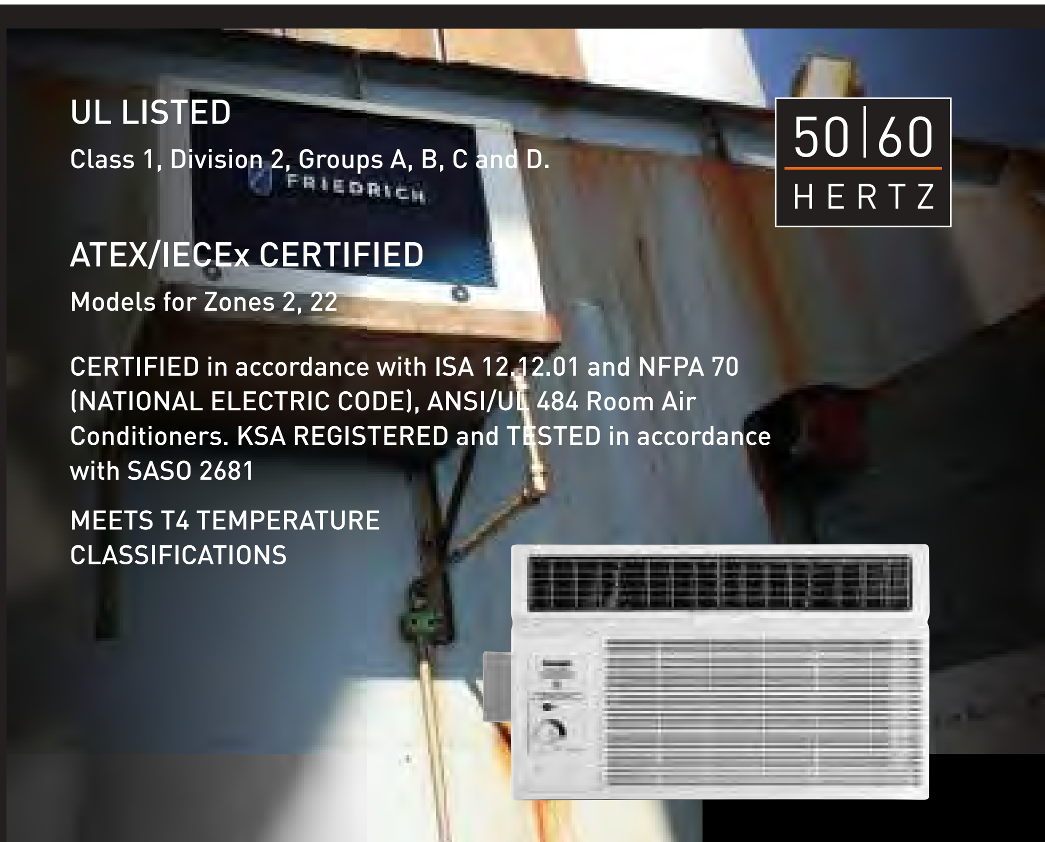
"We had to purchase new equipment purely for white concrete use," commented Van der Merwe. "There could be no risk of contamination. Ironically, the special shutters that we used were made from an extremely smooth specific resin board called Black Resin Board. Our trucks could not have been used for standard grey concrete previously. All placing equipment had to be set aside purely for white concrete use, including two banana buckets and even the compacting vibrators." ■

AIR CONDITIONERS BUILT FOR THE WORLD'S MOST DEMANDING CLIMATES

Hazardgard Engineered to perform in the harshest conditions

HAZARDGARD FEATURES

- Permanent split capacitor motor
- Hermetically sealed reciprocating compressor is cooled during the refrigeration cycle, which allows the unit to tolerate higher outdoor temperatures up to 130˚ F (55°C)
- Environmentally sealed on/off switch and gold plated contacts in thermostat for corrosion resistance
- Hot gas bypass allows the air conditioner to operate at low ambient conditions without freezing at outdoor temperatures as low as 45° F (7°C)
- Larger, commercial grade, enclosed fan motor with hermetically sealed overload for arc-free operation. Totally enclosed to assure efficient operation under adverse electrical conditions



UL LISTED

Class 1, Division 2, Groups A, B, C and D.

ATEX/IECEx CERTIFIED

Models for Zones 2, 22

CERTIFIED in accordance with ISA 12.12.01 and NFPA 70 (NATIONAL ELECTRIC CODE), ANSI/UL 484 Room Air Conditioners. KSA REGISTERED and TESTED in accordance with SASO 2681

MEETS T4 TEMPERATURE CLASSIFICATIONS

50|60 HERTZ

FRIEDRICH

COMMERCIAL GRADE ROOM AIR CONDITIONERS

PACKAGED TERMINAL AIR CONDITIONERS

THE EXPERTS IN ROOM AIR CONDITIONING

www.friedrich.com

Andercraft

www.andercraftglobal.com

Unit D2, Braintree Industrial Estate
Braintree Road | Ruislip | Middlesex, London HA4 0EJ
Tel : +44 (0)20 8427 0707

2207 Concord Pike | Suite 376 | Wilmington, DE 19803 USA
Tel : +1 856 520 2447

CONYBRID

www.conybridworld.com

11, Alhaja Ashabi Cole Street
Central Business District (CBD) Off Lateef Jakande Road
Alausa – Ikeja | Lagos - Nigeria
Tel : 0809 900 6677, 0705 534 5678
+234 (0) 809 900 6677
+234 (0) 705 534 5678

Developing society by building an economy

How South Africa could address its socio-economic challenges through sustained infrastructure investment

According to Abe Thela, the president of Consulting Engineers South Africa (CESA), a key investor concern through 2015 is the role infrastructure plays in the socio-economic development of South Africa, and how this role can be enhanced through an increase in infrastructure investment and skills development.

Social, political and economic realities

The country's National Planning Commission has identified the two most pressing challenges facing the country as being the fact that too few South Africans are employed and that the quality of education for poor black South Africans is substandard. The unemployment rate is estimated at 25.4 per cent and of great concern is the fact that 50 per cent of unemployed South Africans are youth between the ages of 15 and 24 years. This figure escalates to 63 per cent if the discouraged youth job-seekers are added to the statistics.

Thela has observed, "These problems coupled with the rising youth population reflect a generation at risk, contribute to socio-political disorder, put heightened strain on the country's limited financial resources and arrest economic growth".

