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## Improve spectrum allocation as 5G trials commence

Telecoms companies in South Africa are gearing up to improve mobile broadband services following the launch of the country's first 5G trials, although sector regulations may delay rollout in the near future.

In recent months both Vodacom and MTN South Africa, the largest GSM operators by market share, announced the start of high-speed 5G tests in preparation for commercial deployment.

Vodacom, a subsidiary of UK-headquartered Vodafone, announced last November that it had formed a partnership with Finnish communications firm Nokia Oyj to undertake trials, while MTN South Africa is collaborating with Sweden's Ericsson to pilot 5G applications and equipment.

MTN South Africa said it achieved download speeds of more than 20 Gbps with latency of five milliseconds during its first trial in early January, which is 100 times faster than 4G services. The results are the highest speeds recorded on the continent. The companies conducted the testing after receiving a temporary licence to operate 800 MHz of spectrum on a 15-GHz band.

Both Vodacom and MTN South Africa said their research would look at how faster connection speeds would not only improve telecoms connectivity, but also provide a boost to targeted areas of the economy. In addition to improving efficiency and safety in sectors such as agriculture and mining, 5G technology could support development of self-driving cars and remote robotic surgery.

### Improved internet speeds drive demand for data

The 5G trials come as operators move to increase internet speeds on the back of rapidly rising demand for digital content and data services.



Last year Vodacom's data revenue exceeded voice earnings for the first time, with data generating R6bn (\$515.2m) in the fourth quarter, compared to voice's R5.7bn (\$489.3m). Meanwhile, MTN data for the first half of 2017 showed voice and data earnings almost level, at R8.2bn (\$703.9m) and R8bn (\$686.9m), respectively.

According to GSMA-I, 45% of the population have a mobile subscription and the overall mobile broadband penetration rate is 68%, making South Africa the continent's second-largest mobile market after Nigeria.

Going forward, the two most important factors determining data and digital services take-up will be affordability and faster internet speeds, according to Arthur Goldstuck, managing director of World Wide Worx, an independent technology market research organisation based in South Africa.

"One can see massive appetite for faster internet access at the top of the market and cheap internet access at the bottom of the market," Goldstuck said during a recent interview with international press. "With the appetite for fast internet access – especially to use services like Netflix and Showmax – ADSL isn't good enough for people anymore if they have access to fibre."

### Spectrum shortage could delay 5G rollout

While companies are looking to develop the necessary technology to offer faster services, regulations concerning next-generation infrastructure have proven challenging.

Ongoing discussions over preferred implementation methods have meant the Independent Communications Authority of South Africa, the sector regulator, has yet to allocate telecoms operators with the high-demand spectrum for 4G.

This has led companies to reallocate 2G and 3G spectrum in order to provide 4G LTE services, sparking concerns that if a solution to the current situation is not found, the implementation of 5G – which is expected to be first rolled out commercially in Japan by 2020 – could be further delayed in South Africa.

During the announcement of MTN's 5G launch, Giovanni Chiarelli, the company's chief technology and innovation officer for the South African branch, said, "Once again we call on the government to urgently release the much-needed spectrum that is required in South Africa to lower the cost of data, and drive growth and development for all South Africans."

Releasing additional spectrum could also provide a solution for the continuing urban-rural divide in coverage. In August Vodacom reported that while 91% of the population in urban areas has access to its LTE coverage, only 44% of those in rural areas had the same access, citing a lack of available spectrum as a chief contributor.

## Start-up powered by Namibian sun



Start-up SunCycles Namibia provides Namibians with alternatives to fuel-driven transport and grid-reliant energy. The company produces various electric bicycles, electric scooters, solar-charging units and solar home systems that incorporate lithium-ion battery technology and are powered purely by the Namibian sun.

"We combined two of our greatest passions – carbon-neutral mobility and clean energy – and created a unique enterprise as a solution to pressing local needs," says SunCycle founders Marita and Bernhard Walther.

"Our seed financing came from a business angel, who allowed us the possibility to implement our prototype phase. Further support was received through prize money from a variety of business competitions.

"We're constantly working on expanding our reach through additional projects and partnerships, and one of these is the SunBox concept – a modified shipping container equipped with e-bikes and solar power and recharge facilities to cater to off-grid and rural needs.

"Direct marketing has proven most valuable for our efforts – like face-to-face interaction and personal demonstration of our products and services. Our biggest mistake was that we didn't pursue our entrepreneurial spirit much earlier and that it took us so long to find a more sustainable solution for our immediate environment. Personal experience proved that working an 8:00-17:00 job doesn't provide you with enough time to develop your own ideas, and that the only way to improve your environment is by recreating it".





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# Deneb sews up losses

DENEb Investments, the Cape Town-based industrial conglomerate controlled by Hosken Consolidated Investments, has undergone a rigorous restructuring to cull loss making operations.

Deneb holds many of the assets of the old clothing and textile conglomerate Searle – including some very valuable industrial real estate.

Results for the year to end March showed Deneb stitching up losses at its Winelands Textiles subsidiary by merging production plants located in Paarl and Worcester into one facility in Worcester.

Deneb CEO Stuart Queen said consolidation significantly reduced the overheads and breakeven point at Winelands Textiles, allowing the business to focus on more vi-

able product lines.

He said the restructuring would also release around R50m of capital that was tied up in unproductive working capital.

Decisive action has also been taken at Deneb's office automation business, where the group has decided to concentrate this business on the Gauteng market.

Queen said Deneb had made good progress with the orderly disposal of the outlying branches. He said only the Cape Town branch remained to be sold. "We are confident of wrapping this up shortly."

He said the restructuring allowed the businesses to unlock better efficiencies and it would release a significant amount of capital tied up in the long-term debtors book.

Deneb's branded

sporting goods business has also been placed under the control of new management that have been sweating over discontinuing loss-making brands, improving operational efficiencies and optimising management structures.

Queen said the result of these initiatives has seen the break-even point for the sporting brands segment drop significantly. "The focus now is to grow the brands that remain."

Deneb pleasingly also reported some strong performers in its industrial hub – most notably Vega Properties, Prima Interactive, Formex, Romatex Home Textiles and the Empire Group.

Group turnover was up a sprightly 12% to just over R3 billion – helped by the recent

acquisition of automotive components maker Formex and toy distributor New Just Fun Group.

Another important development was the formation of HTIC (which is based in Hong Kong). This business sources goods from Asian manufacturers primarily for a South African client base – including Deneb group companies.

Queen said the business had a long association with Deneb – but in prior years it acted as a sourcing agent. "As from January 2017, it is classified as a subsidiary. The effect of this is that we now account for all the revenue and all the costs as opposed to just accounting for commissions earned..."

Queen admitted, though, that if the acquisitions were excluded

then Deneb's revenues declined by 2%. This was mainly due to management decisions to discontinue unprofitable product lines, but Queen conceded the revenue drop did reflect some of the difficulties experienced in the local retail and construction markets.

Profit from continuing operations soared from R17 million to R89 million – which bodes well for the financial year ahead.

Queen said although the year under review proved to be difficult, management believed that the actions taken would see Deneb emerge in a stronger position than it began. "As we continue to find solutions for the underperforming businesses, it will result in improved operating margins going forward or further capital releases."

# Cape property signals still positive

THERE has been further confirmation that the Western Cape property sector is looking robust with regionally focussed property entities Spear and Equites putting in commendable profit performances in their respective financial years.

Spear, the recently formed property group that focuses exclusively on Western Cape real estate across the commercial, hospitality, residential and industrial sectors, has issued a revised distribution forecast for its year to

end February 2019 that is between 9% and 11% higher than the 2018 financial year.

In the year to end February 2018, Spear posted a bottom line profit of R386m, which allowed the group to pay a generous dividend distribution of 78.5c/share. This was almost 2% ahead of the forecast figure.

Spear deputy chairman Mike Flax said growth was supported by accretive acquisitions and organic portfolio improvements.

Spear spent some

R1.35 billion on new acquisitions during trading period – including 142 Edward Street, Tyger Manor and Selective House (all in Tygervalley) as well as 15 on Orange in Cape Town, 2 Long Street in Cape Town, Mega Park Industrial Estate in Bellville, the Virgin Active in George and the MWeb head office in Bellville.

Flax said all new acquisitions closed after the 2018 financial year-end were performing to the satisfaction of management and in line with budgets.

Spear's biggest five properties are Mega Park Industrial Estate (worth R426m), 2 Long Street (R418m), Sable Square in Milnerton (R358m), the upmarket hotel at 15 on Orange (R305m) and Upper Eastside in Woodstock (R302m).

These five properties – with a combined value of R1.84bn – comprise 58% of the value of Spear's portfolio.

Looking ahead, Flax said the Western Cape property sector had for the most part continued to outperform the rest of

South Africa.

He said management's continued focus on regional investment has provided a level of insulation from the tougher trading conditions experienced in regions outside of the Western Cape. Flax added that Spear continued to have a healthy pipeline of greenfield and brownfield development opportunities within the portfolio, which would unlock further value for the group in time.

He believed demand for Spear's high-quality rental properties across the various sectors within the Western Cape would continue.

Spear's occupancy rate at the end of February was an encouraging 98.1%.

In his divisional review, Flax disclosed that Spear's industrial portfolio enjoyed high occupancy rates and strong performance with no major tenant movements or lease expiries. He said the industrial portfolio (152 514 m<sup>2</sup>) enjoyed 100% occupancy.

Spear's commercial sector performed to management's expectations and vacancies remained at low levels of 6.53%.

Flax said the bulk of commercial vacancies were attributable to additional office space developed at Sable Square and at 2 Long Street.

He said progress on the letting of the office additions at Sable Square and the office

vacancies at 2 Long Street had been positive with a number of post-year-end lets being concluded on both properties.

Flax said Spear had concluded a capital expenditure programme at Sable Square to unlock the approved and undeveloped bulk of 27 000 m<sup>2</sup>.

He said the first phase of the project (4 200 m<sup>2</sup>) included a Zone Fitness Gym, new A-grade office space and the redevelopment of an existing 1 300 m<sup>2</sup> of A-grade office space.

"Phase One is progressing in line with both the delivery timelines and project budget with 70% of the new additions already pre-let at asking rentals."

Flax said Spear's development yield on this phase would exceed 9.8% in year one. "Footfall and turnover growth in the centre have been constantly increasing as management continues to improve both the tenant mix and the customer experience at Sable Square." He said that in a bid to further enhance the quality of the asset, Spear has commenced with the planning of Phase Two of the capital expenditure programme that would see the introduction of a residential component to Sable Square that comprised of around 200 units on a rental only basis, disclosing that costs associated with Phase Two would be in the region of R400 million.

In another hearten-

ing development on the local property front, Equites – which has a number of logistics properties near the Cape Town International airport in its portfolio – reported that distributions grew a sprightly 12.2% in the year to end February. What's more Equites net asset value grew almost 9% on the back of a 30% growth in fair value of property portfolio from R6.2 billion to R8.1 billion.

Equites has a committed development and acquisition pipeline of R930 million in South Africa – which strongly underlines confidence in the local property sector.

Equites, however, reported that for the first time in its trading history the company had an industrial vacancy at Tower Road situated in the Cape Town Airport Industrial precinct.

The company pointed out that this industrial space of 9 098m<sup>2</sup> underwent a full refurbishment during the year to uplift the property to modern logistics standards.

Equites said at financial year end the property was still vacant and was currently being marketed to several interested tenants.

This vacancy brings the total vacancy in Equites portfolio to 2%.

But the company advised that the seven leases due for renewal in the financial year ahead had all already been renewed and negotiated at 6% above the exit rentals.



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# Afrox partners with Ulula Energy in the Western Cape

THE partnership will see Ulula Energy, a Level 1 BBBEE contributor and independent black South African woman-owned and managed LPG distributor, supplying Afrox Safety Gas and Handigas cylinders to the low income housing and residential sectors as well as light industries in the province.

Gerhard van Wyk, National Business Manager LPG, says that the agreement forms part of Afrox's strategy to branch out

from its core business of supplying gas to large industrial commercial enterprises, while aligning with the company's Enterprise Supplier Development (ESD) objectives that seek to engage with previously disadvantaged enterprises and suppliers in an effort to combat unemployment and contribute to the economic development of the country.

"Ulula Energy has access to knowledge, experience and business contacts in the informal domestic gas

market, and for that reason Afrox made the decision to appoint the company as the preferred LPG distributor of Afrox cylinders to the informal residential, domestic and light commercial industries in the Western Cape," says van Wyk.

Owner of Ulula Energy, Rizelle Sampson, says that the company's primary objective is to develop a portfolio of high-growth energy companies centred on providing consumers with a diversified energy

mix that is competitive and innovative.

As Afrox's LPG distributor of choice, Ulula Energy aims to reintroduce Afrox Safety Gas and Handigas cylinders to the Western Cape domestic market.

The emphasis of its offering will be on safety, convenience, affordability and technology.

Afrox's lighter and more portable 5 kg Safety Gas cylinders were specifically chosen for the low-cost housing market where residents often have to carry cylinders from gas depots to their homes.



In addition, the rental cylinders will be maintained by Afrox to ensure they are

fully compliant with safety standards while, as distributors, Ulula Energy will fulfil spe-

cific domestic market needs such as after-hours and weekend delivery.

## 30+years of specialised manufacture

SINCE 1987, IRP Engineering Plastics – as the name suggests – has been designing, innovating and locally manufacturing plastic conveyor component solutions used by the food, beverage and packaging industries ever since.

These conveyor components had previously been sourced from Europe and America and an opportunity was recognised for the real need for local manufacture.

IRP's Manufacturing capabilities has continually developed over the past 30 years and now has four dedicated divisions comprising of a full CNC manufacturing Division, Injection Moulding Division, Modular Belt, Slat Conveyor Chain and Component Assembly Division and a Stock Holding Division that houses more than 2000 conveyor components.

IRP's CNC Manufacturing Division is dedicated to producing custom made parts and comprises of CNC Lathes, CNC machining centres and CNC vacuum bed routers complete with 4th Axis capabilities. All machines are linked to sophisticated Autocad and 3D Milling CNC programming systems for superior accuracy and speedy delivery.

IRP's Technical Design Centre is equipped with the Cimcore II portable measuring arm which is the latest in portable measuring

technology. Cimcore II enables IRP to accurately reverse engineer any complex parts which can be done onsite, reducing downtime or at IRP's Technical Design Centre.

IRP's injection moulding facility consists of injection moulding machines ranging from 50 ton to 360 ton capacities and is complete with a fully operational tool room to handle injection moulding projects from start to the finish product.

IRP's Modular Belting, Chain and Component Assembly Division has over 10 dedicated assembly lines, locally producing modular belts, slat conveyor chains and conveyor component solutions. IRP's Modular Belting and Chain Assembly Division boasts a modular belting range comprising a 12mm pitch, 15mm pitch, 25,4mm pitch, 31.75mm pitch and 50.8mm pitch belts in both straight running and side flexing applications. IRP locally produce and supply the full range of plastic, stainless steel slatband chains and crate conveyor chains. IRP's range of modular belting and slat conveyor chains and conveyor component solutions has been supplied extensively to all food, beverage and packaging industries over the last 30 years.

A wide range of nylon stock shapes can be supplied and sheet sizes 2 600mm x 1

300mm up to 100mm thick with nylon rods and tubes can be produced up to 1 000mm in diameter. IRP's nylon (Polyamide) range consists of Molybdenum, Oil and Wax filled grades that increases wear resistance and reduces friction. This nylon is commonly used in parts such as change parts, bottle feed equipment for bottling and canning plants, corner tracks, wearstrips and bearing applications.

IRP's conveyor component solutions include: Plastic/Pressed Steel Elevator Buckets, Plastic Sifting Screens/sieve cleaners, Wear/Chute Liners, Stainless Steel & Plastic Slatband Chains, Guide Rail Systems, Sprockets & Idlers, Modular Belting, Magnetic & TAB Bends & Straight Tracks and Specialized Machined components including Bottle Feed Equipment found in the following industries:

- Bottling and Beverage Filling
- Food Conveying
- Glass Manufacture and Conveying
- Bread Manufacturing and Conveying
- Dairy Manufacturing, Filling and Conveying
- Pharmaceutical Manufacturing, Bottle Conveying and Filling
- Conveyor Building Supply
- Bulk Materials Handling

## Conveyor Component & Engineering Plastics Solutions



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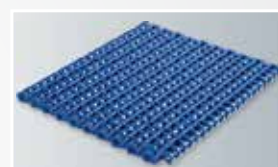
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# Africa's LNG producers can address domestic power problems

WHILE the production of liquefied natural gas (LNG) in Africa historically has been concentrated in Nigeria, Algeria, Egypt and Libya, the prospects for gas in the rest of Africa have steadily increased in recent years.

This development not only has opened the door to opportunities for export, but also for supporting the demand for reliable power on the continent, according to Victor Mallet, APR Energy's Director of Sales for Sub-Saharan Africa.

A report published by Ernst & Young Global Limited highlights that gas consumption in Africa has been increasing at a rate of about 6% per year since the year 2000. Countries like Congo, Mozambique, Rwanda and Sudan have emerged as viable LNG producers.

The report, Natural Gas in Africa, also notes that oil's dominance in West Africa is gradually giving way to gas, while East Africa's gas sector has progressed from virtually non-existent to the so-called "next epicenter" for gas production in just 10 years.

"One example of LNG's potential in Africa is in Ghana, where the country's massive Sankofa development is expected to start producing LNG in 2018, and provides around 2 000MW of generation capacity to Ghana's power grid," Mallet says.

"In June, the \$7 billion Coral South LNG project in Mozambique, which will produce 3.4-million



tons of gas per year, was given the green light. Tanzania is on the cusp of realising a \$30 billion onshore LNG plant, and Ethiopia and Rwanda have recently announced major gas projects. It also should be noted that most of these countries expect to see increases in electricity demand of 15-30% per year, while others like Rwanda are experiencing significant shortfalls in electricity supply, according to the latest reports," he adds.

Mallet believes that the installation of mobile gas turbines-running on LNG may be one of the quickest and most cost-effective ways for these countries to expand their generating capacity – and to quickly monetise the value of their natural gas.

The turbines – which use the same proven technology found in airplane jet engines – offer additional advantages, including significantly lower emissions than the typical diesel reciprocating engines found in the temporary power market, and the flexibility to run on diesel, LPG and ethanol if there is a hiccup in gas supplies.

Speed, however, is the greatest benefit of fast-track power using mobile gas turbines. "Why wait years for electricity when you can have reliable power within weeks?" Mallet asks.

Fast-track power provides rapid access to reliable electricity – typically within 30-90 days – and it can bridge the gap during the years required to plan, finance and construct permanent generating capacity.

"In countries where construction of permanent generation is delayed due to lack of funding, such as Rwanda, bridging power provided by mobile fast-track power generation can stimulate immediate economic growth, contributing to the country's GDP and creating revenue to invest in long-term power solutions," Mallet says.

"Moreover, with fast-track power, there is no large up-front capital investment by the customer," he adds. "Instead, it is treated as a monthly operating expense that includes a fixed cost for access to the generating capacity and a variable cost for the power consumed" Mallet concludes.

# Startups invited

AFTER breaking award records on the 2017 edition, Seedstars World, the largest startup competition for emerging markets, is back in Africa to scout for the top high growth startups and entrepreneurs and accelerate them on their path to global scaling.

Local winners will be invited to represent their country at the Regional Summit in Africa and win an all-inclusive trip to Switzerland, to introduce their startup to some of world's most prominent investors and executives and enjoy the opportunity to win up to \$1mn in equity investments and additional prizes.

On the 2018 edition of the tour, Seedstars Africa regional team will visit 20+ cities across Sub-Saharan Africa, hosting boot-camps and pitch competitions. Countries

such as Mauritius and Zambia, amongst others, will host local competitions for the first time, enlarging the impact of Seedstars mission in the continent.

Seedstars has completed five successful tours so far, placing the spotlight on entrepreneurs from fast growing economies, and one can say African startups have had significant successes with three of its entrepreneurs having won the global prize in the past: SimplePay (Nigeria: 2013), Giraffe (South Africa: 2015) and Agrocenta (Ghana: 2018). In the last Seedstars Global Summit edition, which happened on the 12th April in Lausanne, Africa broke new records having three startups amongst the finalists (besides Agrocenta), two of them awarded with important prizes: GiftedMom, finalist

startup from Cameroon; Medsaf, from Nigeria, winner of Best Women Entrepreneur Prize, by TAG Heuer; EMGuidance, South Africa, winner of the Health Tech Prize by Merck. Solar Freeze, Kenya, was also winner of Africa Energy prize, by Enel; and EDVES, from Nigeria, was awarded Transforming Education Prize by TRECC (Transforming Education in Cocoa Communities) and School of Management Fribourg (HEG Fribourg). With hopes of repeating this success for African startups in the upcoming summit, Seedstars World is kicking off this year's tour on the 29th June in Harare, Zimbabwe.

The companies selected to pitch at the Seedstars local events need to be less than 2 years old, have raised less than USD 500,000 in funding and have

built a minimum viable product, ideally with existing traction. The Seedstars World team is searching for one additional criterion - the startup's regional and global scalability. With a strong network of regional partners such as Merck, SPECo, Enel or Continental, Seedstars World is looking for smart startups that are addressing underlying social challenges in their home countries and developing profitable products for the global market, to support their regional businesses and growth.

Applications are open for startups in South Africa, Mozambique, Democratic Republic of Congo, Tanzania, Kenya, Uganda, Ethiopia, Nigeria, Ghana, Ivory Coast, Mali, Senegal, Cameroon, Rwanda, Angola, Zambia, Mauritius, Botswana and Zimbabwe, amongst others.

# Philips Lighting announces name change

PHILIPS Lighting (Euronext: LIGHT), has announced its intention to change its name from Philips Lighting to Signify.

"The choice of our new company name originates from the fact that light becomes an intelligent language, which connects and conveys meaning."

The company will continue to use the Philips brand under the existing licensing agreement with Royal Philips.

"We're excited to announce our new company name as another step in our transfor-



mation journey," said Eric Rondolat, CEO of Philips Lighting. "Our new company name is a clear expression of our strategic vision and a fabulous opportunity to introduce a new





corporate look and feel that is uniquely our own and will serve to further unite our 32 000 employees."

Philips Lighting's roots date back more than 125 years to the

business founded by Frederik and Gerard Philips in 1891 in the Dutch town of Eindhoven.

Throughout its history, the company has been at the forefront of many of the lighting industry's major advancements.

The new company name satisfies the company's contractual requirements under the Company Name License Agreement with Royal Philips, which requires that it changes less than 18 months after Royal Philips no longer has a controlling interest.

			
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# WTA oil lab helps users avoid transformer failure

TESTING transformer oil is a key function end-users should build into their maintenance programmes, as it speaks volumes about the condition of the transformer itself, according to Ronaldo Bertoldi, engineering manager at WEG Transformers Africa.

As one of the largest manufacturers of transformers in South Africa, WEG Transformers Africa has a state-of-the-art oil laboratory at its production facility in Heidelberg, Gauteng, and offers an extensive range of services to transformer owners.

"The dissolved gas analysis (DGA) test is one of the most important for a customer to conduct," says Bertoldi, "as it provides the first available indication of malfunction within a transformer unit."



Oil samples being loaded for automated analysis process.

Bertoldi highlights that the DGA indicates the internal condition of the unit, and

identifies degradation taking place. It is therefore essential for effective monitoring and trend analysis.

The laboratory is able to perform a range of important routine tests, starting from the 'kV' test which passes current through the oil to test its insulative properties.

The water test would then measure the parts per million of water in the oil; as a conductor of electricity, high levels of water become both damaging and dangerous to the transformer's continued operation.

"It is also important to measure the amount of cellulose in the oil, as this is an indication of the extent to which the paper around the winding is degrading and turning to sludge," Bertoldi says.

"Judging by how much cellulose is in

the oil, a prediction on the life expectancy of the transformer can be provided."

Even the simple oil colour test has a useful function in showing oil quality, indicating that further investigation may be necessary to keep the transformer well maintained.

"All test results are kept in our extensive database, which allows a history of the trend analysis to be available to each of our customers," Bertoldi says. "We use these figures daily in developing trends for a particular customer or even a particular transformer unit."

Access to regular oil test results makes it easier for customers to identify potential problems arising in their transformers, and to take corrective action to avoid expensive damage or unplanned downtime.

# Digging deep to provide refreshing water



KOBUS Pretorius is a man with the customer at heart. As the owner of the Engen False Bay 1 Stop, Kobus has just installed a water desalination plant that converts borehole water into purified water.

False Bay 1 Stop is an Engen flagship highway site with between 800 and 1 000 vehicles stopping there each day to fill up.

The facility is situated on the N2 East, 10 kilometres before Somerset West and offers customers the convenience of a Woolworths Foodstop, Wimpy family restaurant and take away, Corner Bakery and Quickshop. The facility is open 24/7 and can serve up to 4 000 customers per day at peak times. Consequently, the rest rooms are always busy.

Due to the water shortage in the Western Cape, Kobus sank a borehole but found that whilst there was water in abundance, it would need to be purified of various metals and solids to be pure and drinkable.

Kobus recalls: "I spoke to Water Purification Solutions and they recommended a treatment plant to get the water to a quality that exceeds municipal water!"

Within six months, Water Purification Solutions designed, manufactured and installed a primary water treatment plant capable of providing the daily needs of the business. It can be described as having a small factory on-site, but Kobus believes that the effort is well worth it.

# The new minimum wage – fair wage v business decline

## Jumping the wage gap

According to Joanne Nagel, Head of Commercial & Labour at Hunts Attorneys, there has not been a standardised minimum wage in South Africa, to date. "Previously, the minimum wage was determined according to industry and regions, with rural areas receiving a lower base than urban areas. The NMW (National Minimum Wage) has been standardised at R20 per hour for all industries across the entire country, barring exempted industries of farm and domestic workers, workers employed by the expanded public works program and learnerships," says Nagel.

For many workers, this will mean a considerable jump in their salary, while others may see only a small rise. Nagel adds that, for some industries, the new wage standard could effectively double the salaries of entry level workers - both a huge boon to employees and a large additional cost to employers.

## The cost to business

Perhaps the biggest challenge is the impact on affordability. Organisations that have a large portion of their workforce on minimum wage may be unable to bear the cost of this increase, let alone adjusting the salaries of higher paid employees. There are already sparks of outrage in the farming community and the risk of retrenching and

cutting down on staff to carry the added costs is very real, in light of this. "Research estimates that there may be between 600 000 to 800 000 job losses country-wide, due to businesses who can no longer afford to employ their staff at the new wage. This doesn't bode well for our current

unemployment figures," says Nagel.

## Solutions are available

Nagel says that employers who find themselves unable to carry the costs of the new wage hike may apply for exemption for a period of a year, with citable reason. These organ-

isations must be able to justify what they are able to afford and may still be subject to any limitations or restrictions imposed by law or the exemption regulations.


The potential concern with applying for exemptions, however, is that by the time a year is up, they may find themselves

needing to re-apply as the minimum wage is set to increase on an annual basis. "It becomes a vicious circle," says Nagel. "The organisations will need the assistance of labour specialists to help them outline realistic wage and employment goals and come up with a strategy to achieve them."


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# Late(r) harvest for Kropz

THE commissioning of the controversial Kropz Elandsfontein phosphate mine near Langebaan on the West Coast will be delayed until at least the third quarter of 2019.

The deposit is significant, and is ranked as the second largest known phosphate deposit in South Africa.

Kropz is an explorer, mine developer and miner of fertilizer feed minerals - striving to develop a vertically integrated fertilizer manufacturing capability that produces a range of plant nutrients for the fast growing sub-Saharan African agricultural sector.

Commissioning of the processing plant at Elandsfontein was initially postponed in July 2017, following test results during the pre-commissioning phase. The latest delay looks more serious, and may well have repercussions in terms of securing funding going forward.

Major shareholder African Rainbow Capital Investments (ARC)

- large empowerment enterprise - indicated last month that most of the preparatory research work had been completed to assess how the processing plant needed to be modified.

But ARC confirmed the mine and the plant would only be fully commissioned in August 2019.

The empowerment giant noted that significant additional capital would be required to complete the project. ARC was in the process of considering whether it would participate in the fundraising.

While the delay in production will be good news for environmentalists that have questioned the impact of the project on the West Coast, there has been a significant development in terms of leadership at Kropz SA.

Former Gemfields executive Ian Harebottle has recently taken the role as CEO replacing prime mover and founder Mike Nunn, who remains on as a

non-executive director.

Harebottle boasts an impressive career with precious stone miner Gemfields transforming the business from a loss-making entity with revenues of less than \$1 million to an international multi-asset business that generated profits of \$69 million off revenues of \$193 million in 2016.

Harebottle is well known for his skills in facilitating and participating in high-level operational initiatives - notably infrastructure design, process re-engineering, turnaround management, and reorganisation. He has a strong transactional background in start-ups, mergers, acquisitions and stock exchange listings.

All these attributes and skills could come in handy as Kropz Elandsfontein ramps up for production next year.

Indeed, a press statement confirmed steps are well underway for the formation of Kropz plc, the intended holding company for all the various assets in the Kropz group.

Kropz said a number of funding options - including a listing on the London Stock Exchange in 2018 - were being considered.

Nunn said he believed Kropz was ideally suited to Harebottle's skill-set in bringing about a new player in the African plant nutrient sector.

Harebottle said he was excited to join Kropz. "In my lifetime, we have seen exponential population growth coupled with a commensurate decrease in available arable land, which makes the role of increasing crop yields incredibly relevant both today and in the future."

In March Nunn addressed delegates at an international conference around how the Elandsfontein project had been developed from a greenfields exploration project.

He said Africa the development of Elandsfontein over a period of 45 months had been in line with this project being "the world's most environmentally conscious mine".

# Simultaneous registration

START-ups now have greater control over their Intellectual Property (IP) following ground-breaking collaboration between the Companies & Intellectual Properties Commission (CIPC), the ZA Domain Name Authority (ZADNA) and the ZA Central Registry NPC (ZACR) that makes it possible to register a new company and its equivalent co.za domain name at the same time.

According to Lucky Masilela, ZACR CEO, this tripartite arrangement enables new enterprises to benefit by protecting their fledgling online identities. "This innovative offering seamlessly combines the offline and online worlds in a way that provides total convenience and protection for start-ups."

In terms of this model, the CIPC Registrar has limited functionality and simply acts as a conduit to the co.za domain name registration platform. The CIPC Registrar does not enjoy all the capabilities of the normal ZA-accredited

commercial domain name RaR (Reseller and Registrar) and does not derive any financial benefit for facilitating such registrations. "Nor will the CIPC Registrar compete with existing RaRs," says Mr Masilela. "The initial co.za domain name registration with CIPC is for a limited one-year period only and registrants are expected to pay the same domain name price that is charged to all our other accredited co.za registrars. CIPC-registered co.za domain names will need to be transferred to commercial domain name RaR's to enable full functionality and renewal," explains Mr Masilela. Additional support, renewal of domain names and hosting services can only be purchased from the greater community of accredited RaRs.

Established in terms of South Africa's ECT Act, ZADNA regulates ZA - South Africa's country code Top Level Domain names (ccTLD's). ZACR, for its part, is a pioneer of the lo-

cal and international domain name space and the administrator of such domains as co.za, the three cities' geographic Top Level Domains (gTLDs) of .joburg ('dotJoburg'), .capetown ('dotCapeTown') and .durban ('dotDurban'), as well as the administrator of the .africa ('dotAfrica') gTLD, through its wholly-owned subsidiary, Registry Africa. CIPC is a 2017 CPSI Innovative Service Delivery Award winner focusing on consumer-driven initiatives aimed at facilitating and promoting the registration and maintenance of companies, co-operatives and protection of intellectual property rights.

"This is a fantastic example of domain name space pioneering coupled with out-the-box thinking in the area of public-private partnerships. We thank our partners and look forward to launching further innovative services for new enterprises, start-ups and other commercial users in the near future," concluded Mr Masilela.

# Augers make short work of hole drilling

CTC Plant Company as the official agents for the Tempo range of machine attachments offer a range of Tempo Auger Drills designed to suite most types of carriers such as skid-steer loaders, tractors, TLB's, mini excavators and excavators ranging from 1t to 35t.

Reliable and robust, the Tempo Auger Drills are designed to operate in extreme conditions such as drilling fence poles, foundations, landscaping and vineyards. Their specially designed planetary gearbox is driven by a powerful hydraulic motor enclosed in a high strength casing to ensure a long-lasting product with minimum maintenance requirements and down-time.

Auger diameters range from 200mm

to 1 500mm and are equipped with tempered or tungsten teeth and tips suitable for most types of materials being durable enough to handle hundreds of consecutive cycles.

As well as building and construction applications, Tempo Augers are widely used in agriculture, parks and forestry situations for fencing, well boring, foundations, landscaping and tree and vineyard planting.

Other applications include pole planting - for example, electricity distribution, road barriers and even for drilling out tree stumps.

The Tempo attachment range increases the versatility of the prime carrier, with greater performance and productivity, saving time and money.



# Revamped international arbitration

PARLIAMENT has enacted the long-awaited International Arbitration Act which brings about an overhaul of the international arbitration framework, which commenced on 20 December 2017.

The new Arbitration Act regulates international arbitration proceedings in South Africa and governs the enforcement of foreign arbitral awards. The

Act, which incorporates the Model Law on International Commercial Arbitration, aligns the South African international arbitration law with international best practice. It also opens the door for South Africa to become a more attractive venue for resolving international disputes.

The Act not only ensures that the Model Law now applies in

South Africa, but also the UNCITRAL conciliation rules, as well as the Convention on the recognition and enforcement of foreign arbitral awards.


The International Arbitration Act only reforms international arbitration, while domestic arbitration is still governed by the Arbitration Act, 1965 which remains in force.

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# Vacuum tube lifter handles starter batteries



*The Schmalz vacuum tube lifter JumboFlex Battery provides a complete solution for the ergonomic and safe handling of starter batteries.*

THE Schmalz vacuum tube lifter JumboFlex Battery, distributed in South Africa and sub-Saharan Africa by Tectra Automation, provides a complete solution for the ergonomic and safe handling of starter batteries. The solution ensures the reliable commissioning of starter batteries for system suppliers and distributors.

...Battery vacuum system grips, lifts and transports starter batteries...

Batteries that are commissioned edge-to-edge on a pallet are difficult to remove, especially for models

without handles. These batteries, weighing up to almost 30 kilograms each, have to be manually removed and transferred because they cannot be mechanically gripped.

The new Schmalz JumboFlex Battery vacuum handling system grips, lifts and transports starter batteries of different shapes, sizes and weights without any physical exertion for the user. It consists of a lifting unit, operator handle and gripper. The gripper is the extraordinary feature of this system and is equipped with a special sealing gasket and suction resistances. This enables the system to retrieve batteries from above, regardless of whether they have different cover geometries and whether or not they have handles.

A few advantages There is no need

for tool conversion between different battery sizes and geometries. The ergonomic operator handle is designed to be operated with one hand and is easy to use. The lifting unit consists of a flexible hose that provides the required suction flow to securely hold the batteries and the system is completed with a responsive aluminum crane used as a jib crane or as an overhead crane system.

In addition to commissioning starter batteries for system suppliers and distributors, JumboFlex Battery ensures they are supplied to automotive manufacturers in the correct sequence.

Tectra Automation, a Hytec Group company, is a single source supplier of the entire Schmalz vacuum handling solution for South Africa and sub-Saharan Africa.

# Korea ready to share its technological and industrial revolution experience

KOREAN President Moon Jae-in has committed to sharing Korea's technological and industrial experience with Africa and to help it compete in the 4th Industrial Revolution.

His message came at the opening ceremony of the 53rd Annual Meetings of the African Development Bank (<https://AM.AfDB.org/en>).

African Development Bank ([www.AfDB.org](http://www.AfDB.org)) President Akinwumi Adesina thanked the Government of Korea for hosting the Bank's Annual Meetings. He recalled Korea's transformation from a poor nation 60 years ago to the 11th largest economy in the world, noting the contribution of industrialization to its transformation. "Today, Samsung and LG television and phones dominate globally, while Ko-

rean cars are everywhere. Korea was deliberate and consistent in its industrial drive like China and Japan. Africa must learn from Korea's industrialization and the equally remarkable experiences of China, Japan, and other parts of the world."