Increasing infrastructure investment

According to the NDP South Africa will need to spend at least 30 per cent of its GDP on infrastructure development to allow infrastructure to have a meaningful contribution in eradicating poverty, halving the unemployment rate and contributing to economic growth to the desired level of between five and seven per cent per annum by 2030. Currently, the country is only managing 22.9 per cent of GDP on infrastructure spending with the public sector contributing 13.95 per cent and the private sector 8.95 per cent. The respective targets for the public and private sectors are 20 per cent and 10 per cent.

Thela said, "It is, therefore, clear that the starting point for addressing the country's socio-economic challenges is to increase investment in infrastructure development".In order for South Africa to address its socio economic challenges both public and private sectors will have to increase their spending on infrastructure with the public sector needing to increase more.

Exploiting private sector resources

The use of the Public-Private Partnerships (PPPs) in the financing, design, building and operation of infrastructure has emerged as the most important model employed by governments around the world to close the infrastructure gap. South Africa has not yet realized the full potential of this model of infrastructure delivery. Many opportunities exist in various economic sectors such as renewable energy, transportation, water, alternative energy sources, education, etc. where the PPP model can be used to maintain the momentum of infrastructure development in the country. However, the process must be transparent, the project pipeline clearly defined, regulatory red tape removed and the public must get better and more cost effective services.

Addressing procurement inefficiencies

CESA has, for some time now, been aware that there are inefficiencies in the way public-sector infrastructure projects are implemented.These shortfalls include lack of planning, inappropriate procurement approaches, lack of project management capacity and capability, lack of other desired technical skills in the public sector, rampant corruption, etc. In addition these inefficiencies rob South Africa of multiple billions of Rands annually, which could be effectively used to fund the much-needed increase in infrastructure investment

Improve investment credit rating

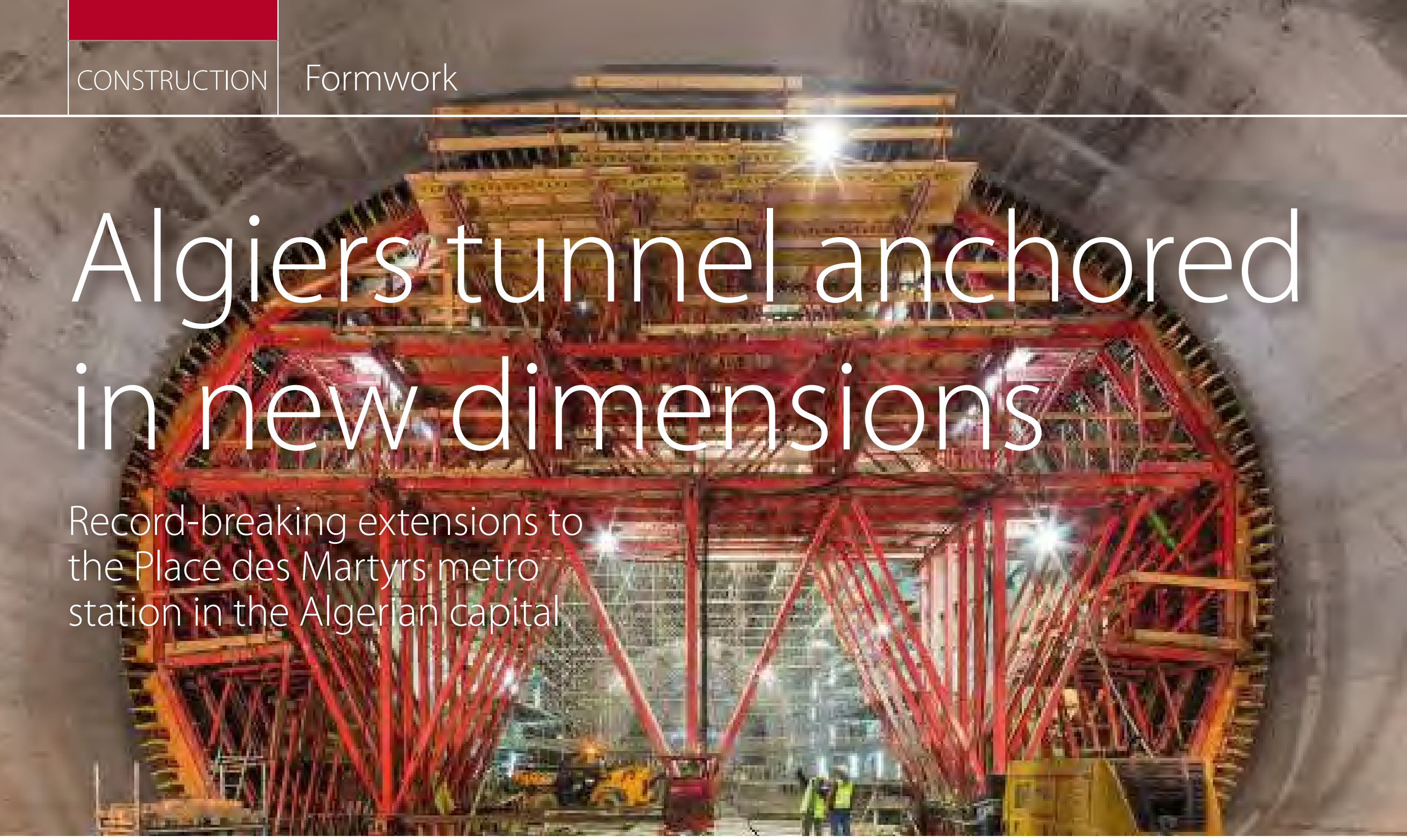
Back in n November 2014, Moody's Rating Agency downgraded South Africa's 'investment grade' credit rating to Baa2 from Baa1, and adjusted the outlook to stable from negative. It is crucial for the country to improve its investment grade rating to continue to access credit from both local and foreign lenders at favourable interest-rates. Unfavourably high interest-rates on loans reduce the value of the loans and accordingly the amount spent on infrastructure.

Human capital development

The increase in infrastructure investment will require more engineers, technicians and artisans to implement new infrastructure projects and maintain the existing infrastructure. The availability of skills is one of the elements that investors wanting to invest in a country consider with the level of skills determining the country's productivity and competitiveness.

There are a number of concerns regarding human capital development in the country and these require unique programmes focused on addressing them. These concerns must be addressed as a minimun: Poor quality of basic education including maths and science;Youth unemployed and unemployable;Structure of the education system;Youth with qualifications but without experience.

Thela said, "Failure to tackle these challenges decisively with a systematic approach will deprive a whole generation of opportunities to develop their potential, escape poverty and support the country's trajectory toward inclusive growth and economic transformation. CESA with the backing of our over 500 strong member firms recommit ourselves to partner with Government and other role players in finding lasting and practical solutions to these problems, especially in relation to infrastructure development." ■



Algiers tunnel anchored in new dimensions

Record-breaking extensions to the Place des Martyrs metro station in the Algerian capital

With a length of 144 m and a width approaching 23 m, the "Place des Martyrs" metro station boasts some very impressive dimensions. In addition, the entire 1.7km long extension of the Algiers metro system runs under historic ground. For this project, an international team of PERI engineers designed economically optimised tunnel formwork solutions, tailored to meet the varying requirements.

The northernmost, but also most central as well as closest-located point to the harbour area, of the extensive metro expansion measures is the Place de Martyrs station. The arch-shaped stop is 144m long and 23m wide – and will be one of the largest subway stations in the world after completion. The construction project is part of the ambitious infrastructure development plan designed to expand the current almost 9km long, single-line metro network in the Algerian capital to a total of 55km in length and featuring three lines over the next 10 years. The modern metro system will help to reduce the daily traffic jams and increase the mobility of the city´s residents. With a population of more than three million inhabitants, Algiers is also the most important transport hub in Algeria.

2 cross-sections – 1 formwork carriage

"Place des Martyrs" features two different cross-sections. The imposing arch width of 23m in the middle section, tapers in the northern and southern directions resulting in 16.50m widths respectively. PERI engineers developed a formwork carriage construction on the basis of the Variokit engineering construction kit in order to be able to cost-effectively realise both cross-section variants whilst using the same system components and formwork segments. Furthermore, special attention was paid to the design of the bracing during the planning phase as the concreting cycle length of 5.10m is relatively short.

Based on the Variokit modular construction system, the PERI formwork carriage solution is ideally suited to meet all project requirements: user-friendly as it can be hydraulically operated with a control panel, cost-effective due to the rentable system components, and can be quickly assembled or adapted by means of standardised bolted connections. Supplementing the Variokit formwork carriage construction is a PERI UP working scaffold. This has been optimally adapted to match the cross-sectional geometry of the arch and ensures the rapid and safe execution of the waterproofing and reinforcement work in advance of the tunnel formwork carriage.

The Variokit modular concept

Variokit is designed to accommodate the known load combinations of the tunnel, bridge and high-rise building construction. With standardised, rentable system components and site-compliant connection means, supporting formwork can be cost-effectively realised and geometrically adapted to suit the structure. For the construction of traffic-related structures with low usage, in particular, the rapid availability of materials as well as the quick and easy assembly results in enormous time and cost savings. Moreover, PERI Variokit project solutions together with the corresponding equipment options can be tailored to fulfil the respective project requirements.

Historical challenge

Currently, the African metro project includes the construction of the twin-track tunnel along with the development of two metro stations. To the north of the "Tafourah" end station, located close to the palatial Grand Post Office, Line 1 is being extended by a total of 1.7km with the addition of the "Ali Boumendjel" station (Emir Abdelkader Place) and the "Place de Martyrs" station. Construction work is being carried out within the city centre which features numerous mosques and palaces as well as under the historic old town (Kasbah) which is a UNESCO World Heritage Site. This has presented a major challenge for all project participants.

Comprehensive tunnel formwork solutions

The formwork and scaffolding solution for the entire construction project was developed by a team of PERI engineers from Algeria, Portugal, Spain and Germany. A total of four tunnel formwork carriages are being used: in addition to the Variokit formwork carriage construction for the "Place des Martyrs", a second project formwork carriage with a 9.30m radius is being utilised for the realisation of the "Ali Boumendjel" intermediate station. Two other project-specific tunnel formwork carriages are being used for the construction of the 1,450m long tunnel with its 4.50m radius. This means that almost 10m reinforced concrete tubes are being formed and concreted using mining techniques on a daily basis. ■

A tough balancing act

At the recently-held Africa Mining Indaba, industry experts debated various ways to overcome the current dilemma of the industry – falling commodity prices and rising expectations

The mining industry, which is being squeezed between low commodity prices and rising expectations from government and civil society, is struggling to find practical strategies out of the predicament, according to Roger Dixon, chairman and corporate consultant at SRK Consulting (SA).

At the African Mining Indaba held in Cape Town, a number of speakers highlighted the dilemma that the mining sector is facing, which is overcoming the commodity slump while addressing the social licence to mine. Dixon said, "It is argued by some that mines have failed to invest sufficiently during the good times in technology and training, which would have created a far more sound foundation for higher productivity in tough times like these."

Constructive partnerships between mining companies, governments and NGOs would be able to steer the industry out of tough times, and try balancing demands made by shareholders and society. This observation was made strongly at the conference by former British prime minister Tony Blair.

"These relationships often remain adversarial and strained, when they should in fact be the foundation for mining ventures and other positive economic spinoffs." Traditional models of capitalism, fed into current trends in resource nationalism are leading to disillusionment as they affect the terms on which mines began operations.

"It is also apparent that many mining companies have reverted to a stricter compliance-focused approach as their margins come under increasing pressure, even though the broader political environment demands that they pay more attention to their social and natural environment," observed Dixon.

He said that innovative solutions were urgently required, as the challenges were clear to see and many of these were being well aired at the Indaba.

"Certainly, there are many opportunities in Africa to contribute to infrastructure development, which is needed to underpin broader economic growth. In particular, the improvement of Africa's electricity infrastructure is vital for all other sectors." Improved technology such as broadband access will improve efficiency, raise productivity and perhaps, ease the cost of doing business generally, while contributing significantly to education and national skill levels.

Partnerships between mining companies, governments and NGOs would go a long way in balancing the demands of the shareholders and society at large

Improvements in macro-economic environment was the consensus at the conference, but that is still a distant milestone. However, continued population growth remains a global factor that bodes well for future demand in mineral commodities.

According to Dixon, an immediate and concerning trend was the increasingly inward focus of large economies such as China and the USA, as this was in sharp contrast to the steady globalisation of the world economy over recent decades – a trend that was hoped to benefit continents like Africa. ■

Liberia and Sable Mining sign US$1.3bn iron ore deal

The government of Liberia and Sable Mining's Guinea-based subsidiary West Africa Exploration have signed a 25-year iron ore US$1.3bn transshipment deal.

The agreement affirms the Mano River Union (MRU) Accord and ECOWAS Conventions which aim to expand economic development through enhanced regional cooperation and cross-border trade. Under the terms of the agreement, Liberia will allow the transshipment of Guinean-based iron ore through the port of Buchanan in Grand Bassa County. George Wisner, executive director of National Investment Commission, said, "This agreement marks the fulfillment of a historic moment of regional cooperation, which dates as far back as 14 July, 1973 when the government of Liberia under President William R Tolbert and the government of Guinea under President Ahmed Sekou Toure signed a protocol that paved the way for the transshipment of minerals between the both countries."