"Africa must fast-track industrialization. That is why the African Development Bank plans to invest US \$35 billion over the next 10 years in its focus on industrialization. The Bank's industrialization strategy hopes to help Africa raise its industrial GDP from a little over US \$700 billion today to over US \$1.72 trillion by 2030. This will allow Africa's GDP to rise to over US \$5.6 trillion, while moving GDP per capita to over US \$3,350.

"The formula for the wealth of nations is clear: rich nations add value to

all they produce; poor nations simply export raw materials. Africa needs to industrialize and add value to everything that it produces – from agriculture, to minerals, to oil, gas and metals. Africa needs to move from the bottom to the top of the global value chains."

To unlock Africa's potential through investment, the Bank has created the Africa Investment Forum ([www.AfricaInvestmentForum.com](http://www.AfricaInvestmentForum.com)), a transactional platform created by the African Development Bank with its partners to leverage global pension funds and sovereign wealth funds and other institutional investors to significantly invest in Africa. This new investment marketplace will set sail from November 7-9, 2018 from Johannesburg, South Africa.

Dong Yeon Kim, Deputy Prime Minister and Minister of Strategy and Finance of the Republic of Korea, said a new approach was urgently needed. He referred to Uncle Tom's Cabin, a 19th-century American novel written by Harriet Beecher Stowe that envisioned a promising future for Africa.

"Harriet Stowe was right. Very surprisingly, we now witness strong evidence of Africa flourishing, just as she predicted. Growth in the region over the past 20 years was 3% higher than the previous period, and the absolute poverty ratio decreased to two thirds of what it was two decades ago."

Kim stressed the need for innovative industrialization to translate Africa's potential into economic prosperity.

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# Ifm's level and temperature values via one cable

## One sensor, two measured values

Typical applications are hydraulic power packs and machine tools. The advantage of this sensor: the combined level and temperature monitoring with only one unit reduces the number of sensors, mounting locations, stock-keeping and the installation complexity.



## Advantage IO-Link

IO-Link transmits both parameters (level, temperature) as digital process values via one single cable. This means that only one input port is required on the controller. Simple and timesaving parameter setting via IO-Link.

## Easy installation

Variable installation length for flexible installation.



## BMG-NSK-strengthen distribution agreement

BMG and NSK have consolidated a long standing partnership, with the recent signing of a new distribution agreement, that enhances the original contract and benefits stakeholders and customers.

BMG was appointed by NSK, Japan, in 1991 as exclusive distributors in South Africa, for NSK's extensive range of bearings. Through the restructured agreement, all sales will now be channelled through NSK's South African operation.

"BMG's NSK range - one of our leading bearings brands - extends from precision miniature bearings used in machine tools and electronics applications, to giant size bearings used in steel and mining industries. This portfolio encompasses miniature, ball, roller bearings, large bore and roll neck bearings, to name a few," says Keith van Wyk, BMG's distribution director. "NSK has been at the forefront of bearing design and development for many decades and BMG is proud to

represent this prestigious brand. Through the strengthened agreement, BMG and NSK South Africa are consolidating services and working strategically together on increasing awareness of the NSK brand and identifying opportunities for growth in key market sectors within Africa and also abroad.

"BMG will increase availability of stock out of NSK's European distribution centre in Tilburg, Netherlands, and values engineering and marketing support from the NSK team in the UK and Germany.

"Both companies have made a substantial investment in increased warehousing facilities for greater stock availability and improved lead times. Training facilities for staff and end user customers have also been upgraded."

BMG's R400-million investment to upgrade the existing Droste Park facilities into a leading edge distribution centre - BMG World - centralises functional and support operations onto one site. This enables BMG

to continue to provide high levels of operating efficiencies and delivery service, in line with continued growth of the business.

BMG's bearing division - the cornerstone of the business - has restructured its management structure: Werner de Bruyn is business unit manager and Rouff Essop is operations manager.

BMG's extensive product portfolio encompasses bearings, seals, power transmission components, drives, motors and materials handling components. Also in the range are hydraulics and pneumatics, fasteners and tools, as well as valves, filtration and lubrication systems.

The company is committed to providing a 24 hour customer support for production efficiency and reliability centred maintenance through more than 148 BMG branches and a wide distribution network locally and into Africa. This is enhanced by advanced technical and design support across all functional disciplines.

## Evonik Acrylics Africa opens in Cape Town

EVONIK Acrylics Africa (EAA), a specialty plastics manufacturing company within Evonik Industries, announced the opening of its Cape Town offices and technical training facility.

EAA is committed to extending the distribution and accessibility of its world-leading acrylic brand, PLEXIGLAS®, to African consumers. The investment in additional infrastructure and staff in the Eastern Cape supports this growth and provides a much-needed technical training centre. At an intimate opening function at the new premises, customers had the opportunity to network with EAA staff and investigate the exciting array of tools and equipment that forms part of the training facility. The offices feature elements such as custom manufactured lighting, planters, furniture, and



décor, all produced from PLEXIGLAS®.

"We take pride in our ability to advise customers on acrylic product selection, applications and working guidelines. With

the increased brand presence for PLEXIGLAS® in recent years, also came the realization that there is a huge demand for focused technical training. We have the tech-

nical competence to improve the skill levels of our customers, help them grow their businesses, and service the market better," said Holger Morhart, General Manager of Evonik Acrylics Africa.

Evonik's Technical Training Manager Mr. David van Eyk, will be responsible for a series of ongoing training workshops at the new Cape Town premises and at different locations across Southern Africa, whilst newly appointed Technical Services Representative Christallo Imelman takes on the role of sales and product support. "Skills development within the industries we serve is a key focus area for business development and we are proud of the technical competence of our staff," concluded Holger Morhart. "We look forward to an exciting year working with our distribution partners and clients."

## Breathalysing in the workplace

THE South African Labour Guide reports that "Employers are often shocked when yet another employee is found to

be unfair by the CCMA or a Bargaining Council. They have more reason to be shocked when they hear that a commissioner accepted that a truck driver (responsible for transporting fellow employees) was intoxicated to some extent and caused a collision, but found that the prevention of alcohol abuse at work was a management responsibility and that it was they who should ensure that employees were not able to commence work if drunk {GIWUSA & another v VM Construction [1995] 9 BLLR 99 (IC)}."

In any industry, being under the influence at work can become a deadly habit. Whether the staff member is responsible for security, transport, warehousing or factory work, dulled senses put themselves, their colleagues and their customers at risk. There are no legal stipulations in South African law about whether a company can request



an employee to undergo a breathalyser. As such, companies are well within their rights to request same.

To protect themselves, however, organisations must include a no tolerance clause for drugs and alcohol in their policies and procedures, as well as in the employment contract. According to the HR and Labour Club, it is then possible to test all employees using a breathalyser. Should an employee refuse to take a test, management can't force them to do so, but will have recourse to discipline them for breach

of contract or breach of the policy.

Jacki Condon, Managing Director of Apache Security Services, advises that it is essential that the breathalyser is in good working order. "Breathalysers must be serviced once a year or every 300 tests, whichever comes first. This service involves a re-calibration to maintain accuracy. This entails checking and adjusting the accuracy of a unit by comparing its results with a known value. It is important that the correct functioning of the breathalyser cannot be drawn into question."

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# First local biogas heat and power generator delivered

SUSTAINPOWER, together with Unique Hydra, part of the Unique Group - has recently delivered a locally manufactured biogas electrical power generator to ibert (Pty) Ltd, a biogas company in Southern Africa.

The containerized combined heat and power unit (CHP) produces electricity and heat in a waste to energy process which, by recovering about 90% of the energy in the gaseous fuel. Biogas is a methane rich gas which is produced

during the breakdown of organic matter, typically agricultural waste, plant material and food waste, in an anaerobic digestion process, and is a renewable energy source.

SustainPower, specialises in containerised sustainable power generation equipment, delivered its first 220kW CHP to ibert's abattoir waste-to-biogas generation plant near Pretoria. The CHP, designed and manufactured in Cape Town, converts biogas into electrical power

and thermal energy which is consumed by the abattoir.

SustainPower offers high-quality containerised power generation equipment designed for the African market. The power packages are assembled at the facility in Cape Town and incorporate international components such as MAN gas engines from Germany. Unique Hydra, as a strategic partner to SustainPower, supply the container, handle the fabrication, the electrical integration

and the cooling / heat offtake system.

Said Bob Elshove, divisional sales director; "With experience in the delivery of complex offshore systems for the diving industry, Unique Group have become experts in the design, manufacture, and turnkey supply of multidiscipline systems into containerized format for plug and play type installations. This makes us very well positioned to deliver biogas power plants into the renewables industry".

# 6 Risks to make you take business resilience seriously in 2018

"GUPTALEAKS is just another reminder that the risk landscape continues to develop in often unexpected ways, and it is no longer viable to see risks as discrete and separate incidents," comments Michael Davies, CEO of ContinuitySA, Africa's leading provider of business resilience solutions. "The materialisation of one risk is more than likely to affect the organisation's entire risk profile, and the effects will be felt along the entire supply chain. Disasters are also coming from left field.

"For all these reasons, identifying and mitigating individual risks is not sufficient—organisations must build business resilience into their DNA in order to be able to adapt to changing circumstances, protect themselves against threats, withstand attack and, ultimately, recover quickly from any disaster."

"Business continuity management, which is key to building organisational resilience, is gaining traction but more needs to be done. As we continue to integrate into global supply chains, current and potential business partners will see resilience as a key criterion," he says. "We must build a risk culture within organisations, with the Chief Risk Officer occupying a seat on the board, and a proactive attitude towards risk."

Cyber risk remains the most likely and most feared risk. Business, and increasingly government, is now more dependent than ever on IT systems, and the data they contain. IT and data outages thus represent a pervasive risk. Recent research indicates that 79 percent of senior IT managers in the public sector, and 85 percent of those in the financial services sector, consider data and system security the top priority.

Brand and reputational risk. Not a new risk, but one that is growing in importance in the Social Media Age. From the perspective of business continuity, a crisis communication plan is essential to recovering with a reputation and brand that are intact, or even enhanced. Several examples in the past year, among them BA's IT outage, have shown the impact a tarnished reputation can have on the share price and bottom line.

Compromised state capacity. South Africa is one the many African countries where state capacity to provide utilities and other basic infrastructure continues to be a risk. Water is currently top of mind, but power and other public services can never be taken for granted.

Extreme weather risk. Whatever the causes and longer term trends, extreme weather events seem to be becoming

more severe and frequent within the current cycle. The direct risks are harm and injury to people, as well as physical denial of access to workplaces, but the indirect risks of shortages of clean water, power outages and so on also impact business continuity.

Health risks. Coming on the heels of Ebola in West Africa, the outbreak of bubonic plague in Madagascar reminds us that Africa's uneven health infrastructure makes us particularly vulnerable to pandemics that could affect business.

Geopolitical and labour risks. Most organisations recognise that geopolitical risks seem heightened at present, from North Korea and the Middle East to political instability and insurrection on our own continent. The threat of labour disruption is increasingly tied to political volatility, especially as various parties contest the basic economic model of society.

"All of these are risk flashpoints, but the real point is that the risk landscape is highly volatile and interconnected," Mr Davies concludes. "Organisations must put their main focus on building resilience to ensure they can adapt to, and recover from, disruptions, retain their reputations and thus confirm their places in the global economy."

# Matrics - not only focus on universities

**Statement by Andre Venter, spokesperson of the trade union UASA**

FOR those looking to further their education, now is the time to focus. For these pupils a new world is opening up; one that may prove to be full of stumbling blocks for those that are unprepared.

Matric provides young adults with a broad theoretical background and does not prepare them to perform specific tasks in the workplace. This is one of the reasons only about 25% of school leavers are expected to find employment.

In South Africa and elsewhere there is a trend to only consider university studies. This is an option for matrics who received university exemption marks and who are informed about the course they want to apply for and where this course will take them in life. Others might miss the mark and become part of the estimated 40% of students dropping out of university in their first year.

The Department of Higher Education released a report in 2015 highlighting that 47,9% of university students did not complete their degrees. Black students had the highest dropout rate, with 32,1% leaving in their first year.

Every year tertiary institutions battle with too many applicants and insufficient space.

The past few years have shown the ratio of young South Africans opting for university studies as opposed to those who decide on further education and training (FET) or are

willing to consider an artisanship is distorted compared to international benchmarks. Yet these alternatives can lead to better results in terms of employment and income potential.

A university degree is not the be-all and end-all of further education. There is a huge shortage of artisans, like plumbers and boilermakers. Too many matriculants slight these careers in favour of a degree.

Universities of technology offer national diplomas in a wide variety of career options and have lower

entrance requirements than academic tertiary institutions.

In addition there are 50 FET colleges with 264 campuses country-wide offering a range of programmes from engineering, business studies, art and music, and food services for students who did not qualify for university entrance.

FETs can help address the high levels of unemployment and provide a good alternative for university studies. Many employers also offer training via the Seta system.

Students need to be

practical about their future. If you qualify for and can afford tertiary academic institutions, and know where your degree will take you, go for it. If not, pursue other options like those discussed above or consider part-time study. Whatever the choice or opportunity, for those prepared to work hard there is a future.

UASA wishes South Africa's matriculants all the best for their future. You are also South Africa's future and your welfare and success will impact on the country as a whole.

# A GROUND BREAKING APPROACH TO PROPERTY

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# Safety training for farm workers



RECOGNISING that the use of pesticides is a factor that influences working conditions on farms, Syngenta included farm worker safety in its Good Growth Plan. The plan is Syngenta's response to the reality that every day, our planet wakes with nearly 200 000 more people to feed and more farmland lost to erosion. It is also true that many people who produce the world's food live in poverty, while human encroachment is putting biodiversity under pressure.

The Good Growth Plan consists of six commitments that Syngenta has set out to achieve by 2020. One of these is to "Help

people stay safe". Its global goal is to train 20 million farm workers, especially in developing countries, on labour safety.

In 2016 alone, the company trained 6.8 million people across the globe on how to farm better and safer. This brings the cumulative total to over 17 million since the Good Growth Plan started. Around 70% of this total is smallholders and/or farm workers in developing countries.

In South Africa, Syngenta has already trained some 5 000 individuals, including farmers, farm workers and agents, on the safe use of crop protection chemicals.

Francois Viljoen,

technical field expert: herbicides at Syngenta, says that Safe Use Training has always been a priority, but one that was discharged through Syngenta's agents.

The company ran regular train-the-trainer workshops for agents, and provided them with presentations and material to spread the message further.

"What has changed, is that we are now highlighting the shared nature of safety by hosting and presenting farm worker sessions in partnership with our distribution channel," says Viljoen.

One of these interactions were held recently and hosted on

the farm Huntersvlei near Viljoenskroon in the Free State. Almost 200 growers and farm workers who work with pesticides and operate spraying equipment attended the event.

After an in-depth presentation on the principles of safe use, the attendees participated in a practical exercise where application equipment and practices were demonstrated. Each person who attended received a certificate.

"We believe that the safety of agrochemicals is a shared responsibility," says Francois. Syngenta as the developer and manufacturer has the obligation to ensure it produces the best possible quality products that are thoroughly researched and legally registered. Stable, registered formulations that are free of contaminants pose no risk to humans and the environment when used according to the instructions on the product label.

Creating the latter falls to the grower. It includes the provision of training, appropriate personal protection equipment (PPE), proper lockable storage facilities and well-maintained application equipment, including spray nozzles.

# No, it's not just in my head

Shining a light on mental disability

A vast majority of South Africans experiencing a mental illness are not afforded treatment largely due to a lack of resources in our health care system.

This came out at the recent 6th annual Disability Conference hosted by equity solutions company, Progression in Johannesburg.

Research shows that as much as 85 percent of South African's do not receive treatment for mental illnesses.

"Reasons differ, but among the most common issues for people not being treated for mental illnesses is lack of awareness surrounding their condition, the stigma associated with mental disability, access to effective treatment and cultural beliefs," said Justene Smith of Progression.

"A lot of people don't even know that mental disability is covered in the Employment Equity Act. Most people limit their definition of a disability to physical constraints. Whilst illnesses like depression, anxiety, bi-polar and ADD (attention deficit disorder) are also capable of restricting a person's prospect of entry into or advancement in employment, and are thus considered as a disability" said Smith.

Smith added persons with a mental disability tend to be over looked when it comes to training and promotions at work, and this hinders the progress of these individuals.

Persons living with mental disabilities need support and understanding from their employers.

Managing Director of Progression, Tarryn Mason said mental disability and its impact had to be looked at from a contextual perspective.

"...there is no quick fix solutions for mental illnesses."

"Fifty five percent of South African's live in poverty, which adds to the likelihood of those individuals having mental disabilities, making them especially vulnerable to depression and anxiety disorders. Eighty percent of abused and neglected children are at risk of developing a psychiatric disorder as young adults. Without

proper diagnosis, these children are placed in mainstream schools where they do not have access to the proper facilities and support they desperately need to succeed. These children later filter into the work place where their psychiatric disorders can hinder their future advancement and success. Early detection is key. That way, we can talk to a person's ability rather than his or her disability," said Mason.

Tarryn highlights the importance of having open conversations between the employer and or manager and the employee regarding their disability. "It is only through open and honest communication, that reasonable accommodation measures can be explored, which will ensure the employee receives the support and understanding that is vital to successfully managing the condition and maintain productivity. Of course, it is crucial to note that these conversations are completely confidential and at no point does an employee have to disclose their disability. However, doing so can be greatly beneficial."

Work related stress has also been identified as a leading contributor to mental illnesses in South Africa. Organisations are competing in a global market, which requires perpetual change to meet demands and these can be taxing on employees.

"The fluctuating economy and dynamic shifts for those companies to remain competitive, results in increased task and target pressures for employees. All these factors add to the levels of stress employees experience in their jobs," said Smith.

Clinical Psychologist Tyrone Edgar said there are no quick fix solutions for mental illnesses. The recovery period varies for each individual; employers need to be cognisant of this when working with persons with a disability.

"Anyone can experience or be diagnosed with a mental illness at some stage of their life, and people react differently to both the illness and medication. On average, it takes about a minimum 20 weeks of consistent, quality treatment for a person to make a recovery. Companies need not get frustrated or fearful, mental illnesses can be managed if treated effectively," said Edgar.