Wisner said Sable Mining will invest US$300mn in the first five of the 25 years and thereafter, US$1bn in the remaining 20 years of its operations. As part of the deal, the company is also expected to rehabilitate and expand the existing railroad from Yekepa in Nimba County to the port of Buchanan in line with the use of a third party access rights between the Liberian government and steel giant ArcelorMittal.

From the first year of operations, West Africa Exploration will make a contribution of at least US$2.5mn to the social development funds of the affected counties in the deal. The company will also pay an annual concession fee of US$1.5mn to US$5mn for the transshipment of iron ore from zero million per tonne to 10mn per tonne each year, as well as taxes and duties as mandated in the deal.

Mining Africa's mineral-rich soil

The continent's open pit mines offer access to a wide range of valuable commodities

Most average globetrotting airline passengers have seen them from the air, whether they know what they've been looking at from 35,000 feet, or not. Often they take the form of great scars on magnificent landscapes, massive holes in the ground, or smaller, less noticeable scrapes and quarries used to extract everyday building materials such as granites and marble. Across Africa, open cast mines are used for coal mining, as well as for hard-rock mining of metal ores such as, copper, gold, iron, nickel and platinum, and of a number of hard rock minerals.

An open-cast mine is an excavation that begins with a surface cut to extract ore or other commodity directly from the ground and remains open throughout its lifespan, as opposed to driving shafts hundreds, if not thousands, of feet below the surface. Ore is exposed by excavating, blasting and moving massive amounts of rock but it must be done in a commercially viable way so as the cost of its extraction does not exceed the value of the end product. Seems obvious, but designing the actual physical structure of the mine, extracting the ore or target raw material, conducting efficient waste disposal, all add up to a complex engineering and geologic challenge with huge economic implications.

It's here that companies like Maptek, which provides mine planning software solutions to plan, model and design a potential mine to ensure, as far as possible, the mine will be profitable, come into their own. Maptek's comprehensive Vulcan range of mining software solutions provides CAD, 3D visualisation and modelling tools, as well as test and validation functionality, and solutions to display and analyse data from third-party GIS systems. This all provides the would-be mine operator with the accurate geological, geotechnical and economic information needed to develop an accurate feasibility study before proceeding. Maptek says that defining and refining a mine model is essential to understanding what is possible at a given site and claims its 3D geological capabilities are the most widely used tools for optimising a mine plan.

Any major open cast mine plan developed with such solutions will include 'benches' or tiers, which in practice are ledges providing a single operating level for the mining workforce. The bench face is typically composed of waste rock and many benches at different elevations might be active at any one time.

Open cast mine operators rely on the services of players such as Eqstra, which provides outsourced mining services as well as plant hire and fleet options

Early on in any open cast planning process, planners must consider environmental protection as well as reclamation issues to mitigate any potential impact the mine may have. By accommodating these major issues early minimises costs, as opposed to reacting to an event after the fact, in which case costs can be extremely high. Also at the earliest stage, regulatory issues must be factored in and adhered to and full compliance must take place in all areas of the mine's business.

While the economic value of data gathering and environmental considerations might not be clear at every stage of exploration and plan development, they are extremely important. From core-hole boring to their eventual sealing to reclaim any real estate, the impact of all actions on the environment must be addressed including: the mine's aesthetics, noise and air pollution (dust), vibration and subsidence, as well as water discharge and run-off, and process waste materials and effluent. In fact, the mine plan must incorporate every measure – technical and otherwise - necessary to deal with any and all the environmental problems that might arise during the life of a mine through to its eventual closure and reclamation of the site.

Across Africa, these activities are being repeated by many players working to harvest the natural resources that lie deep, and not so deep, in Africa's rich soil.

Outsourcing key open cast needs

Open cast mine operators across South Africa rely heavily on the contract mining services of major players such as Eqstra, which provides outsourced mining services as well as plant hire and fleet services to players such as Platmin, Rio Tinto, Tharisa Minerals and Total Coal. Mining services range from drilling, blasting, loading, hauling and mine rehabilitation, and plant hire covers all heavy earth-moving equipment. Such relationships are essential for the operators to achieve viable results, by reducing the capital expenditure needed to get an operation off the ground. At the same time, risk remains firmly in the lap of the operators during these long-term associations.

In southern Africa, Eqstra has one of the largest hire fleets of plant and equipment for open cast operators with clients chiefly moving chrome, coal, nickel and platinum in Mozambique, Namibia and South Africa. This capability was enhanced a few years ago with the merger of Eqstra with MCC Plant Hire and Hyper Plant Hire (now MCC Eqstra), delivering services across much of southern Africa.

Over the past five years, conditions in the contract mining sector addressing open cast operators have fluctuated, having been relatively flat in the first years of that period, when contract pricing was hotly competitive due to many smaller operators vying for opportunities requiring small-scale equipment. The situation was not helped with falling commodity prices, such as platinum, which saw some operators closing up shop as extraction costs outstripped profits.

For Eqstra, its contract mining and plant rental activities in the open cast sector have seen several operations active across the region in recent years, some more profitable than others. Some examples from Eqstra's portfolio give a flavour of what typical outsourcing services mining operators draw on to keep their pits going. In Northam, SA, for example, operator Platmin at the Pilanesberg Platinum mine has only used Eqstra's load and haul services; 'only' is relative terminology considering the company moved some 1,250,000 cubic metres of substrate a month at the height of its operations there. It had previously also delivered reefing, drilling and blasting services to Platmin but these were curtailed at the start of 2012. In Machadodorp in Mpumalanga, the company has provided mine planning, drilling, blasting, loading and hauling services for Nkomati Nickel, the ARM/Norilsk JV, moving nearly the same volumes as in Northam. And at the Benga Coal Mine in Tete, Mozambique, Eqstra has been supporting Rio Tinto with planning, reefing, drilling, blasting, load and haul services involving the movement of 1,900,000 cubic metres of substrate.

Another player providing outsourced services to major mine operators in Africa and other parts of the world is the Aveng Group. It's a player active in the gold sector where one of its flagship projects has, until December 2013, been in support of SAG (Anglo Gold Ashanti) at the, Siguiri Gold Mine located in the Siguiri District in the east of Guinea some 100km from the Mali border. Services provided by Aveng Moolmans 365 days of the year included: blast-hole drilling and blasting, load and haul of waste and ore, re-handling of ore at the crusher in a blend of Saprolites and Laterites, and dewatering of the pits.

2015 Indaba, Cape Town

An article on mining in this issue of *African Review* would be remiss if it failed to make mention of February's '2015 Investing in African Mining Indaba' in Cape Town, which saw leading players from the industry across the world gather to understand the current mining opportunities – open cast and otherwise - in the region in the context of current economic, geopolitical and social issues.

Commenting in the run-up to the event on how the commodities cycle has not yet bottomed out, Michael Rawlinson, global co-head mining & metals at Barclays, said that while the drop in global oil prices has helped mining companies by reducing their operating costs, the uncertainty it has injected into the marketplace may slow a recovery in the commodity cycle. He did go on to suggest that gold is the most likely commodity to benefit in 2015, not only from higher margins but also because of its role as a 'safe haven in times of political and market uncertainty'.

Of mining in South Africa specifically, Macro analyst at Barclays Africa, Miyelani Maluleke, trying to be optimistic in an honest, though gloomy, commentary, said that while 'South African mining is facing another challenging year', there is an opportunity for mining companies, labour forces and government to pull together and help the industry get through 'the difficult times ahead'. And so they should, considering the sector employs over 400,000 people across SA. Echoing Rawlinson's commodity comments, however, Maluleke warned, 'One of the major challenges for this year is going to be the softer commodity price environment'. She underpinned this saying coal prices have fallen 27% since the start of 2014, iron ore prices by 54% and platinum prices by 8%, with the potential for further slippage. But she did sprinkle a positive note on the improving labour situation since last year's strike and chaos in the platinum industry, with the SA Government seemingly more interested in resolving disputes and restoring stability.

All that glitters is not – just - gold. ■

Agriculture

Easy to service and easy to use

The 4th generation of **Valtra**'s T Series has been designed to be easy and inexpensive to maintain for both owners and service technicians.

Valtra field service manager Jyrki Lampinen said, "We focused on serviceability using 3D images before the first prototype was even manufactured. Serviceability was a design priority from the start."

Special attention has been paid to easy everyday use and maintenance. For example, the fuel and AdBlue tanks can be filled up easily at chest level when standing beside the tractor. The radiator package also opens easily for cleaning. The hydraulic oil level may be checked through a sight glass in the side of the tank each time the driver climbs the steps into the cab. The transmission oil level may also be checked through a sight glass at the rear of the tractor. The dipstick for checking engine oil is located by the steps to the cab and easily reached.

The new Valtra T Series

"Other less regular maintenance jobs are also simple: All grease points are easily accessible though some still require climbing under the tractor. The battery is service-free. The engine air filter can be changed while standing beside the tractor, and the cab air filter can be changed by standing on the steps. Topping up engine oil, coolant and windshield washer fluid is also very easy," Lampinen said.

Routine servicing by professionals ensures that the tractor is available when needed while also retaining the tractor's resale value. This routine servicing, including adjusting engine valves, can now be performed more quickly than ever. Other professional servicing including changing the urea filter, has also been designed to be quick and easy, saving the customer both time and money.

Sustainable tires with a Blue Dimension

Trelleborg is committed to reducing its own carbon footprint and those of its customers, and it is investing considerable resources to do so. Trelleborg Wheel Systems undertakes intensive research and development work together with the main tractor original equipment manufacturers, prompting sustainability consultants such as PE International to create solutions that make a difference.

TM Blue tires help farmers boost their productivity and at the same time reduce their environmental footprint. "Cultivation accounts for more than 50 per cent of the carbon footprint in the production of wheat and other cereals, and is therefore an important focal area as both consumers and farmers look at ways to improve sustainability," said Lorenzo Ciferri, marketing director of agricultural and forestry tires within Trelleborg Wheel Systems.

TM Blue agricultural tires till the soil in a gentle manner through low compaction, which allows the soil to return to its original state, resulting in lower plant loss and higher crop yields. This contributes to a six per cent reduction in the carbon footprint compared with using other premium-brand tires. Six per cent may not sound like a huge amount, but it adds up. For example, the TM1000 HP BlueTire tires sold in 2013 will reduce CO2 emissions by up to 13,700 tons over the life of the tire. This is equivalent to the CO2 emissions from about 2,884 personal vehicles in the course of a year.

The wide footprint area, up to 13 per cent wider than the market average, gives better flotation characteristics by distributing the load evenly across the footprint. The excellent traction capability of the TM Blue tires reduces slippage, which in turn reduces work time and energy dissipation, resulting in lower fuel consumption. In just one week of tilling, the tires can provide fuel consumption savings of 45 to 75 litres - and that adds up to cost savings for farmers as well.

In addition to the actual use of agricultural tires, Trelleborg is studying other aspects in the life cycle of tires, including raw materials, production, distribution and recycling.

In its Life Cycle Analysis (LCA), the bulk of the carbon footprint of Trelleborg Wheel Systems - 60 per cent - can be attributed to raw materials (excluding the LCA's "use phase"). "We are improving the raw material phase through the eco-design of tires, selecting the right suppliers and materials," Ciferri said.

In the production process, which accounts for 30 per cent of the carbon footprint, Trelleborg is analysing each step to see how it can be more environmentally-friendly. Water recycling, projects to reduce energy consumption, using renewable sources of energy and eliminating waste are some of the solutions. Less than three percent of waste material goes to landfill sites, and environmentally-friendly extender oils are used throughout the production process to prevent the risk of environmental contamination.

The LCA shows that distribution accounts for just three to five percent of the carbon footprint, but Trelleborg is addressing this area as well by manufacturing closer to its main markets, to reduce CO2 emissions from deliveries. With regard to the end of an agricultural tire's life cycle, Trelleborg estimates an average of 40 to 45 per cent of tire materials are recycled.

Roadbuilding

Simple to service, easy to use: Vögele's Super 1800-3I SprayJet

SprayJet technology from **Vögele** has proved its value for many years and is used for pavement rehabilitation and construction in many markets around the world. The new SprayJet features a large array of impressive innovations. One feature of fundamental importance is that operation of the spray module has been integrated into the ErgoPlus 3 operating concept. The module is designed as a completely self-contained functional unit. This modular design makes the new Super 1800-3i SprayJet simple to service and allows it to be used both as a spray paver and as a conventional asphalt paver. The paver has a maximum spray width of 6m. As a conventional paver without spray function it can pave widths of up to nine metres.