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## Libstar twinkles with promise

CAPE TOWN-based food brands distributor Libstar Holdings – which listed on the JSE last month after raising R1.5bn in fresh capital – is looking to elbow its way onto more supermarket shelves around South Africa.

Libstar – which is headed by former Langeberg Foods CEO Andries van Rensburg – has made a slew of acquisitions over the past decade to grow into a R9bn a year producer and supplier of high quality products in the consumer-packaged goods industry. The company's brands include its own brands like Lancewood dairy products, Cape Herb and Spice, Elvin, Cook 'n Bake, mushroom specialist Denny, honey brand Goldcrest, Slimsy and Cani as well as licensed brands such as Robertsons, Safari, Weigh-Less and Chamonix.

Libstar also produces a variety of products under dealer own brands – including 'W' (for Woolworths), 'Freshline' (for Spar), 'Crystal Valley' (for Shoprite Checkers)



and 'PnP' (for Pick n Pay) as well as private label products for its customers.

The company also represents several well-known international brands in South Africa in its principal brand product offering such as Kiri, Arla, Bel, Laughing Cow, Act II, Lurpak, Tabasco, Kikkoman and Maille.

It is difficult to assess the potential of Libstar as it holds an array of niche brands rather than market dominating brands. But it will be interesting to see if Libstar follows in the footsteps of other acquisitive Cape-based food producers like Pioneer Foods and Rhodes Food Group.

The company does have a meaningful slab of the branded cheese market with Lancewood along with the distribution of specialist brands like Kiri and Bel as well as dealer own cheese brands.

Libstar's market share in this category will no doubt be closely monitored.

The company has also notched up considerable success in developing specialised products for Woolworths. Duplicating this effort with other retailers – without putting Woolworths' nose out of joint – might be critical in driving Libstar's growth aspirations. Libstar has pointed out that retailers are increasingly

developing their competence around dealer own brands, and argued that the company is well placed to capitalise on such opportunities.

Libstar is also a major supplier to the food services industry with customers such as KFC and McDonalds, and offers manufacturing solutions to other major branded food companies such as Unilever, Kelloggs and Tiger Brands.

Chief financial officer Robin Smith said Libstar was strategically well positioned for long term growth.

"We have a superior operational platform and a culture of entrepreneurship and product innovation."

He said the company's JSE listing offered additional resources to pursue various growth opportunities.

Van Rensburg said Libstar would be on the lookout for acquisitions that built capacity or enabled the company to expand into new high-growth categories. "We have the formula for future success."

## American tippie

DESPITE prickly political questions around land ownership and the prolonged drought in large parts of the Western Cape, an influential American investor has made a large investment in the Stellenbosch wine industry.

Last month San Francisco-based investment company Eileses Capital snapped up the well-known Warwick Wine farm for an undisclosed sum.

There have been several foreign buyers for iconic Western Cape wine estates in the last decade. Klein Constantia was acquired by Czechoslovakian-born billionaire Zdenek Bakala and British national Charles Harman for a reported EUR20m. A year later, Bordeaux 'wine personalities' Bruno Prats and Hubert de Boüard merged their Stellenbosch based farm "Anwilka" with Klein Constantia. Lanzerac, which belonged to retail tycoon Christo Wiese, was sold to a British consortium in 2012.

In 2013 Perfect China, the 51% shareholding partner in Perfect Wines of South Africa purchased the wine cellar at Val de Vie Estate in the Cape Winelands between Paarl and Franschhoek. In 2016 Chinese investors bought the Faure Wine Farms outside Somerset West for an undisclosed sum.

But the Warwick deal was a tad surprising

since the estate was a long held family enterprise with the Ratcliffe family overseeing operations since the mid-sixties. The current MD Michael Ratcliffe is the 3rd generation family member to manage the highly-regarded boutique operation.

Warwick plays in the top end of the wine sector with its Trilogy Bordeaux blend and Cabernet Franc is flagship brands.

Eileses Capital is a fairly new investment firm, and was only founded in 2016 by Kishore Bopadikar and Marston (who have worked together for over 25 years). The company's investment portfolio includes health-care, the food industry, and core technology.

Making money – or at least commercial returns from the wine industry – might prove challenging for the American investors. Stellenbosch investment doyen Johann Rupert – who dabbles in wine farming – reiterated last year that wine making should be done for fun and was not a vocation for investors wanting to make decent returns. Rupert's investment company Remgro controls Distell – which has increasingly relied on lower priced brands like Fourth Street to bolster returns from its wine portfolio.

Media reports quoted Eileses MD Charles

Marston as saying the investment company planned additional acquisitions in the Wine-lands.

In a related deal Stellenbosch-based liquor brands giant Distell sold its Uitkyk wine farm to Warwick – which hints strongly that the American investors are serious about building scale and production capacity.

Distell said the sale of Uitkyk would create more focus for its wine business.

Distell MD Richard Rushton said the sale of Uitkyk was part of the company's efforts to streamline its asset portfolio in a way that allowed it to re-invest further into its business and achieve growth aspirations.

He noted the sale was also consistent with Distell's strategy to focus and increase its investment on a select portfolio of wine brands and assets.

"Our key focus brands, like Nederburg, Alto, Fleur du Cap, Plaisir de Merle and Durbanville Hills, have shown strong performance for the financial year-to-date and this reinforces the benefits of our more focused approach."

He stressed that wine remained integral and pivotal to Distell's long-term success. "The sale of Uitkyk presented the company with an opportunity to build this category with even greater scale."

## Naspers plans R2.5 billion investment in online food-delivery company in India

NASPERS is in talks to lead an investment of as much as R2.5 billion (\$200 million) in India's Swiggy to increase its stake in the online food-delivery company, according to two people familiar with the matter.

Africa's biggest company by market value plans to team up with China's Tencent Holdings Ltd. to put together the new financing round, said the people, who asked not to be named as the information isn't public. Naspers owns 33% of Tencent, which drives profit growth at the Cape Town-based technology and media company.

The talks come after Larry Illg, the head of Naspers's new investments unit, told investors at a meeting in New York in December that order volumes at Swiggy have more than doubled year-on-year and that the global food delivery industry is still at an early stage of development. Naspers and Tencent see significant opportunities to co-invest in India, Chief Executive Officer Bob van Dijk said in the same presentation, without mentioning Swiggy.

Jane Yip, a spokeswoman for Tencent, didn't respond to a request for comment sent by email and text message.

Naspers invested an initial \$80 million in Swiggy in May. That preceded a EUR660 million purchase of shares

in Germany's Delivery Hero AG in September. The company also has interests in iFood in Brazil and Mr Delivery in South Africa. Food is one of many online industries targeted by Naspers as it seeks investments to replicate

the success of Tencent.

Swiggy is the largest food delivery business in India. Talks between the company, Naspers and Tencent are advanced, according to one of the people.

Naspers shares have gained more than 70

percent in the past 12 months to R3,620.06, valuing the company at R1.6 trillion (\$129 billion). That's less than the \$179 billion valuation of the Tencent stake, and Van Dijk has pledged to try to close that gap.




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# Centre of pressure

THE development of a range of class-leading hydraulic piston seals required SKF engineers to create tailor-made materials and apply advanced analytical techniques.

The piston seal lies right at the heart of hydraulic cylinder performance. Located in a groove on the outer diameter of the piston, this seal must contain the high pressurehydraulic fluid without impeding the motion of piston along the length of the cylinder. Since most hydraulic cylinders operate bi-directionally, the seal must be able to handle pressure from either side. The design of piston seals requires engineers to tread a fine line between friction and sealing performance. If the seal allows too much fluid to leak from the high pressure side of the cylinder to the low pressure side, performance is compromised. On the other hand, excessive friction on the cylinder wall leads to accelerated wear and a reduced operating life. Outright failure of a piston seal, known as blow-by, can have significant operational and safety implications, potentially causing construction or materials handling equipment to lose control of its load, for example.

If the basic operating requirements weren't demanding enough, piston seals

also present a significant materials engineering challenge, with hydraulic fluids at high temperatures and pressures that are tough on sealing materials and which can cause other components to expand and contract during operation.

The material often chosen to meet those demands is PTFE. It has many characteristics that make it suitable for the role, including exceptionally low static and sliding friction characteristics and good chemical resistance. PTFE seals have some important limitations, however. Notably, the limited elasticity of the material means PTFE seals can be difficult to install without damage. PTFE seals require special sleeves to stretch them prior to installation, and they must then be calibrated back to the correct diameter, a process that increases time and cost for equipment manufacturers and maintenance teams alike. Furthermore, the plasticity of PTFE means the material can be reluctant to spring back into shape under continually reversing loads, which limits its sealing performance.

It was a quest to overcome the disadvantages of PTFE seals that led a team of engineers at SKF to attempt the development of an alternative sealing technology, based on the company's well-established ECOPUR poly-

urethane material.

Constructing a polyurethane seal that could match the performance of the best PTFE seals was far from straightforward, explains Wolfgang Swete, Head of R&D for the Fluid Seals Strategic Product Line at SKF. "The large extrusion gap between the piston and cylinder wall means you need a material with sufficient extrusion resistance to hold its shape under the full range of operating conditions."

When SKF tested prototype seals manufactured from its hardest existing grade of Ecopur polyurethane, it found they weren't up to the task. Undeterred, the company took advantage of its in-house material development and manufacturing capabilities to produce a special grade of Ecopur specifically for the piston seal application. The new material – X-Ecopur PS – is the hardest grade of polyurethane currently manufactured by SKF.

To test the durability of its new material, SKF performed a series of static extrusion tests, installing samples of material into a fixture that applied oil at 500bar to try and push the material through extrusion gaps of various sizes ranging from 0.15 to 0.7mm. Test samples were kept in the fixture for two weeks at temperatures of between 60 to 100°C and at the end of the test, the permanent deformation of

the samples was measured. "X-Ecopur PS performed significantly better than commercially available alternatives across the full range of tests," says Swete.

With a suitable material in place, the SKF team then had to create the right sealing geometry. This was familiar territory for the company's engineers, who have a well-established product development process that combines extensive computer simulation using finite element techniques, rapid prototype development using CNC machine tools and physical testing on custom-made static and dynamic test equipment.

This iterative process led the company to its final design, in which the geometry of the outer surface of the polyurethane slide ring has a shallow "M" shape with two carefully optimised sealing lips. "A seal profile with pronounced sealing points provides more effective sealing forces than a flat surface, improving seal performance while reducing the amount of frictional drag that is created by the seal," says Swete. "And concentrating the forces on two sealing edges rather than one means the seal won't tilt in use, which can lead to early failure."

Further design refinements in the new seal range relate to the operation of the seal energizer. This is a softer rubber component that sits underneath polyurethane glide ring inside the piston groove, pushing the glide ring out against the inner wall of the

cylinder. On light duty seals, this energizer is a simple O-ring, while designs for medium and heavy duty use a specially shaped nitrile rubber energizer.

In the new SKF design, side vents are incorporated into the radial side walls of the slide ring to ensure pressure activation of the energizer. This enables the seal to rapidly shift position as the direction of pressure changes, reduce the potential for blow-by and loss of cylinder functionality.

The side vents also reduce the likelihood of a pressure trap occurring when the slide ring seals against the radial walls of the seal gland, which can also result in the loss of cylinder functionality.

To validate the designs, prototype seals underwent further arduous testing, involving more than 200 km of movement up and down a 400 mm test cylinder at pressures of up to 250 bar and temperatures of 80°C. Friction and leakage were measured during the test, and after the tests seals were measured and examined to check extrusion and surface wear. "Our testing showed us that our new seal offered better performance than commercially available alternatives," says Swete. "Indeed, some of the benchmark seals we compared ourselves against actually failed before the end of the testing process." SKF has now developed its innovative piston seal design into a full offering for a broad range of hydraulic applications.

## Wine tourism in the WCape grown by 16%

IN 2017, Wesgro, in partnership with Explore Sideways, conducted the second annual Wine & Food Tourism Study in the Western Cape.

The study surveyed more than 40 South African tour operators, accounting for over 19 000 itineraries booked over the year. The study aims to determine sector trends and identify changing market conditions in the wine tourism industry in South Africa.

Key findings from the respondent's answers show that wine tourism in the Western Cape has grown by 16% between 2016 and 2017.

This is further evidenced by tour operators indicating that 99% of Cape Town-based itineraries include a trip to the Winelands.

Wesgro CEO, Tim Harris said: "There is a multitude of factors that have influenced the awareness of South Africa as a wine tourism destination. Positive media coverage and internationally recognized wine awards have generated interest and investment in the evolving local wine industry. Specialist wine tour companies have done much in the way of showcasing boutique, off-the-beaten-track wine producers and properties, further enhancing the perception of quality and promoting the Wine-lands as an essential stop on itineraries."



Spending patterns of wine tourists, in particular, indicate higher than average expenditure than general tourists while visiting the Western Cape.

This illustrates another important aspect of wine tourism as a means of enhancing economic growth through tourism in the Western Cape.

Respondents indicated that offering tailor-made tours was the most important aspect of selecting a wine tour, allowing tourists to immerse themselves in authentic experiences rather than scheduled or packaged tours.

This is further supported by the growing interest in unique activities like food and wine pairings (68%), cellar tours (54%), meeting the winemaker (51%) and food and wine tasting events (49%).

Harris added: "While established wine destinations like Stellenbosch, Franschhoek, and Constantia remain the most popular with visitors, there was a 43% increase in requests for the Hermanus (Hemel-en-Aarde Valley) wine route between 2016 and 2017, thereby surpassing Paarl as the 4th most popular wine route. Other wine routes like the Swartland, Helderberg, and Robertson Valley also experienced significant increases."

Sustainability plays a growing role in the wine industry, evidenced by the fact that 85% of wine tourists feel that sustainability is important when making bookings. Practices like organic farming, social equality, carbon neutrality as well as biodynamic winemaking and farming practices are important considerations for wine tourists when booking their trip.

A report on this annual study can be obtained by contacting Explore Sideways at [info@exploresideways.com](mailto:info@exploresideways.com)

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# Optimizing the efficacy of antimicrobial application on meat and poultry

By Josh DeVoll, a Director of Market Solutions at Spraying Systems Co. specialists in food safety and coating applications in the food industry. Spraying Systems is represented in South Africa by Monitor Engineering

WHEN it comes to food safety, there is no room for risk-taking. The challenge isn't whether to protect products against pathogens; it's to identify the best approach for your processing operations. There are many options available and technology is changing rapidly. In this white paper, you'll learn a bit about the different approaches to pathogen control and a lot about one technology that is highly effective, versatile and lower cost than other options: applying antimicrobials to processed meats/poultry prior to packaging.

## Intervention options

There are four equipment options for treating meat and poultry for pathogen protection and each relies on different technology:

- Ultra pasteurization
- High-pressure pasteurization
- Modified Atmosphere Packaging (MAP)
- Spray application of antimicrobials

## Ultra pasteurization

Ultra pasteurization is the process of thermally treating packaged meats at elevated temperatures. Exposure to these temperatures must be at the surface of the meat for a length of time such that all potential contamination is exposed to the treatment. Under the right conditions, this method can be effective. Typical equipment cost is about US\$500,000 and installation costs are comparable bringing the total to US\$1 million. This method doesn't work with overlapped products because it requires a prolonged exposure to heat. Depending on the type of product, organoleptic properties also become a concern.

## High-pressure pasteurization (hpp)

High-pressure pasteurization (HPP) utilizes high pressure, 15,000 to 88,000 psi (1034 to 6067 bar) to kill pathogens. This method is extremely effective and typically achieves 4-8 log reductions. Equipment for HPP can range from US\$500,000 to US\$2.5 million. The equipment includes a large chamber where the product is placed for processing. HPP, while highly effective, can limit production because it is a batch process. Cost in use is 3 to 10 cents per pound. The effect of HPP on organo-

leptic properties with RTE meat is not usually an issue, but some products may undergo some changes.

## The modified atmospheric packaging (MAP) process

The MAP process uses specific packaging in which the internal atmosphere of the package is flushed with N<sub>2</sub>, CO<sub>2</sub>, CO or a mixture of those elements. MAP is effective for shelf life extension and has no effect on organoleptic properties. MAP equipment typically costs approximately US\$300,000. However, the effectiveness of the process is dependent on packaging. Keep in mind that only bacteriostatic effects are possible with MAP, so processors are limited to Alternative 2 status when using this equipment. The use cost of MAP is generally twice the cost of traditional vacuum packaging.

## Spray application of antimicrobials

Spray application of antimicrobials is the fourth option. The antimicrobials are often applied in the package but can occur prior to packaging as well. The system enables easy adjustment of the volume of antimicrobial being applied. The equipment cost is gener-

ally about US\$150,000 and major line/ plant modifications are not required for installation. Alternative 1 status can be obtained with some antimicrobials that contain bacteriostatic and bacteriocidal properties since both are applied in one step. Use cost ranges from 1/2 to 3 cents per pound. Keep in mind that certain antimicrobials must be contained well when sprayed, so factor that in when evaluating antimicrobials.

## Selecting the best antimicrobial

Antimicrobials come in a variety of forms and options must be carefully evaluated. Factors such as ingredients, efficacy and handling, shelf life, clean labeling requirements, application requirements and cost can vary widely, and will drive the ultimate selection. Keep in mind that the application equipment can have a significant impact on the effectiveness of the antimicrobial. Be sure to closely consider how the equipment controls volume and placement. Most antimicrobials are shipped in a concentrated form and require mixing on-site with water at a determined ratio. The storage temperature of the concentrate and mixed solution may differ so be sure to understand

the requirements early in the evaluation process. Also, keep in mind that most antimicrobials have a shelf life after being mixed, usually one to five days. Some antimicrobials must be listed on product labels; some do not. It depends on whether the antimicrobial is considered a processing aid. This classification is often dependent on the regulatory limits of the application level of the antimicrobial.

## Where and when to apply?

Throughout meat and poultry processing plants there are a number of locations where antimicrobials can be applied. The most common application points are just after slaughter and as close to packaging as possible. While antimicrobial systems can be effective at various stages in the process, a very well-established application point is in the package. This process was developed and established by the United States Department of Agriculture/ Agricultural Research Service (USDA/ARS). In May of 2006, the Food Safety and Inspection Service (FSIS) released the compliance guideline for Controlling Listeria Monocytogenes in Post-Lethality Exposed Ready-to-Eat Meat and

Poultry. The Listeria Rule Alternatives 1 or 2 can be achieved depending on the antimicrobial agent. At the point the roll stock or whole muscle product is loaded, an antimicrobial is also dispensed into the package. For other products, a variety of other locations for application of the antimicrobial can be targeted.

## Best practices in spraying antimicrobials

- Applying antimicrobials in the package is ideal. The package is the last point of intervention after exposure to other potential sources of contamination, such as conveyors, tables and personnel
- If spraying just prior to packaging, choose a point where contact surfaces of the product are accessible. If the product comes in contact with other surfaces after the antimicrobial application, be sure those surfaces have been

sanitized. For example, conveyors should be sanitized to eliminate potential contamination
- Trim and other products that are going to be ground should be sprayed with antimicrobial prior to grinding. Exposed product surfaces that could have potential contamination are lowest at this point. The antimicrobial is typically sprayed into a blender or mixer
- Any type of equipment that comes in contact with the products should be sprayed periodically with sanitizers to limit the spread of contaminants
- Consult with experts. Spraying antimicrobials requires a high-level of precision and is not attainable with workers using spray bottles or holes drilled in pipes.

## Guidelines for equipment selection

While spray systems may seem simple, they are not. Even slight problems

can cause reductions in product produced, downtime, and excessive antimicrobial usage. Properly designed equipment will ensure the antimicrobial is applied properly and without waste.

## Conclusion

Determining the best approach to food safety is dependent, of course, on the types of products being processed, the processing facility and equipment, annual production and more. Applying antimicrobials with spray equipment offers many advantages over other technologies. Cost, ease-of-use and precision application are attractive to processors of all sizes. Depending on which antimicrobials are used, shelf-life extension, cleaner labels, improved customer satisfaction, Alternative Status 1 or Alternative Status 2 are also possible benefits.

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# New solution for healthcare industry

New temperature-controlled packaging to support pharmaceutical requirements

FEDEX Express, a subsidiary of FedEx Corp. (NYSE: FDX), the world's largest express transportation company, has introduced new temperature controlled solution, FedEx Cold Shipping, in South Africa, which will further improve the handling of temperature-sensitive shipments.

The FedEx Cold Shipping Solution includes cold shipping packaging for goods which require a refrigerated environment and can maintain a temperature of between 2° to 8° Celsius for up to 96 hours.

This cold-shipping packaging is designed to be easy to use, reliable, cost effective and environmentally friendly. The solution can be used by the healthcare and pharmaceutical industries, as well as any shipper requiring low-temperature options for their goods. The packaging is smaller, lighter and more compact than most gel-pack systems, leading to lower shipping costs for the customer.

Through its temperature-controlled packaging solution, FedEx Express provides customers with safe and reliable options for transporting biogenetics, biomaterials and any other sensitive shipments to more than 220 countries and territories worldwide.

"FedEx temperature controlled packaging use cutting-edge technologies to provide healthcare suppliers with cost-effective and environmentally-friendly solutions for their life-saving products", says Mike Higley, vice president of Operations, FedEx Express Southern Africa.

Within the next few years, temperature-sensitive biopharmaceutical products such as biologics, drugs, vaccines, and blood products are expected to be used at approximately twice the rate of other pharmaceutical products<sup>1</sup>. Although these products are becoming increasingly popular, the high costs, specialized storage and transportation requirements demand that every stage of the supply chain should monitor the temperature, light exposure, humidity and movement of the shipment.

The pharmaceutical market in South Africa is ZAR 39.5 billion (USD 2.8 billion), the largest in Sub-Saharan Africa, growing at a

CAGR of 7.4 percent from 2014 – 2019, according to the latest IMS Health data.

"Launching this product in the South African

region enables us to cater to this growing market with innovative solutions that truly transform healthcare logistics," concludes Higley.

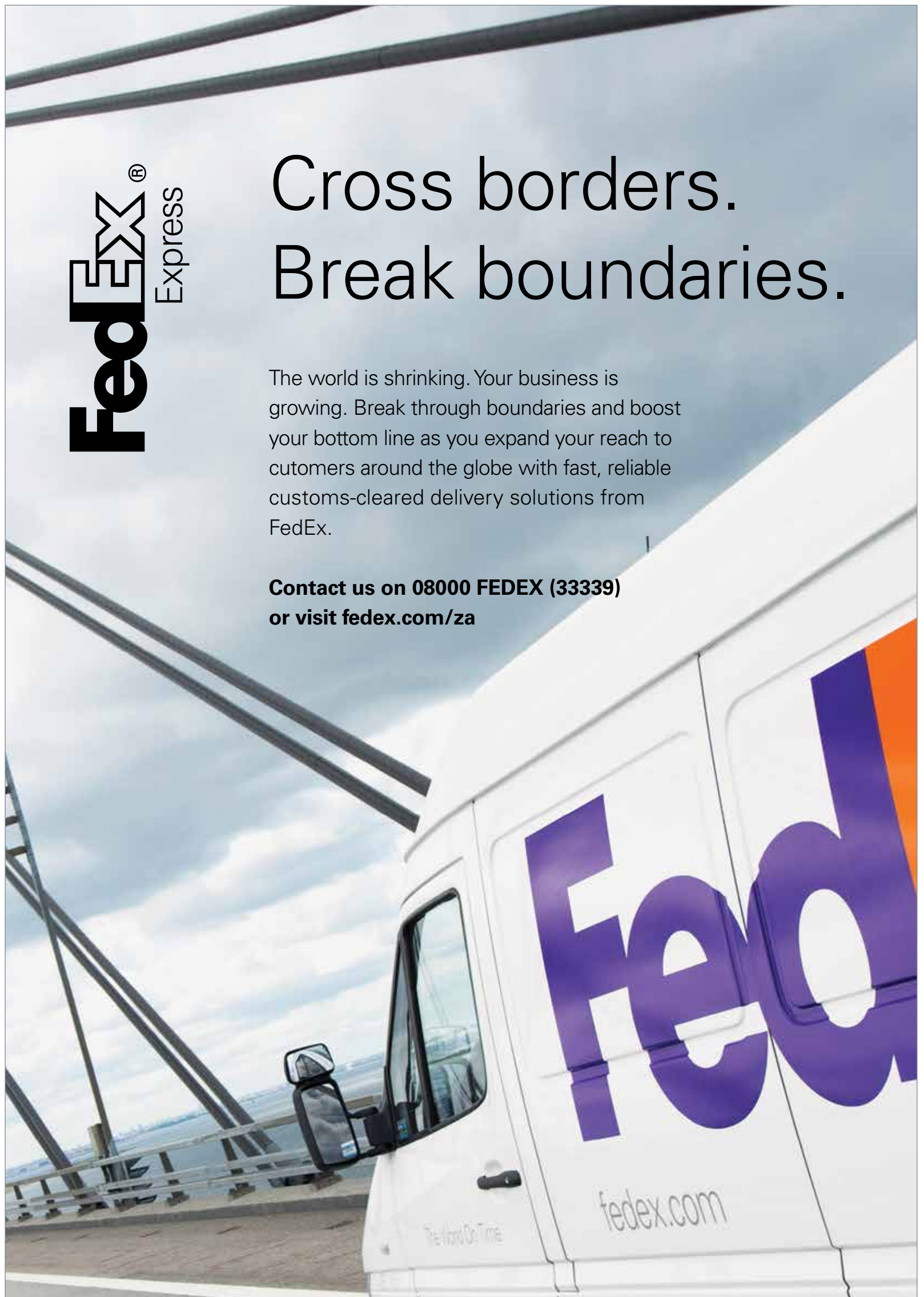


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# Indoor air quality measurements

COMTEST is offering the Fluke 985 Particle Counter, a rugged, highly accurate meter that measures airborne particles to troubleshoot and monitor indoor air quality (IAQ). The 985 is ideal for facility maintenance, HVAC and IAQ professionals to monitor cleanroom and conduct HVAC filter testing and IAQ commissioning and investigations in buildings. Other applications include: contamination and quality control; energy assessment; indoor air quality investigations; filter testing and leak detection.

- Fluke's 985 Particle Counter features:
- Six particle size channels with a range of 0.3 µm -10 µm, assuring accu-



- rate measurements
  - Rugged, ultra-lightweight, ergonomic design for easy single-hand operation
  - In-device storage of 10,000 records for easy access to his-
- torical data
  - Ten hours of standard-use battery life to last a full work-day
- The 985 has a large 3.5 inch QVGC colour display with backlight

and intuitive icons plus a large font option for easy navigation and viewing. It features configurable settings for the display, sample methods and sample size alarm. Data can be presented in traditional tabular or as a trend graph and exported to a USB memory stick or directly to a PC via a USB or Ethernet cable. The meter meets ISO 21501, JIS B9921 and CE standards. The 985 comes with a cradle for charging and USB and Ethernet communications, ENET CAT5E cable, USB-A to MINI-B cable, 12 Vdc power supply, zero count inlet-filter, filter adapter, sample inlet protective cap, hard case, getting started manual and user manual CD.

# Adding value in the HVAC space



WEG CFW701 IP55 variable speed drives and control panels for the air handling units located on each floor of the PwC Tower.

WITH access to years of experience in the Heating, Ventilation Air-conditioning and Cooling (HVAC) market, and its range of quality products to service HVAC applications, the Zest WEG Group can tackle any single product installation right through to a customised solution. Zest WEG Group sales engineer Francois Liebenberg highlights the company's fit-for-purpose products, WEG variable speed drives (VSDs), WEG low voltage switchgear for control boards and WEG electric motors, which add significant value to HVAC projects. "Enhancing our product range is our high level of service, where we can dedicate one of our experienced project engineers to work with the customer during the roll-out of a project," says Liebenberg. "This streamlines the work and expedites implementation, and all queries can be directed to a single point." Zest WEG Group can also allocate an af-

ter-sales technician on a 24/7 basis to the customer to facilitate any maintenance, repairs and commissioning before and after the project. When it comes to stock availability, the company maintains large volumes of stockholding, particularly of certain key components. Facilitating high levels of stock availability, either at the premises of the contractor, the end-customer or at Zest WEG Group itself, helps to keep the project on track as there is no delay in sourcing the required parts, and maintenance downtime is kept to a minimum. Key to the product offering for HVAC applications are WEG's HVAC-dedicated variable speed drives (VSDs): the CFW701 model for applications up to 110 kW and the smaller WEG CFW501 unit suitable for applications up to 22 kW. The WEG VSD product range includes capabilities such as harmonic mitigation, built-in PLC function-

ality, by-pass, dry run, broken belt and sleep modes as well as a fire mode. This functionality can be interfaced using the BACnet communication protocol, Metasys and Modbus RTU. The VSDs also feature C3-level RFI filters.

Zest WEG Group can also allocate an after-sales technician on a 24/7 basis...

"The speed control provided by these VSDs delivers substantial savings in terms of energy consumption, and also offers comprehensive motor protection," says Liebenberg. The company also supplies low voltage switchgear for the control panels in HVAC applications, as well as its WEG W22 smoke extraction motor – often used in basement fans installations. These high efficiency motors are IEC certified as well as SABS approved.

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# Measuring air velocity in HVAC systems

INSTROTECH is offering the Kobold compact KAH Series airflow velocity transmitters, ideal for accurate ventilation control in Building Automation Systems (BAS) and heating, ventilation and air-conditioning (HVAC) applications. They incorporate innovative hot film anemometer technology which guarantees good accuracy at low airflow velocity and makes the sensor highly reliable and heat

resistant against dust and dirt. This technology is superior to conventional anemometers with hot wire sensors or NTC bead thermistors. The sensor is much more insensitive to dust and dirt than all other anemometer principles which translates to high reliability and low maintenance costs. The configuration equipment allows air velocity adjustment of the sensor. Apart from measuring air flow velocity, the KAH air flow

transducer transmits a normalized signal of 4-20 mA or 0-10 V. The measuring range and the response time can easily be selected with jumpers as per requirement. Specifications:

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- Low angular dependence



## Consultant's supplier partnerships for sustainable transformation



**Gugu Sithole, Ziphele Planning and Environmental Consultancy (UWP supplier development).**

EXPOSURE to potential clients, access to professional guidance and assistance with compliance and cash flow management are the major benefits cited by emerging businesses in UWP Consulting's supplier development programme.

"Our supplier development partners have competencies that complement ours and will add value when we tender for new work together," explains UWP CEO Nonkululeko Sindane.

"The opportunity to work with professionals who have been in the industry for years has been the most significant aspect of my association with UWP. They have shared not only technical expertise, but the skills required to run and manage the business," says Gugulethu (Gugu) Sithole, director of Ziphele Planning and Environmental Consultancy (ZPEC) in Durban.

Thokozani Mntambo, coordinator of UWP's supplier development programme, explains that partner firms receive assistance ranging from professional mentoring, guidance in IT, HR and financial matters and opportunities for joint tendering, to early payments for work done to ease cash flow, interest-free loans, and office space to extend reach into new areas.

Four companies partnering with UWP's supplier development programme agreed that their greatest barriers to success included penetrating the market as "newcomers", cash flow, managing growth and retaining talent.

"Our biggest challenge has been establishing our business as a believable brand," says Gugu Sithole of ZPEC, which provides town and regional planning services.

women have the skills and capabilities to participate meaningfully in urban and rural development. I will strive to be a positive influence for all women who want to be visionaries in planning and development fields."

### Compliance

Eric Ceba of RNA Consulting Engineers, a Port Elizabeth-based electrical and mechanical consultancy, believes compliance is one of the toughest issues facing smaller companies. In the past eight years, says Ceba, UWP Consulting has helped RNA to upgrade its computer software, develop annual workplace skills plans, get employment equity plans and reports updated and submitted on time, and maintain its B-BBEE level.

"Our reports are now in line with CETA requirements and this has helped us receive some refunds."

Ceba adds that late payments by several clients remain a risk to RNA's business. "We are working hard to grow our financial sustainability and hope we can give back to our communities by training future engineers."

RNA has partnered with UWP Consulting in several projects in the Eastern Cape.

## Emergency desalination plant online

WSP claim a crucial role in the fast-tracked development of the City of Cape Town V&A desalination plant, feeding 2.0 megalitres of fresh water into the city's network per day.

Located at the V&A Waterfront, this desalination plant forms part of a series of emergency water supply projects the City of Cape Town Municipality is implementing to supplement critically low water resource levels in the district. Quality Filtration Systems (QFS), along with Osmoflo, were awarded the work as the main contractor to build, own and operate the plant, as well as to decommission the plant at the end of the contract term. WSP tendered as sub-consultants to QFS, where the company provided design engineering and site supervision services.

According to Martinus Retief, Principal Associate: Coastal, at WSP Maritime Africa: "Given the state of emergency of the water crisis in the region, this was a rapid execution, top priority project for all parties involved."

Retief confirms that the project was awarded to QFS in January 2018. WSP, as sub-consultants, immediately started working on the designs, drawings and



specifications for the plant's ancillary components. Practical completion of these components was reached within two months and the plant is currently finalising overall commissioning.

"We provided concept to detailed designs, as well as construction drawings and specifications for the desalination plant's ancillary works. As this project was fast-tracked, significant focus was placed on where we could save time, but not compromise on quality of design or constructability. We also designed the ancillary works in such a way that the system can be upgraded by up to 50% in terms of production, if required," adds Retief.

The three main components that make up the ancillary works in-

clude the marine intake pipeline and seawater pumping system, the brine discharge system and the injection system to convey the fresh water to the localised water infrastructure network.

WSP provided the marine, civil and mechanical design of these components. The desalination process itself is owned and operated by QFS, along with Osmoflo.

WSP also provided project management services, as well as site supervision for quality assurance and quick decision-making on site during construction.

### Rethinking the norm

WSP designed the brine discharge system to operate under gravity, rather than a pumping system as envisaged

within the tender document. By changing the hydraulics WSP was able to optimise this process, which saved the client capital and operational costs on the project.

Together with Southern Oceanengineering, WSP designed a geotextile bag weighting system to provide stability for the marine intake pipeline. This enabled the contractor to more easily install the pipeline onto the existing revetment slope and down to the required depth on the seabed. The bags were concrete filled after installation to provide the required stability against wave action. Being an alternative solution to conventional pre-cast concrete weight collars, it saved time on construction, while also reducing risk during pipeline installation.



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# Integrated Delivery Models are the future for African projects

THE Integrated Delivery Model is the best means of realising complex, multi-disciplinary projects in Africa. This is the view of Darrin Green, Managing Director for Civil Infrastructure at AECOM.

The traditional model of deploying expatriates to run projects and staff country offices is no longer sustainable. "Our aim is to grow local businesses in those countries, staffed by local people," Green highlights. "While our home base is South Africa, local knowledge and connections are extremely important in terms of market intelligence."

While Design, Build, Finance and Operate (DBFO) is AECOM's global project-delivery model, not all of these boxes can be ticked in an African context at the moment. "We cannot necessarily bring

the financing, operations, or building side to bear on all projects. However, we are engaged in very deliberate partnering with select contractors and financiers. That is the way things are going, with clients increasingly looking for a 'one-stop shop' for infrastructure delivery."

The major advantage for clients is that it centralises risk, as well as allowing for a single point of contact and responsibility. "While the African market is not necessarily yet mature enough for a full DBFO approach, we are aligning ourselves with AECOM globally, albeit in a slightly different way. At the moment, we have a full service offering on the design side, with our key differentiator being that we are linking up on the build and

finance sides and, in some cases, on the operational side," Green elaborates.

As an example of this approach, Green points to one of the biggest projects that AECOM is undertaking currently, the construction supervision of the \$1.5 billion Tema Port Expansion Project in Ghana for Meridian Port Services (MPS), operator of the container terminal. Here AECOM is providing design and procurement management services prior to the award of construction contracts, following which it will supervise the actual construction.

Another flagship project for AECOM in Africa is the Itare Dam in Kenya for the Rift Valley Water Services Board (RVWS), which will have a capacity of 100 000m<sup>3</sup>/day. Currently still in

the design phase, it also highlights AECOM's unique approach to project financing. "A key differentiator for us here is a more integrated delivery model," Green adds. AECOM is partnering with Italian contractor CMC, with which it has a long-standing relationship, as well as assisting with Italian export financing in order to implement the project.