The Super SprayJet's features

Rehabilitating roads by replacing the surface course is a highly cost-effective and eco-friendly process, and very popular in numerous countries. Vögele now present a cutting-edge concept that is not only ideal for paving thin layers hot

on spray seal or tack coat but also highly interesting for many non-specialised road building companies. The newly developed Vögele SprayJet module is an economical and clean alternative wherever emulsion is sprayed before paving with asphalt.

The new spray module features several innovations. The insulated emulsion tank, for instance, now has a capacity of 2,100 litres and the integrated electric heating (2x7kW) ensures that the emulsion is reliably maintained at the ideal temperature for spraying. What's more, a heated emulsion pump circulates the bitumen emulsion in the tank, thus ensuring that it is permanently homogenized. An additional filler port for emulsion on the left-hand side of the Dash 3 spray module makes for greater flexibility when refilling. And last but not least, all the main service points are readily accessible behind large service panels, even with the spray module installed, much to the delight of every user.

The Super 1800-3i SprayJet is equipped with five spray bars. The front spray bar has six spray nozzles and is located between the machine's crawler tracks right behind the push-rollers. An articulated spray bar installed on each side of the paver comes with seven nozzles per side. Finally, a short spray bar with two nozzles is provided right behind each crawler track. This arrangement of the spray bars allows full coverage of the existing surface with emulsion, even when the pave width varies. The rate of spread can be selected accurately within the range of 0.3 and 1.6kg/m^2.

The SprayJet nozzles do not spray the emulsion continuously, but operate instead in pulsed mode. The frequency of the spray pulses is adjusted automatically as a function of the selected rate of spread, pave speed and pave width. As a result, complete coverage of the existing surface with a uniform film of emulsion is achieved, without any overlaps. Emulsion is applied at an exceedingly low spray pressure of no more than three bar. In combination with the high-quality spray nozzles, this allows the emulsion to be sprayed cleanly and without burdening the environment.

It goes without saying that the new spray paver also includes all the features of the

Whether it is used as a classical upper mid-range paver or as a special machine for specific tasks, the modular machine concept of the Super 1800-3i SprayJet allows it to be used flexibly for a variety of applications

Dash 3 generation. The Vögele EcoPlus package, for instance, significantly reduces both fuel consumption and noise levels. The AutoSet Plus functions ensure quick and safe relocation of the paver on site and make it possible to store individual, frequently recurring paving programmes. Even the best machine with the most advanced technology can only really show its strengths if it can be operated easily and as intuitively as possible. At the same time, it must offer its users a safe and ergonomic workplace. That is why the new ErgoPlus 3 operating concept focuses on the operator and user-friendliness.

One feature of fundamental importance is that operation of the spray module has been integrated into the ErgoPlus 3 operating concept

All the settings required for replenishing, circulating and heating the emulsion can be entered and monitored directly via the touchscreen

Tools

Rotary burrs for Dormer Pramet programme

Dormer Pramet has added a range of carbide rotary burrs to enhance its support tools program for general machining processes.

It is the first time that burrs will be available under the Dormer product brand, with a comprehensive assortment of designs and shapes to choose from, including ball nosed cylinder, pointed tree, oval, flame, 60° and 90° countersinks, cones and inverted cones varieties.

The introduction of the burrs is part of a wider product initiative by Dormer Pramet – the first since Dormer and Pramet merged in 2014.

Dormer's wide selection of burrs provides numerous options to machine a range of materials, including hardened steel, non-ferrous materials and plastics.

Its combination of carbide head and steel shank (above 6mm) provides an ideal mix of rigidity and strength. This feature reduces vibrations, resulting in a consistent and secure performance, as well as an improved tool life.

Dormer Pramet's new range of carbide rotary burrs

A double cut design on Dormer's burrs improves ease of control, increases metal removal rate and breaks swarf into manageable pieces.

Also, the ball end geometry incorporates skip flute grinding which improves cutting action closer to the centre, reducing the chance of swarf congestion and increases strength.

Alternatively, the aluminium cut option makes it the first choice for non-ferrous materials and plastics. The high helix and rake angle offers large flute volume for rapid material removal rates.

Dormer's burrs are available with TiAlN coating to increase tool life in difficult conditions and help to resist 'built-up edge,' which is common for cutting tools with small flute volumes.

Electrical

'Mini' cabinets for outdoor installers

A new range of small GRP cabinets from **Intertec** provides installers with increased flexibility for protecting outdoor equipment. The new Minicab housings combine a relatively high containment capacity with convenient pipe stand or wall mounting, and feature a flat full-size hinged door for quick and easy access. They are designed to help customers simplify the layout, installation and maintenance of outdoor equipment without having to recourse to large footprint free-standing cabinets.

Minicabs are especially suitable for protecting smaller-scale field-based installations such as electrical, analytical or safety equipment against the effects of weather and unauthorised access. Their GRP construction also makes them ideal for long-life applications in harsh climates, and in plants handling chemicals and petrochemicals.

Intertec is initially launching the Minicab 44 model, which has a capacity of approximately 44 litres and measures just 506 x 356 x 245 mm (HxWxD); larger versions will follow. This is the smallest cabinet-style housing that Intertec has produced to date – other products in this size range comprise two-part enclosures that split open for access.

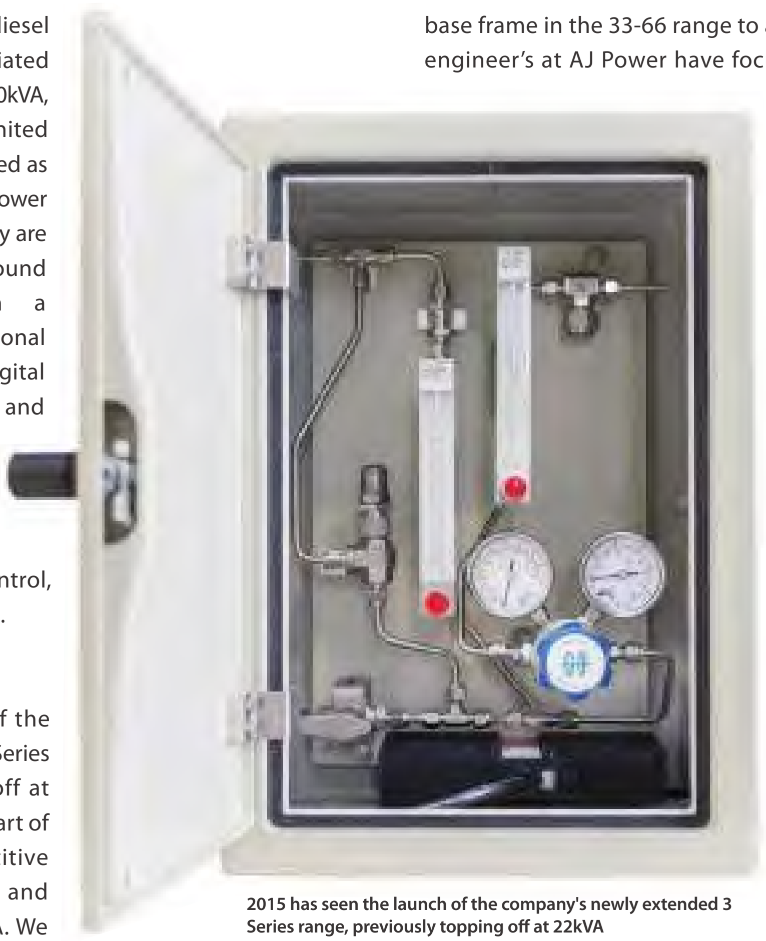
Intertec's new Minicab housings are ideal for protecting small installations of electrical, analytical or safety equipment against unauthorised access and the effects of weather