Green points out that the major deficit in civil infrastructure in Africa presents significant opportunities for AECOM, which sees the bulk of its growth coming from the rest of the continent. "We have a defined focus for Africa, looking at specific countries, projects, sectors, and risk profiles. In addition, we focus on the more complex projects, where we think we can make a big difference."

# Light on the horizon?

DESPITE difficult economic conditions, budget cuts and cost constraints by the public sector, black empowered open pit mining company Afrimat Limited, continues to provide industrial minerals and construction materials to the construction and related sectors.

Afrimat supplies a broad range of construction materials and industrial minerals ranging from mining and aggregates, metallurgical dolomites, agricultural lime, concrete products (bricks, blocks and pavers) to readymix. In addition Afrimat has established a strong foothold in contracting services comprising drilling and blasting, mobile crushing and screening.

With more than 50 years' experience, the company's operates through five key divisions:

- Aggregates
- Industrial Minerals
- Commodities
- Contracting International
- Concrete Based Products

## Western Cape outlook

Key Account Manager of Afrimat's Aggregate Operations in the Western Cape, Bevin Cornelius, reports that despite some stiff competition – both from legal and illegal operators – the division is holding its own and trading conditions are about the same as last year. "We supply a range of construction materials including lime, sand and stone aggregates to the construction industry, brick and block makers, builders, retailers and the agriculture sector. Road construction is a major market segment for us, however the emphasis in tough economic times has shifted to water & sanitation projects, and affordable housing sectors which, while using our products, are not nearly as large as road construction. PAWC and SANRAL have indicated a list of projects that's on the cards for this year and we are working hard to secure some of those contracts.

"We've recently completed and are still busy with some major projects, such as Annendale Road



with Baseline, Reseal of N2 sections between Riviersonderend and Swellendam with Roadmac, The Reseal of N2 sections between Caledon and Riviersonderend with Group Five, to name a few.

"Because of public sector budget constraints, there has been a shift from large scale projects from SOE's, provincial and municipal clients, to smaller private contractors and small scale projects", says Cornelius. "Challenges in the house building sector surround emerging contractors, many of whom don't have the financial resources or the credit worthiness as stable customers. but we are looking at ways to accommodate those emerging contractors and securing work from them.

"We operate eight quarries and five sand mines throughout the Western Cape – all permitted through the Department of Mineral Resources. Some sites are Afrimat owned and others are leased from farmers who receive royalties according to the amount of material extracted. Compliance with the conditions of our mining permits dictates strict adherence requiring time, management and financial resources.

"There is growing concern in our industry of the influx of illegal operators who set up a mobile crusher, and extract materials without any compliance to regulations, including the rehabilitation of the site. In tough economic times there are plenty of takers for cheap aggregates, sand and lime! You can be guaranteed, however, that unscrupulous mining doesn't lend itself to quality materials".

"The agricultural sector, by comparison, is fairly stable where we supply lime and stone for drainage,

dams and farm road projects. Despite these challenges we are 'cautiously optimistic' of an improved economy and infrastructure development projects starting to return to more normal levels" he explained.

Responsible to Afrimat's ready mix and block making business in the Western Cape is Ricus van Heerden who shares Bevin's optimism for future growth potential.

"We also operate in challenging conditions and cost pressures which affect our 15 ready mix plants across the Province" he said.

"Uncertain economic conditions have caused many developers to hold back on expansion projects and the general downscaling of commercial building operations and cost constraints has led to many contractors batching concrete on site. Another major concern is the dumping of cement by Eastern countries on our local market, undercutting locally produced cement by as much as 30%. There is no tariff protection against these imports and they contribute nothing to much needed job creation.

"There are some green shoots however – the decision to restart the next phase of alternate power generation projects – principally wind farms – is set to take off and we expect to see an uptick in demand in August and September when these projects get underway" commented van Heerden.

The group's growing geographical footprint covers vast sections of urban and rural Southern Africa, supported by the fleet of mobile crushers which offers flexibility beyond fixed areas of operation. As a result, the group's integrated product offering is distributed across eight of the country's nine provinces.




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Afrimat Limited is a leading black empowered open pit mining company providing an integrated product offering ranging from aggregates, industrial minerals, commodities (iron ore), concrete products (bricks and pavers) to readymix concrete.

Afrimat has established a strong foothold in contracting services comprising mobile crushing, screening, drilling and blasting.

Backed by more than 45 years' experience, Afrimat listed on the JSE Limited in 2006. As part of its continued diversification strategy, the group is expanding its footprint into Africa.

The group's capabilities enable Afrimat to service projects of any scale from major infrastructure and construction projects for state-owned enterprises and parastatals through to small private sector contracts.

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# Waterproofing products used for silo rehab at Caledon Breweries

a.b.e. Construction Chemicals supplied a wide range of waterproofing and concrete repair products for the refurbishment of dozens of grain silos at SAB Miller breweries in Caledon, Western Cape.

Steff Dalton, a.b.e. Technical Sales Consultant, says for the waterproofing of the 56 silos, a.b.e.'s Index Fidra P thick non-woven polyester reinforced membrane was applied to the silo walls in 4mm thickness by torch-on fusion by the applicators, Vertical Logic, who had to access the 34m high silos via rope access.

"Index Fidra P membrane is manufactured from a compound of distilled bitumen and polymers. After mixing, the polymers are evenly dispersed throughout the matrix and provides the product with excellent stability and durability at both high and low temperatures," Dalton states.



*Inspection of the Caledon breweries' silo roofs and work in progress on the refurbishment project for which a.b.e. Construction Chemicals supplied a variety of products.*

He says the upper face of Index Fidra P's membrane is treated with serigraph talc, which prevents problems when unrolling the product. The lower face is covered with a

sacrificial polyethylene film and the roll is then embossed. "The embossing assists in the rapid burn-off of the polyethylene film in the torching operation and allows good

vapour diffusion."

a.b.e. silvakote bituminous aluminium protective coating, as well as a.b.e. super laykold and a.b.e. superlaycryl were applied as additional waterproofing to a total area of almost 3000m<sup>2</sup>.

For the concrete repair part of the project, a.b.e. supplied epidermix 344, durarep FR, epidermix 389, Dow Corning 888, and durabond GP.

Dalton specified the product packages for both the waterproofing and concrete repair work and trained Vertical Logic, who are now approved a.b.e. applicators. The Cape Town-based company provides rope access services to industries for work in areas where it is not practical to use traditional methods of access such as scaffolding or hoists.

a.b.e. Construction Chemicals will this year provide a.b.e. silo-

coat elastomeric cementitious coating for the second phase of the silo complex refurbishment at the breweries. The coating has been designed to be easily mixed on-site using a slow speed drill and paddle, and when applied to the silos' substrate forms an elastomeric impermeable membrane.

Some of the features of a.b.e. silocoat include:

- Withstands high positive and negative hydrostatic pressures;
- Effective barrier to sulphates and chlorides and low pH;
- Excellent crack accommodation after immersion;
- Long working life;
- Bonds to green or damp concrete; and easy application by brush, roller or spray.

## Locally manufactured attachments aid productivity



THROUGH its exclusive agency agreement with Tempo Attachments, CTC Plant Company - one of the country's largest suppliers of used earth moving plant and equipment - have designed and fabricated a Quick Hitch accessory which allows the fast connection of machine attachments. Safe and secure coupling of attachments can be accomplished in under a minute allowing quick and easy attachment changing between bucket and other attachments such as hammers, augers, plate compactors, rippers and grabs.

The Tempo TQH range is custom-built to an OEM machine's exact specifications, guaranteeing safe and secure fitment without modify-

ing buckets or attachments. The highest quality materials and precise fabrication techniques provide a simple, robust design that delivers a durable, long-lasting product, leaving the operator to change between attachments from the comfort of his cab.

The connecting jaw is operated with a double action cylinder with a check valve for maximum safety and Tempo Quick Hitches are supplied with a safety pin and a safety buzzer in the cab. Few wearing parts means low-maintenance costs and mechanical and hydraulic options are available.

Units are available through CTC Plant Company or from machine's original equipment suppliers.

## Diversification, new technology sees Skyriders in Africa

THE access specialist continues to diversify, having successfully undertaking major new projects such as essential maintenance work on the 237-m-tall Sentech Tower in Johannesburg, known originally as the Brixton Tower.

A first for Skyriders, the project opens the door for future collaboration with signal distribution services company Sentech, which has similar structures countrywide, as far afield as Kimberley and Thabazimbi.

"The Sentech Tower project, as well as a few difficult facilities management projects, showcased the out-of-the-box lateral thinking of our team, making these potentially costly projects that much more affordable and safer for all involved," Zinn elaborates.

He describes 2017 as "a challenging year on all fronts", with the economic situation "continuing to place maintenance budgets, as well as funds for new projects, under pressure." Zinn reveals that 2018 "will be a year to improve the skills of certain teams, ensuring we continue to deliver as expected, as well as the streamlining of certain operations."

Meanwhile the trend to use drone technology in conjunction with rope

access is anticipated to make an impact on the industry going forward, Zinn comments. Drone technology allows for safe visual inspection of potentially dangerous confined spaces, and difficult-to-reach

indoor environments, with minimum downtime and maximum cost-effectiveness.

Skyriders also plans to expand its boilermaking and welding service offering. "Often maintenance work on large

industrial sites is carried out by multiple contractors, one to provide access (scaffolding, as an example); one to inspect and issue the scope the work; and then one to conduct the actual maintenance

such as repairs and painting. With rope access, we provide our own access to inspect, and then carry out, whatever maintenance and repairs are needed - a true turnkey solution," Zinn concludes.

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# New, state-of-the-art design software for Terraforce

THE Terraforce SRW (Segmental Retaining Walls) software package, Maxiwall, is a private labelled version of the most comprehensive and widely used SRW Design software in the industry, the Vespa MSE Design Suite. With almost a decade in use, designers can be confident the Terraforce SRW software package will produce accurate and detailed results for projects large and small.

Maxiwall has been customized and configured to allow designers to easily produce complete wall designs utilizing the award winning Terraforce line of SRW products. With all block and geogrid information preloaded, designers can select from a wide range of proven Terraforce systems from easy to navigate drop down menus.

Compared to other MSE design software options, Terraforce SRW increases design

efficiency, improves accuracy, and promotes a seamless flow of information between design stages and parties. Terraforce SRW generates full wall layouts with accurate quantity estimates and comprehensive reports.

The Calculation Engine can simultaneously run Static, Seismic, and ICS Analysis in accordance to NCMA, AASHTO (LRFD), AU (Australian Standard), and British Standard design methodologies.

The Terraforce package is built around the understanding that the goal of the design engineer is to produce a set



of clear, comprehensive construction drawings. With the DXF output feature, CAD cross sections and elevation views are automatically generated and ready to import into AutoCAD.

Users of the Maxi-

wall package will also have an option to purchase a copy of the AWall CAD Tool that allows the user to accurately represent the plan and elevation views of a retaining wall on their grad-

ing plan. AWall takes into account the variable heights along the length of wall, wall batter (inclination), and wall width to generate a plan view, representing the "real" footprint of the wall creating elevations and generating quantities.

Once the design is complete, Terraforce SRW also allows the export of the wall geometry, soil conditions, and loading conditions to select Global Stability software programs. The Terraforce SRW Software is a professional analysis tool and should be operated by designers and engineers that are familiar

with the design methodologies and well versed in the design of SRW Structures. Simple, easy to follow design tutorials are provided. These cover the generic version of Vespa MSE Design Software but generally apply to Terraforce SRW. Launch date for Maxiwall is estimated for mid-2018.

Together with Terrasafe, Terraforce's professional design service, wall designers now have comprehensive support to build Terraforce retaining walls that will look good and most importantly, stand the test of time.

L13, L18, L22

Terrafix

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L11, L12, L15, L16

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## Insurance - complex but vital - JBCC

BUILDING operations invariably involve a variety of risks which could affect the environmental, financial, political and technical aspects of a building project. It is therefore important for the parties involved to take out adequate and the correct insurance for the full lifespan of a project, advises Uwe Putlitz, CEO of the Joint Building Contracts Committee (JBCC).

Putlitz says generally five types of insurable risk generally apply to all construction projects:

- Contract Works Insurance (CWI) deals with the whole works during the construction period

including plant and materials, work by specialist contractors, and additional professional fees where damage to the works occurs. Such a policy must be extended to include possible damage to existing buildings during alterations and additions and/or to include adjoining structures;

- Supplementary Insurance (SI) deals with expense or loss caused by events outside the normal control of the parties, including civil commotion, riots, strike action etc not included in the CWI policy. SI can be obtained from the South Af-

rican Special Risks Insurance Association (SASRIA) in South Africa, or the Namibian Special Risks Insurance Association (NASRIA) in Namibia. Supplementary to the CWI, SI is not available to the public and needs to be arranged by a broker;

- Public Liability Insurance (PLI) provides indemnity in the event of a death or injury to any person and or accidental loss or physical damage to tangible property;
- Removal of Lateral Support Insurance (RLSI) applies where the execution of the works may



cause weakening or damage or interference with the support of land or property on site or adjacent to the site and the consequences thereof; and

- Other Insurances (OI) applies to cover risks in transit of goods imported from overseas specifically for installation in a project.

method of construction and where existing structures or other site conditions may be at risk.

"The period of insurance generally applies until the date of practical completion when the employer can occupy the works but it is advantageous to include the contractor's defects liability period in the CWI to cover malfunctions of mechanical and electrical equipment, waterproofing coatings, and even landscaping. It is equally important for subcontractors to insure the tools they use on building sites and maintain general business insurances.

"Should an accident occur, and someone gets hurt or killed, repatriation is sought from the Public Liability Insurance policy so it is important that both the employer, the contractor, and subcontractor maintain separate policies. A third party is not governed by the contract and may therefore institute an action of recourse for injury against any one of the contracting parties, or jointly.

"Finally, it should be remembered that omissions from an insurer's proposal form or false declarations will invalidate an insurance policy," Putlitz adds.

"The tender documents must specify if the employer or the contractor must insure the works in the joint names of the parties. Regardless of who insures the works, the beneficiary should be the employer – and he or she should pay the premiums."

Putlitz says the concept of insurance is straightforward but the actual selection of appropriate policies for specific contracts is not. "That is why it is important to deal only with a broker experienced in construction industry insurance matters: this type of cover is not a do-it-yourself activity and, if dealt with improperly, all claims will be rejected. The insurance must be carefully considered to include and list all identified risks including the location of the works, the type of structure, the

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## Eastern Cape RSC for hydraulics and pneumatics

BMG's Regional Service Centre (RSC) in Port Elizabeth offers critical solution services to diverse sectors, including the automotive industry, power and petrochemical plants, manufacturing, marine, agriculture and general engineering.

"Through the consolidation of BMG's workshop facilities and field services into a centralised hub in the Eastern Cape, this dedicated RSC is able to assist customers who are faced with a lack of engineering expertise, costly machinery repairs and unnecessary downtime periods," explains David Dyce, business unit manager, Fluid Technology, BMG. "Advantages for customers include improved service, repair and delivery efficiencies, centralised technical support and easy accessibility to BMG's

comprehensive range of quality branded engineering components.

"An important focus of this service centre is on fluid technology services that integrate quality branded components, advanced hydraulic engineering and contamination control, as well as a test and repair facility, to ensure optimum performance and extended service life of every hydraulic system.

"BMG is able to assist with design, manufacture and assembly of all hydraulic and pneumatic systems, whether it is for a workshop improvement or a hydraulic system for an entire new plant. The highly-experienced team works in consultation with customers to ensure the most efficient solution – for example, from small multi-purpose power packs for

mining and industrial applications."

BMG follows stringent ISO accredited procedures to ensure the integrity of every hydraulic system. Each repaired component is assessed by the company's testing facility and certificates are issued as assurance that equipment has passed the strictest performance standards. These products include variable and fixed displacement pumps, industrial and mobile valves, low and high speed motors, as well as cylinders and accumulators.

BMG's mobile field service team conducts breakdown and routine maintenance on-plant and carries out trouble shooting and advises on possible productivity improvements. This service also incorporates on-site fluid analysis and hose and pipe assembly.

## Bosch acquires Hytec

THE Bosch Group is strengthening its business in Africa and further expanding its industrial technology portfolio on the continent. Bosch Rexroth AG has acquired all shares in Hytec Holdings (Pty.) Ltd. Hytec specializes in the marketing of hydraulic and automation solutions, and is the leading company in the field in sub-Saharan Africa. In 2017, the company and its roughly 770 associates generated sales of some 86 million Euros. Hytec has about 40 branch operations in South Africa, Mozambique, Namibia, Zambia, Botswana, Ghana, and Kenya. In a first phase, Bosch Rexroth acquired a 50 percent stake in its marketing partner Hytec in 2014.

"For Bosch, Africa has a lot of potential as a strategic market of the future," says Uwe Raschke, the Bosch management board member responsible for Europe, the Middle East, and Africa. "In the years ahead, we

want to significantly increase our sales in Africa," Raschke adds. Considerable opportunities are offered by the heavy investments being made in infrastructure projects in areas such as construction and power generation. "Together with Hytec, we can take better advantage of the market opportunities in the African growth industries," says Rolf Najork, the managing director of Bosch Rexroth. The region is characterized by a lot of end-user business, such as servicing and spare parts for users of machinery. With its new subsidiary, Bosch Rexroth hopes to further expand this business. Hytec has a well-established marketing network in sub-Saharan Africa, and its associates are well familiarized with what local customers want. "We are combining this high level of regional marketing knowledge with Bosch Rexroth's product expertise and technological prowess. This will be a signifi-

cant boost to our business on the continent," Najork says. Hytec will continue to market the products of other manufacturers. Its portfolio includes roughly 30 brands. It will also continue to do business as Hytec, since this is a strong, well-known brand in southern Africa. The same applies to the Hytec subsidiaries TECTRA, HAW, HFT, HYSA, Hytec Engineering and HSA.

### Positive economic outlook

Africa's population is growing at a rapid pace, and according to the United Nations is expected to double to 2.5 billion people by 2050. The continent also has the fastest rate of urbanization in the world. Within the next ten years, it is expected that 187 million Africans – equivalent to half the U.S. population – will live in cities.