Diesel sets generating elelectrical power worldwide

AJ Power manufactures diesel generating sets and associated equipment in the range 10-3350kVA, (610-25,000kgs) in the United Kingdom. The products are used as a primary source of electrical power or as a standby to a utility. They are available in open or sound attenuated formats with a comprehensive range of optional equipment including digital automatic transfer switches and automatic synchronisation systems. Increasingly machines are being supplied with "high end" options and facilities for remote control, communication and operation.

Big power in a small package

2015 has seen the launch of the company's newly extended 3 Series range, previously topping off at 22kVA. The new models are part of our ongoing competitive improvements programme and extend the 3 Series to 66kVA. We have introduced a new canopy and base frame in the 33-66 range to augment the existing product. The engineer's at AJ Power have focused on the overall performance, serviceability and durability of the product to create a compact solution.



2015 has seen the launch of the company's newly extended 3 Series range, previously topping off at 22kVA

The footprint of the generating set and the canopy volume has been reduced, resulting in cost reductions and increased shipping density. This has been achieved by moving the control panel and circuit breaker to the side. The new canopy is a stretched version of our popular 'QF' canopy with gas spring assisted side doors as standard and some unique punching to give it a modern design.

The new models are powered by reliable AGCO Power and Perkins engines and come with a limited range of additional options - perfect for the low option markets. They also deliver excellent sound noise levels of under 79dBA at 100 per cent load at one metre.

Agriculture

Case IH's Red Power drives farm growth

The track version of the flagship Case IH Axial Flow combine harvester during harvesting and unloading operations

The JX95 Straddle mount tractor by Case IH

The world is demanding more from farms. According to the F**ood and Agriculture Organization of the United Nations (FAO)**, by 2050 the world needs to produce 60 per cent more food to feed a population that is expected to rise above nine billion.

"This evolution represents tremendous challenges and opportunities for the Middle East and Africa, which is the world's most developing market for the agricultural business," said Marco Raimondo, **Case IH**'s new business director for Africa and the Middle East. This recent appointment is part of the undergoing evolution of the brand that follows the creation of parent company **CNH Industrial NV** in September 2013. Stepping up from his previous positions of marketing director for Africa and the Middle East and then Sales Responsible for East and Central Africa, Raimondo brings to the new role front-line experience and deep understanding of the region.

"The pursuit of higher productivity and the slow but steady transition from subsistence farming to diversified agriculture are driving the growth of the agricultural equipment sector in our region, as confirmed by the positive results we achieved in 2014," adds Raimondo.

Since its foundation in 1842 in Racine (USA), Case IH has been at the forefront of the mechanization process and a key contributor to the transformation of agriculture, gaining a worldwide leadership in the agricultural equipment industry.

"Case IH has very strong positions in South Africa and in other countries such as Algeria, Kenya, Mozambique and Zimbabwe," he points out. "We are also achieving important results in the Middle East where we have already leading positions in the United Arab Emirates and where we are committed to further expand our presence in the near future."

Equipment solutions for farms of all sizes

Speaking about the company's future plans within the region, Raimondo observed, "We intend to further strengthen our company's position as a full liner of agricultural equipment with new product launches in 2015."

Case IH is constantly investing in farming technologies and is able to provide a complete line of agricultural equipment to meet the demands of the highly diversified customer base in Africa and the Middle East.

"On the tractors side, units below 100 horsepower still represent the most important segment in terms of volumes but there are growing trends for big tractors too," says Raimondo.

Case IH commercializes a wide offering of tractors from 55 to 608 hp, starting from the entry level JXT, JX Straddle and Farmall JX Series. These all-purpose tractors perfectly match the renowned Case IH quality with the robustness and the ease of maintenance needed by small farmers. The company has also a long-established reputation for powerful, high-performance tractors, which include the flagship Steiger and the Magnum Series, recently awarded "Tractor of the Year 2015".

Case IH Axial-Flow combines have earned a leading position in the rotary combine harvester market. "In countries demanding for highly productive combines, as in South Africa, more than 30% of combines sold in 2014 were represented by Case IH. We play an important role wherever large-scale and corporate farms are present, as in Senegal, Sudan, Ethiopia and Sierra Leone," explained Raimondo.

The company complements its offering with a complete line of balers, tillage and seeding equipment, hay and forage machinery, sprayers, precision farming technologies as well as specialised machines such as cotton pickers and the industry-leading Austoft 8000 Series sugarcane harvesters.

"Case IH sugarcane harvesters are very popular in the sugar and ethanol industries in Zimbabwe, Sierra Leone, Nigeria, Sudan and Mauritius, as are its cotton pickers in the Sudanese market," he said. "In these segments, we can offer product solutions as no other company."

Multotec's experts make extraction more efficient

A key differentiator for **Longi-Multotec** in the marketplace is having highly skilled and experienced experts on hand. Willem Slabbert, process and applications engineer at Multotec, said, "It is important to work with an original equipment manufacturer that understands the system parameters and is able to see past the one-size-fits-all option that has been the tendency in the past,"

An example of this expertise in action is the introduction of the latest developments in air-cooled overbelt magnets to the African mining industry. Multotec's new range of standard range Longi-Multotec air cooled overbelt magnets is capable of operating in an ambient temperature of up to 45°C.

"However, in specific instances where a more customised approach is called for, Multotec can size the correct magnet from its range of forced cooled magnets," Slabbert pointed out.