Bosch has been working with its marketing partner Hytec for more than 50 years. "The complete acquisi-



Vacuum tube lifter for starter batteries from Hytec.

tion of Hytec gives us a welcome opportunity to extend this successful collaboration and to grow further in Africa," says Tillmann Olsen, general manager of Bosch Rexroth in South Africa. Bosch Rexroth and its new subsidiary Hytec have moved into new joint premises in Johannesburg. The premises includes new marketing and administration offices, as well as an assembly line, a service centre, and a training centre for courses in hydraulics and automation technology.

## PM technology drives compressor future

Kevin Rushmer of SMS GLOBAL – Compressed Air Engineering Consultancy discusses the latest trends in air compressor design efficiency

FOR several decades international compressor manufacturers allege to have enhanced their products through improving output performance, efficiency and quality.

Desperately competing against each other for the title "best specific energy" they have subsequently tried all types of unfounded tricks to try and improve their products output performance! Literally and practically trying to stretch the laws of physics! By incorporating electric motors with increased service factors, constant mechanical redesigning and reducing compressor operating speed ie. Using variable speed drive technology and then proposing that their products are more energy efficient and reliable or exclusively the "best" solution?

### The laws of physics and entropy abide

What is apparent is that well designed and high quality air compressors are all at much the same efficiency level regardless of their design or whatever technology they incorporate. In fact air compressors are not the most efficient machines by design, no matter how hard manufacturers try to improve their mechanical components; they are always confined to the laws of physics and a phenomena known as entropy.

Inherent design characteristics dictate that the amount of power you have to put in or apply to a compressor plant is not anywhere near to the amount of output (pneumatic) power they actually deliver! This power penalty has thus become the sole avenue capable of introducing

tangible improvement in efficiency for any type of air compressor technology. Scientific fact tells us that compressors are not energy efficient machines.

This truth has thus led to the conclusion that genuine improvement in efficiency can only be achieved by improving the source driving the compressor- the electric motor component of the compressor which is the primary point to start improving energy efficiency.

### PM – the panacea?

With the advent of "Air Cooled" Permanent Magnet (PM) driven motors, the compressor industry glimpsed upon a solution, but was unfortunately deflated when these air cooled PM motors turned out to be unreliable. For when an air cooled PM

is exposed to low running speed they overheat and cause the VSD inverter to be overloaded! They inevitably crashed. There are literally compressor graveyards filled with dead air cooled PM compressors globally!

However, the advent of "Oil cooled" PM motors has thus become the game changer in the industry and is today the best solution in compressed air efficiency, especially in smaller compressor plants up to 75kW where oil cooled PM motors have already proven this point saving industry billions of dollars to date.

Currently international sales of PM compressors outnumber the sales of any other type of technology 5:1. Evidently they will become the new standard in the future combined with Vector VFD Inverter technology, simply be-

cause the "oil cooled" PM motor does not need bearings or a drive train and most importantly, cannot overheat as long as the compressor is being well maintained.

Inadvertently however, certain compressor technologies - mainly Rotary Vane, but also Reciprocating - will disappear over the next few

decades as they are not adept to PM technology. This is especially true of rotary vane technology which is entirely dependent on axial floating clearances.

Rotary vane and reciprocating compressors will thus always require a drive train (couplings or drive belts) to facilitate operation of mul-

tipole pressure stages which defeats the objective of energy savings and increases maintenance. Drive couplings or V belt drive system naturally causes energy losses and they are undoubtedly susceptible to mechanical shock which indefinitely increase maintenance costs in the long term.

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# Pipe fittings for Burkina Faso gold mine

THERMOPLASTIC piping specialist, Plasti-Tech, recently met a stringent lead time for an urgent order of a range of German-made HDPE injection moulded fittings supplied to Rendifield, a South African manufacturer and supplier of piping systems, for export to a Burkina Faso gold mine.

When recently contracted to supply HDPE injection moulded fittings by a Burkina Faso gold mine, Rendifield turned to its fellow South African thermoplastic piping specialist, Plasti-Tech, for a range of German-made fittings from specialist manufacturer Bänninger. Founded in 2011, Rendifield specialises in the manufacture, supply and fabrication of thermoplastic HDPE, PP and

PVC piping systems. Plasti-Tech is the sole distributor of the Bänninger range of pipes and fittings suitable for all areas of industrial application locally.

According to Mike Enslin, Managing Director of Rendifield, the R600 000 order was placed with Plasti-Tech in late November 2017 for importation of HDPE injection moulded fittings from German manufacturer, Bänninger. A key challenge was the stringent

lead time for the supply of the order, which was urgently needed for a processing plant expansion project at the Burkina Faso gold mine.

"A key challenge was that the order was placed with Plasti-Tech just before the year-end shutdown and the order lead time was a key concern. However, Plasti-Tech managed to supply the order on time as per the quoted lead time," says Enslin. Rendifield took deliv-

ery of its order in late February this year.

Apart from the quality, well-priced product, Enslin says Plasti-Tech was chosen to supply this order for its service efficiency, which has since been demonstrated by the ability to meet the tight lead time. "As a result, Plasti-Tech shall remain our first choice supply partner for high-quality imported HDPE pipe fittings," concludes Enslin.



# Miller PipeWorx welding solution

AFROX has introduced the Miller Electric's PipeWorx process, an advanced multi-purpose pipe welding solution that eliminates the need for high level pipe welding skills while simultaneously improving quality and productivity.

Johann Pieterse, Business Manager for Manufacturing Industries at Afrox, says that the PipeWorx process is particularly advantageous for power generation and petrochemical applications where productivity and quality can be greatly improved, and explains why it is so well suited to the South African industry.

"PipeWorx can be used to achieve quality welds on pipes from one gas and one wire which means greater productivity, less inventory and improved ease of use. It is also a less expensive process than TIG welding and reduces the need for highly skilled welders, therefore resulting in a strong base for skills localisation and increasing economic competitiveness," says Pieterse.

He explains that conventionally pipe welding calls for exceptional quality requirements using TIG and MMA gas welding processes, but these skills are difficult to find locally and often imported into the country. "Both TIG and MMA processes require high levels of skills to achieve quality, flaw-free welds. Miller's PipeWorx process can reduce the



requirement for specialised pipe welding skills while at the same time improving quality and productivity."

The PipeWorx process allows TIG-quality welding to be achieved utilising the advantages of simpler gas metal arc welding (GMAW) and uses the same welding equipment for the root, fill and capping passes. It incorporates two advanced GMAW welding control options:

- Regulated Metal Deposition (RMD) welding optimised for root welding and producing precisely controlled metal transfer, making it easier for the welder to control the power and the weld pool. The RMD current waveform anticipates and controls the short circuit current phase of the process to improve the consistency of the metal transfer and short circuit stability. This not only reduces splatter but also produces less turbulence in the

weld pool, allowing the welder to control the position of the weld pool and avoid cold lapping and washing of molten metal up the side walls, ultimately producing consistent quality root welds in terms of both fusion and weld bead profile.

- ProPulse, for fill and capping passes, is an open arc pulsed solution that offers high speed and deposition rates as well as a fast freezing puddle and good weld-pool controllability. It further accommodates narrow joints, and both vertical up and vertical down welding is possible.

PipeWorx is available as PipePro 400 for fabrication shops and FieldPro 350 for site work. Both are multi-process, inverter-based welding power sources, purpose-built for advanced and convenient pipe welding and include embedded MMA, TIG, flux-cored, and GMA conventional welding modes.

## Connecting the hydraulic industry



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## Appointment

### Julian Desmore has been appointed Sales Manager at Hytec Cape Town

JULIAN Desmore has been appointed Sales Manager at Hytec Cape Town.

Bringing 25 years of experience, nine of them managerial, to the branch, Desmore assumes responsibility for service and support to all Hytec customers in both the Western and Southern Cape.

He has extensive experience and knowledge in hydraulics, pneumatics and hose & fittings in the majority of industry sectors, and



has qualifications in hydraulic training, pneumatic training,

mechanical engineering and business management.



## Cobots Claus and Clara: collaborative robotics with a SICK safety

AT Continental's plant in Babenhausen, high-tech components for car cockpits come off the production line at 15-second intervals around the clock. This leaves very little leeway to make up for downtimes. For this reason, Continental is currently replacing its inflexible testing and assembly lines with flexible, redundant, collaborative testing systems. The cobots Claus and Clara load the testing machines and can be used wherever they are needed. If necessary, the employees can help them out. A safety solution from SICK consisting of S300 safety laser scanners, TR4 safety switches, and Flexi Soft software-programmable safety controllers ensures that the employees remain safe in this collaborative environment.

### Safety makes human-Robot collaboration efficient

"Claus (clever automated universal robot sys-



tem) and Clara (clever automated robot application) are semi-mobile, lightweight robots that work in stationary mode, but can be moved around," explains Heiko Liebisch from the robotics department of the industrial engineering division at Continental Automotive GmbH, highlighting the benefits of the cobots. "This concept allows us to lift the robots up and move them to another location for a different shift, which means that we can use the same robot on two different machines: one on the early shift and another on the late or night shift."

"Everything in the sys-

tem that relates to safety is controlled using the Flexi Soft software-programmable safety controller. This means that the Flexi Soft checks whether the coded safety switch is in position. If it isn't, then nothing happens and the safety controller issues an error message. Once the switch has been verified, the safety laser scanners (S300 Advanced) load the field sets that have been stored for the workplace and give the cobot the command to load its program and start work," says Heiko Liebisch, describing the initialization process. "We have the option of fitting several coded

switches to the front of the cobots so that we can set them up for several different workplaces."

### A risk assessment is always the first step - for cobots too

Although Claus and Clara move relatively slowly, robot arms can come close enough to operators to put their lives at risk. "You always have to assess the overall concept. This is why the grippers on the front of the robots have been laser-sintered so that there are no sharp edges and everything is rounded off."

No two examples of human-robot collaboration are the same. This means that an individual risk assessment is needed for an HRC application, even if the robot has been developed specifically to interact with humans, like these cobots, which are designed from the beginning with many inherently safe features. At the same time, the collaboration space also

has to meet fundamental requirements, such as minimum distances to neighboring accessible areas where there are potential crushing or pinching hazards. General standards, such as IEC 61508, IEC 62061, and ISO 13849-1/-2, form the foundations for the functional safety of HRC applications. In addition, these systems must also comply with ISO 10218-1/-2, which concerns the safety of industrial robots, and, in particular, ISO TS 15066, which specifies the safety requirements for collaborative robots.

SICK was responsible for advising and training Heiko Liebisch and his team on the design, guidelines, legislation, and standards for cobots. "We are very pleased with the system and how it is running," says Liebisch. "In practice there are a few areas where improvements could be made and we will continue working on these with SICK, our partner for the complete solution."

## Cylindrical sensors offer strength

COUNTAPULSE Controls reports that the Leuze cylindrical sensors offer a higher mechanical strength than the standard sensors. Engineered for particularly arduous conditions, the Leuze 328 series sensor is based on the optical platform of the well-known standard Leuze 318B series, however this new device features a metal sleeve in the housing.

The operational sensors available in the new Leuze cylindrical series, which range from throughbeam photoelectric sensors to retro-reflective photoelectric sensors to light scanners with sensitivity adjustment via teach button, are designed with the option of either a cable or plug connection. An adjustable retro-reflective photoelectric sensor model with a polarisation filter is also available for particularly tricky applications.

With ranges of up to 15 metres (throughbeam photoelectric sensors), six metres (retro-reflective photoelectric sensors) and one metre (light scanners), the new Leuze cylindrical sensors are ideally suited to a variety of applications for object detection in materials handling and packaging technology.

The cylindrical sensors are especially popular for integration into constricted production facilities as well as into assemblies in transport systems or other machinery. In many production processes and internal transport systems, these optical sensors are used for the detection of objects and thereby control processes or partial steps. The highly vis-



The Leuze cylindrical sensor offers a higher mechanical strength than the standard sensors.

ible light spot facilitates alignment and two an-tivalent outputs expand the application options.

The quality engineered and manufactured range of Leuze

...cylindrical sensors are especially popular for integration into constricted facilities...

sensors is available from Countapulse Controls who has been providing sensing solutions to business across southern Africa for more than forty years. This Johannesburg based company also operates a technical hotline to ensure that customers have ready access to relevant applications and operational information.

## Small but mighty

WITH the IPS 200i, Leuze electronic has introduced the smallest camera-based sensor on the market for compartment fine positioning with high-bay storage devices in single-depth storage. Available from Johannesburg based Countapulse Controls, this sensor offers some powerful advantages, among these its fast commissioning and simple alignment.

Speedy commissioning is one of the most powerful advantages of the Leuze IPS 200i sensor. This is accom-

plished using a web-based configuration tool and adjustments are made directly on the small camera-based device itself. Engineered for optimum user friendliness, an alignment system with feedback LEDs provides additional support.

Due to its clever and compact design, the Leuze IPS 200i only needs a small space on high-bay storage devices. This enables quick, easy and accurate compartment positioning in either small part container

storage warehousing or in single-depth pallet high-bay warehouses.

Equipped with powerful, ambient-light-independent IR LED lighting, a single device can be used for the entire working range of up to 600mm. A model with integrated heating is also available for use in refrigerated warehouses where temperatures go down to -30°C. Ensuring optimum reliability under all conditions is managed by its integral monitoring system with a quality score which identifies diminishing reading



The Leuze IPS 200i is the smallest camera based sensor on the market.

capacity of the sensor early on. This reduces downtime and im-

proves the availability and cost effectiveness of the sensing systems..

## Higher accuracy humidity and temperature measurement

NOVUS is raising the benchmark in temperature and humidity measurement with the newly launched RHT Climate available from Cape Mimics. This automation device is ideal for industries such as HVAC, climate monitoring of indoor environments, control of industrial processes, and computer or server rooms.

The unit offers measurement and display of temperature and humidity including seven calculate values at operating temperatures of between -40°C to + 60°C. This

broadens the end use of the RHT Climate, while versatile interfaces such as USB, RS485 Modbus, 4-20 mA and 0-10 V allow for integration in any project. Power options are battery, 12-30 Vdc or 5 Vdc.

The seven calculated psychrometric properties that can be displayed are: dew point temperature, wet bulb temperature, absolute humidity, frost point temperature, specific enthalpy, partial vapor pressure and mixing ratio.

Technology has made it possible to extend the

range of measurement with improved accuracy while the pragmatic design allows for duct or wall mounting. The new RHT Climate features include high accuracy, a bright backlight display,

configurable analog outputs, and an alarm output with an embedded buzzer. The settings are easily done via USB or keyboard. Enclosure rating is IP65 and a PI30 sensor probe.



### RHT Climate High Accuracy Temperature and Humidity Control

- Range: -40.0 to + 100.0°C (Duct Mount) and -40.0 to + 60.0°C (Wall Mount) to 100.0%RH (w/o Cond.)
- Resolution: Temperature 0.1°C (14 bit) and Humidity 0.1%RH (12bit)
- Accuracy: Temperature ±0.2°C and Humidity ±1.8%RH
- 2 X Configurable Analog Outputs: 4-20 mA or 0-10V
- Power Supply: Battery, 12-30Vdc and 5Vdc
- Communication Interface: USB and Modbus
- Commissioning: Input Simulation / Output forcing
- IP65 and Sensor Probe IP30
- 7 x Calculated psychrometric values
- Applications: HVAC, indoor climate monitoring, industrial processes



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## Location analysis essential for effective supply chain development



Gerard de Villiers.

“SUPPLY chains compete, not products, commodities or companies. All nodes and links in a supply chain should be engaged and integrated to be able to provide seamless and transparent logistics services from origin to destination,” said Gerard de Villiers recently at the Australasian Rail Freight Conference in Sydney, Australia.

De Villiers, a logistics specialist at Arup, believes South Africa can draw on its past freight and rail planning limitations to research and commission more practical logistics solutions for the country, and the region, for the future.

“A key element of any successful implementation of intermodal terminals is a comprehensive and accurate location analysis. The need for practical terminal placement to reduce freight congestion around key transportation hubs is imperative,” said de Villiers, adding, “These new intermodal terminals can in turn become distribu-

tion and logistics hubs in their own right with trickle down benefits to associated industries as well as employment”.

Various Southern African countries are landlocked, and have a dire need for efficient logistics connectivity for imports and exports between coastal ports and their capital cities. Swaziland, Botswana, Zimbabwe, Zambia and the southern region of the Democratic Republic of Congo are examples of this dilemma, resulting in various freight corridor development.

Several studies conducted on these corridors look at how the implementation of intermodal terminals can ensure a more effective flow in the logistics chain. Supply chain planning is normally done on four levels of strategic, structural, functional and operational activities and while the design of inland terminals and logistics hubs are normally done on the structural level. Much more input is required, for example, from logistics functions such as transport, warehousing, and materials handling on a functional level.

De Villiers commented, “There are certainly parallels between the South African and Australian scenarios. The sheer length of transportation corridors/nodes required offer planning challenges that need careful analysis

and attention. Location analysis will look at factors such as existing and future anticipated demand, the location of existing and future customers and transport costs (inbound from origins and outbound to destinations)”.

The demand needs plotting at the location of existing customers as well as an estimate of where future customers will be located. Origins of raw materials or bought out supplies are equally important. These ingredients are for the centre-of-gravity analysis determining where distribution centres or terminals should be located.

“One cannot plan for the development of major freight and rail routes and hubs without conducting a location analysis. It is critical in supply chain management for logistics to be coordinated with a practically routed intermodal terminal needs analysis. Freight and rail activity at existing ports already place an enormous amount of pressure on city feeder roads established long before the current increased container and freight loadings. In South Africa, we are aware of how future requirements of our logistics industry need addressing. I believe we are on the right path, and we have a lot of experience to share with those confronted with similar challenges,” concluded de Villiers.

## Piggyback aches and pains

THERE is so much focus on warehousing, retail, agriculture and production materials handling that one area is often neglected in overall planning, and that is truck mounted forklifts, say Real Telematics. There are a handful of brands catering to this specific niche, like Moffett, Palfinger, and Loadmac to name a few.

Without machinery of this type, actual distribution delivery could be quite awkward for products such as brick, turf, fertilizer and beverages, amongst others. These machines have short periods of high intensity use, and then on to the next site and this is often where the problem comes in. If not secured properly, these machines jostle about damaging forks and tearing out retainer chains and bolts etc. Even if well secured, the nature of distribution and road transport means that



this type of machinery moves about and creates a constant strain on retaining mechanisms and the chassis on the machine itself as well as their trailers, especially on poor road conditions.