The standard range conforms to the standard conveyor widths used in the African mining industry with international standard widths also available. There are four models available for each conveyor width. While the conveyor belt dimensions remain the same for all these model variants, the difference lies in the coil height, which can be raised in order to increase the strength of the magnet.

"Depending on the process parameters, we will decide which one of the four model variants is the most applicable. "This gives Multotec

Longi-Multotec's standard range of air-cooled magnets goes up to a 30 t machine

the necessary flexibility to be able to carry out custom selections for specific applications, which depends on the tramp metal that needs to be removed," Slabbert explained.

The Longi-Multotec air-cooled overbelt magnets represent a step change in this critical technology. They incorporate a split coil design, whereby heat is dissipated over ten different surfaces compared to conventional technology's six surfaces, making this cooling method far more efficient in terms of the overall system. "We are now able to offer this innovative technology to the African mining industry through our agreement with Longi," Slabbert said.

Advertiser's Index

Subscription Form

I wish to subscribe to
AFRICAN REVIEW OF BUSINESS AND TECHNOLOGY
for 1 year (11 issues) starting with the next copy.
Europe € 107, Kenya Ksh 2400, Nigeria N4400,
South Africa R299, United Kingdom £73, USA $140

Enclosed is my cheque/draft ❑ Please send us the invoice ❑
Please debit my: Amex ❑ Visa ❑ Mastercard ❑

Card number: ☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐
Expiry date: ☐☐/☐☐ **Security Code:** ☐☐☐
(Please note that we will debit your account in sterling).

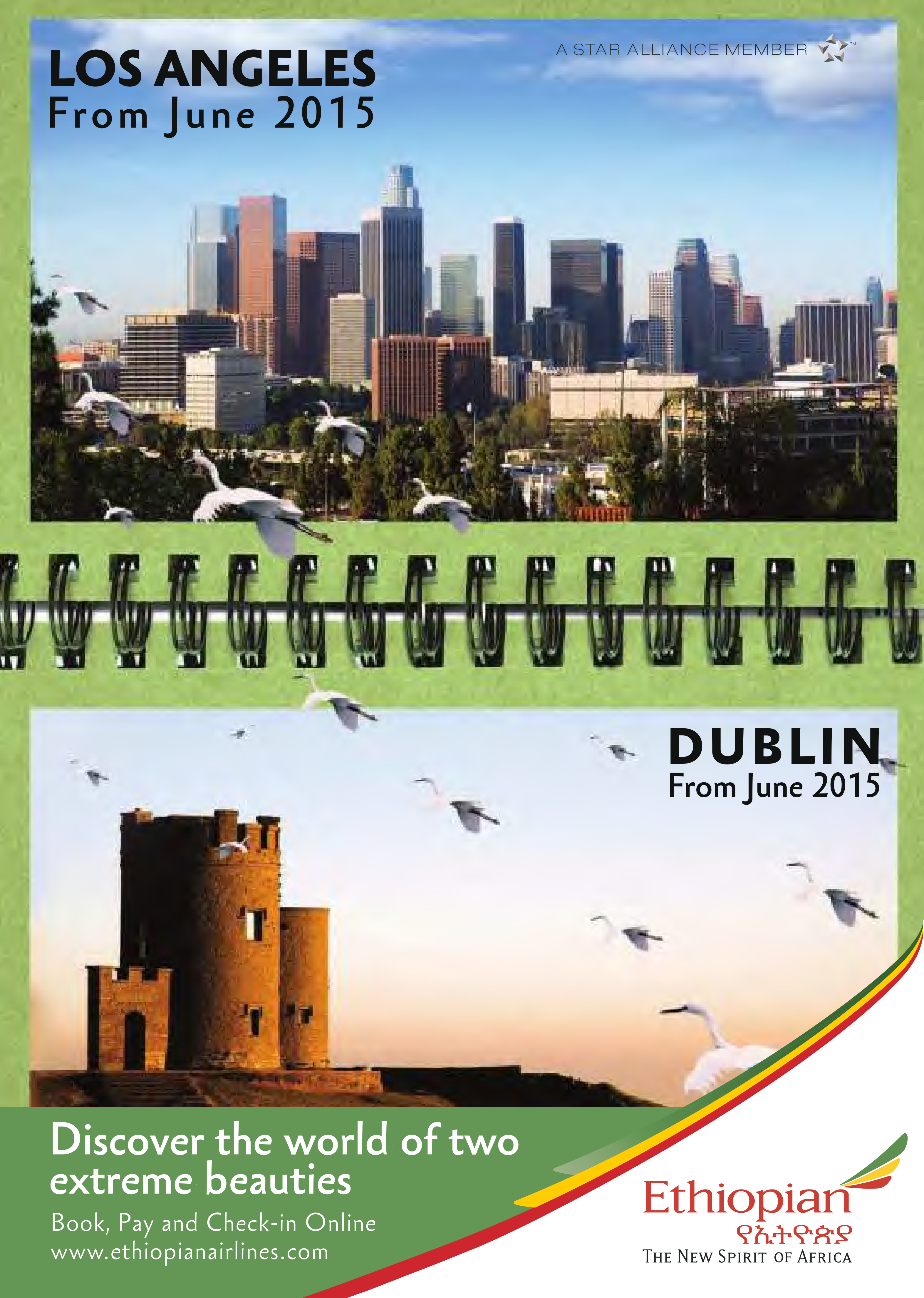
Name...Position.......................................
Organisation ....
Telephone.......................................Fax...
Address...
....
Country ....Signed...
Email: ....Date..

Send this subscription form by airmail together with cheque payable to:
Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place London, SW1W 0EX, UK

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

YOUR JOB TITLE/FUNCTION
01 **Corporate Management**
02 **Government Municipal, Public Services Executives**
03 **General Management**
04 **Technical Management**
05 **Others,** Please specify
....

YOUR BUSINESS
01 **Government/Public/Diplomatic Services**
02 **Infrastructure**
03 **Educational/Research Institutes**
04 **Industry/Manufacturing**
05 **Agricultural & Agro Industries**
06 **Commercial Services**
07 **Building/Construction/Mining**
08 **Import/Export Agents, Distributors**
10 **Commercial Transport**
16 **Others,** Please specify
....


LOS ANGELES
From June 2015
A STAR ALLIANCE MEMBER
DUBLIN
From June 2015
Discover the world of two extreme beauties
Book, Pay and Check-in Online
www.ethiopianairlines.com
Ethiopian
የኢትዮጵያ
THE NEW SPIRIT OF AFRICA