FMX has been fitted to various types, and one trend in particular raised itself very early on. It found that the impact ratio for this machine type was extremely high considering the generally low

hours of use, and that is because of the number of additional impacts picked up during transport and therefore often overlooked in the life cycle maintenance.

Luckily, customers can now enjoy the benefits of extended life cycles and much less associated maintenance by simply fitting FMX. Not only does FMX detect impacts, types of impacts and their volumes, but FMX can also simply

immobilize on significant impacts to trigger inspection on other actions. In addition, comprehensive easy-to-read reports and alerts can indicate trends across the fleet, showing particular drivers, trucks or routes that are problematic.

This is only one of a host of features that FMX offers, including Engine Protection, Battery Management, Productivity and much more.

## Moving giant mining machines



IMPERIAL Logistics' specialist capabilities and close collaboration with a long-standing client ensured the success of one of the most challenging transport projects ever undertaken by the supply chain and logistics provider. “Imperial Logistics recently completed the testing cross-border transport of two Magra thickeners from client Magra Process Engineering's manufacturing plant in Vereeniging to Kwekwe in Zimbabwe,” reports Johan Truter, CEO of Imperial Managed Solutions.

Magra thickeners are used in the mining industry. Each unit weighs just under 30 tons and is 11m long and 6m in diameter. This was the largest

project of its kind ever undertaken by Imperial Logistics. “What made it unique and especially challenging was the tonnage of the load combined with the abnormal metric dimensions of these single units,” Truter expands. “It is an incredible feat to complete such an intricate project; but we have never been afraid of a challenge and credit is due to a large team of people who worked tirelessly to pull this off successfully.”

Truter reveals that plans to move “these giants” started in August 2017. “Meticulous analysis and route planning were required to avoid cargo damage along the way. Police escorts and ab-

normal permits had to be arranged, and Eskom and Telkom were alerted to lift power and telephone lines 35 days before D-day.”

On the day of departure, the Magra thickeners were loaded onto trailers with two cranes; a process that Truter says took about four hours per Magra to complete.

“Once on the road, the vehicles travelled a maximum of eight hours per day at a speed of no more than 50km/h, always escorted by a police vehicle. The load travelled through Gauteng, Mpumalanga and Limpopo before crossing into Zimbabwe. It was a 12-day journey of more than 1 000km.”

Imperial Logistics' vast experience and

expertise in this specialised field, as well as a close working relationship with its client, ensured the project's successful completion. Since July 2015, the company has transported more than 100 out-of-gauge loads for Magra, ranging from 20 tons to more than 40 tons of equipment. Looking ahead, Truter says that this year they will be moving another four Magra thickeners, as well as abnormal construction units for an exothermic smelting plant in Zimbabwe.

“Our partnership with Magra and the specialised capabilities that we are honing means we are well placed to serve other clients on similar projects in future,” Truter concludes.





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## Conference speaker highlights many new challenges for motor retailers



Eric Scoble.

THE recent Sewells-MSXI/NADA Dealer Performance Conference, which took place at the Kyalami Convention Centre, provided plenty of food for thought for delegates as a line-up of very competent speakers highlighted the challenges facing motor retailers as their trading environment undergoes a radical change.

The speed of change in the overall commercial environment is accelerating and motor retailers must adapt quickly. That was the message that came through loud and clear. It does not only concern the people working in the

industry, but also the systems and processes they use, as well as the physical facilities in which a dealership operates.

Eric Scoble a former chairperson of NADA and nowadays dealer principal of Auric Auto in Cape Town and chairman of the BMW Dealer Council, spoke in his personal capacity in the opening address. What he had to say and the way he said it set the high standard and general tone for a most interesting and thought-provoking conference.

Scoble, who has enormous and wide-ranging experience in all aspects of the local motor industry, gave meaningful insights into doing business today and then looked at various scenarios for the future, which were most thought-provoking.

He started by talking about the present retail and marketing disrupters, which included data cost and speed, the changing face of traditional advertising

caused by the accelerated use of the internet and social media, as well as the need for "Lean Marketing."

"Motor companies have made huge investments in lean manufacturing processes and technologies for many years, but we still do not have 'lean marketing', due in part to red tape and disrupters such as pre-reported units and the challenges they pose to dealer operations and cash flow," said Scoble, who estimated that between 20-25% of month reported retail sales were pre-reports, which then had to be sold as new or used cars in the following months.

Scoble said that he believed the dealer model was set to change radically due to the cost of land required for current-style large dealerships and the possibility of more manufacturers making direct sales. He added that the internet was being used widely for information gathering by potential vehicle

buyers, which meant that salespersons could end up acting only as deal closers.

Some of Scoble's predictions made for 2018 were: Possibility of a reduction of 1.5 percentage points in the interest rate, economic growth at 1.8%, dealer sales increasing by 6-8% while he expected the compact and affordable SUV share of the overall market to grow dramatically as sedans start to disappear from private garages.

Looking further ahead, to 2025, he predicted that there should be a market upcycle between 2020 and 2024 which could take the overall market over 700 000 units with the "million vehicles a year" dream simply not possible. He believes that by 2025 75% of new vehicle sales will be to non-whites, with black Africans making up 50% of the buyers of new vehicles. He added that he also thought that 50% of new cars will be sold online,

with banks regaining the majority of new car finance business on digital platforms.

He foresees entry level cars and vehicles sourced from China enjoying a resurgence with Chinese makes leading the way in terms of providing affordable electric models, while hybrid cars take a significant slice of the luxury market.

Scoble says he expects land and other property costs to soar ahead of inflation, reducing the number of urban retail points by 30%, with a separation of showrooms and service workshops. Floor sales will increasingly be replaced by virtual reality.

"This will mark the beginning of the end of the 'Taj Mahal' dealerships that we have grown to know in South Africa, as I see possibly only a few of these flagship sites in major metros and no more huge dealership facilities being built after 2025," Scoble concluded.

## Automotive press for light commercial vehicles

TECTRA Automation designed, manufactured and commissioned a servo-driven automotive press for Auto Industrial (AI). The application-specific automotive press is used by AI to assemble various front suspension linkages for a local range of light commercial vehicles in such a way that it produces one part every 40 seconds for 22 hours a day.

Tectra Automation was responsible for every aspect of the automotive press aside from the tooling, which was manufactured in-house by the client. To facilitate the production of one part every 40 seconds, a Rexroth L25 motion PLC was used with control provided by a Rexroth VEP40 HMIK with on-board PC. Tectra Automation designed and manufactured the control panel as well as the operation software. The Rexroth EMC-125-HD electromechanical cylinder, driven by an MSK101D servo motor, was selected for control instead of using a hydraulic cylinder due to its clean-



liness, high degree of controllability and operational quietness.

"The press has an integrated load cell to control and record the press-in force in order to guarantee consistent quality," explains Kevin Lombard, General Manager, Tectra Automation. "The ram is guided by Rexroth heavy duty linear bush-

ings and ground linear shafts. The rotary table is driven by a Rexroth MSK050C servo motor driving a GTM planetary in line gearbox. By utilising various sensors, the program will alert a supervisor in the event of an operator error. Any parts not conforming to the required press-in force specification will require intervention to

ensure that no rejects pass through the system."

The automotive press' mechanical structure was subcontracted to longstand-

with them regarding proposed changes and additional features," Lombard concludes. They appreciated this professional approach and we were subse-

...one part produced every 40 seconds for 22 hours a day.

ing Tectra Automation customer Machine Tool Promotions (MTP) and assembled on its premises. From here, final assembly and testing took place at Tectra Automation's facility and the press was subsequently delivered to client.

Project duration was only four months and commissioning took place onsite over a fortnight. The first week of operation was dedicated to on-the-job operator training and technical training for maintenance and supervisory staff was conducted simultaneously.

"We kept Auto Industrial constantly informed of the project status and liaised

quently commissioned to engineer a customised wheel stud press for another of their local automotive clients."

Tectra Automation is a pneumatic, electric and mechanical drive technology specialist and a Hytec Group member. Auto Industrial is an integrated provider of machining and assembly, ductile and grey iron castings and hot steel forgings of various automotive components.

The servo-driven automotive press used by AI to assemble various front suspension linkages for a local range of light commercial vehicles. The press produces one part every 40 seconds for 22 hours a day.

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## Separate-at-source

OVER 68% or 1.4 million tons of South Africa's recoverable paper and paper packaging is diverted from landfill for re-use in everyday products, keeping thousands of people employed.

Unfortunately, less than 10% of businesses recycle. Even 'paperless' businesses use recyclable paper products – boxes, milk cartons and toilet roll cores.

The Paper Recycling Association of South Africa outlines some tips to help businesses make small changes to their waste management and a big difference to the recycling economy.

### Educate and separate

Food, tea bags and cigarette butts contaminate paper and reduce its value. Some paper-based items should not be recycled: dirty paper plates, tissues, toilet paper, paper towel, sticky notes, carbon paper, as well as foil-lined, wax-coated and laminated paper.

- Educate employees and cleaning teams on what is recyclable and what is not.
- For every general bin, put a paper-only bin alongside it.

### Make it easier

An Australian study showed that paper recycling rose from 28% with one bin per office to 94% when paper trays were located on desks<sup>1</sup>.

- Install paper bins at each desk, in printing/copying stations, meeting rooms and kitchens.

### Make a plan

Appoint a recycling champion to oversee the programme and have your recycling collected regularly by a big company, a smaller business or an informal collector.

Printable posters are available from [www.recyclepaper.co.za](http://www.recyclepaper.co.za).

## Are Oxo-biodegradable plastics the ultimate solution to litter?

AS the use and publicity of degradable plastics increases, so does the confusion surrounding the environmental claims put forward.

As a result of insufficient or incorrect information, consumers often base their decisions on foreign, poorly researched or emotional articles.

### What are Oxo-biodegradable plastics?

Simply stated oxo-biodegradable plastics are conventional polyolefin plastics to which small amounts of metal salts have been added to catalyse the degradation process.

### Environmental Claims

Oxo-biodegradable suppliers claim that the recycling of packaging film is not viable and that the switch to oxo-

biodegradable packaging is the ultimate solution. Although it sounds like a good solution, it creates more problems for the recycling industry and the environment.

It is therefore precarious to advertise oxo-biodegradability when the product has no testing data to validate claims that it degrades in a landfill or compost facility according to the widely accepted international standards for biodegradability (e.g. EN 13432).

One of the challenges faced by the plastics recycling sector over the past decade has been that of building confidence in the technical integrity of recycled material and demonstrating its ability to perform as a viable alternative to virgin plastics.

Oxo-biodegradable packaging creates more problems in sorting. Separation facilities cannot

distinguish between the various packaging films and oxo-biodegradable and standard plastic bags. They all look the same on a conveyor belt.

Of greatest concern is the possibility that a proportion of recycled plastic will contain oxo-biodegradable material. This could result in changing the characteristics of the material and may lead to a failure of products as degradation occurs, resulting in the hindering of market acceptance which will lead to reduced value of recycled material in South Africa.

Why are oxo-biodegradable additives not a sustainable option?

### Products

Products made with additive technology and available on the market include film applications such as shopping bags,

agricultural mulch films and, most recently, certain plastic bottles.

They claim to be "degradable", "oxo-degradable", "oxo-biodegradable", or "oxo-fragmentable", and sometimes even "compostable", without providing any sort of proof for the claims made.

### Expert opinion

Experts from the plastics industry, waste management, and environmental fraternity voice serious concerns about these products.

Oxo-biodegradable products cannot claim compostability or biodegradability. If they break down into small pieces, the plastic debris accumulates in the environment and the potential for ingestion by animals increases. It is therefore crucial that any environmental claims are backed

by sound science and research.

These products are made from conventional plastics and supplemented with specific additives in order to mimic biodegradation. In truth, however, these additives only facilitate a fragmentation of the materials, which do not fully degrade but break down into very small fragments that remain in the environment – a process that would be more accurately described by the term "oxo-fragmentation".

A self-imposed standard for oxo-degradation merely sets out the parameters on how to test the degradation process, not the results or even criteria for passing the test of degradation. There is currently no internationally established and acknowledged standard or certification process that proves the success of oxo-degradation.

If these additive fragmentable plastics are littered and end up in the landscape or even the ocean they start to disintegrate due to the effect of the additives that trigger the breakdown into fragments, which remain in the environment.

The use of oxo-biodegradable additives to solve environmental problems is a quick fix solution not a sustainable solution.

Local solutions to litter and consumer behaviour should be sought and all South Africans should embrace the strong and viable recycling industry by designing plastic products and packaging with recycling in mind. This will continue to provide jobs and keep our natural resources in circulation.

PlasticsSA advocates a more responsible and sustainable solution for waste management.

## Shortcuts in waste disposal adding to SA's massive environmental challenges

UNLIKE many developed countries around the globe that operate within a regenerative system called a "circular economy," South Africa only recycles 10% of its waste. Pollution, global warming and resource scarcity have led to the rise of circular economies which focus on the re-purposing and reuse of products that would typically be destined for landfills. However, due to several factors, South Africa still employs a predominantly linear or "take-make-dispose" approach. Considering that most of our waste is destined for landfills, the promotion of responsible disposal practices remains crucial for environmental sustainability.

According to Averda, one of South Africa's

largest waste management providers, underpricing in the industry is a significant barrier to the development of green waste management solutions. This is compounded by a high number of unlicensed or non-compliant waste handlers, who undercut prices by skirting legislative requirements.

Comments Reg Gerber, National Landfill Manager at Averda South Africa, "Reputable waste management companies often guide their clients on how to reduce waste. At Averda, we develop strategies with our clients that enable them to divert significant portions of their waste away from landfills. This includes a rebate system to incentivise recycling. However, when disposal is neces-

sary, reputable providers can be trusted to ensure that this is managed responsibly."

The construction and management of landfill facilities are subject to strict governmental regulation that seeks to reduce their environmental impact. When consumers employ unlicensed or non-compliant providers, they have no control over where their waste ends up, which is bad for the environment.

Mismanaged landfills and dumps present a number of risks to the environment including air pollution and groundwater contamination. When rain falls on landfill sites, the organic and inorganic constituents are dissolved, forming a leachate, which can contain toxic met-

als such as ammonia, organic compounds and pathogens. Any leakage can result in groundwater contamination.

To prevent contamination, Averda's landfill facilities are built with containment barriers designed according to the strictest legislative requirements. Barriers include a leachate collection layer that traps the contaminant, preventing it from reaching groundwater supplies. As part of the management process, waste is sorted and treated, so that it can be disposed of in a facility that has been designed to mitigate its specific environmental risks.

Gerber adds, "Averda has a number of landfill sites that are designed and managed to deal with specific

waste streams. Our site in Vlakfontein, for example, is a Highly Hazardous, Class 1 Landfill site, which is South Africa's only landfill to be constructed to the standards prescribed by the new Waste Classification and Management Regulations for Class A containment barriers.

In accordance with legislation, Averda continues to monitor its facilities for 30 years after closure.

"We develop a closure plan prior to the development of our landfill sites. This is essential to ensure we have the resources required to monitor and maintain our facilities on an on-going basis following their closure", explains Gerber.

Properly managed landfill facilities are

supposed to adhere to Minimum Requirements for Waste Disposal by Landfill as prescribed in government regulations that came into effect in 1998. The regulations include specifications regarding site selection, design standards, operational practices, closure processes and monitoring.

It's important for consumers to understand that sustainable behaviour not only requires reducing one's waste but includes responsible disposal methods. Employing reputable waste management providers will not only ensure that the impact of your waste is minimised, but it could also reduce underpricing in the industry, paving the way for sustainable waste management solutions.

If you're not separating paper, boxes and milk cartons from your office waste, they're probably going to landfill.

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# OPINION

## The seas are rising and it's our fault for eating sandwiches

Continued from back page

There was just one problem. There was too much nature conservation in the early Green Movement and not enough environmentalism. Saving the whales or the rhinos was all very well but it hardly was a way of attacking filthy capitalists.

Then came the brilliant idea – attacking modern economies by targeting the one thing they always produce: Carbon Dioxide.

It was perfect. It gave these crypto-communists endless opportunities for attacking the very fabric of western society because virtually everything on the planet is carbon based, including humans. If carbon in all its forms can be painted as the ultimate evil then even a slogan such as, “Humans, the virus killing the planet” can be seen as a virtuous truism, rather than a fascist idea Himmler himself would have been proud of.

Avoiding the alleged scourge of carbon dioxide justified building and subsidising half-baked, uneconomic devices such as wind turbines and solar panels whose production involves horrendous pollution in China.

No such inconvenient facts are allowed to get in the way of this new Green reli-

gion which is now taught in our schools, embroidered on in our universities and used to subvert our institutions, bend taxation regulations to favour and subsidise Green cult leaders like Al Gore who employs body guards to prevent him having to answer questions about his own “carbon footprint” (which is enormous) or why every one of his predictions of climate doom have proved false.

Meanwhile, the insanity continues to prevail in universities and colleges where disreputable climate scientists use junk research to raise panic money for further studies.

One example is that carried out to examine the carbon dioxide emissions of the British sandwich, for which we have to thank the University of Manchester. Such was the news worthiness of these findings that the university saw fit to issue a media release to spread its significance lest the lunch boxes of millions of British children continue to be fed with carbon dioxide producing treats.

Needless to say headlines ensued, revealing more fascinating things to delight pub quiz fanatics. For example, we now know that some 11.5 billion sand-

wiches are eaten in Britain every year. The impact on the environment is allegedly bigger than that delivered by eight million cars.

The researchers proudly told us that they examined 40 types of sandwiches, home-made and bought. They measured how they were produced, their type of wrapping, and the amount of crusts that were not eaten.

No lettuce leaf was left unturned.

An egg, bacon and sausage sandwich had the biggest carbon footprint equivalent to driving a car for 15 km or so (12 miles. Do the maths) but the last word has to go to Professor Adisa Azapagic (sic) from the university's School of Chemical Engineering and Analytical Sciences who said: “Given that sandwiches are a staple of the British diet as well as their significant market share in the food sector, it is important to understand the contribution from this sector to the emissions of greenhouse gases”.

If you say so professor, if you say so. But you forgot to mention the impact of British sandwich eating on sea levels in Tamp Bay, Florida.

Maybe next time, hey?

## Paradise Papers - not a clear cut debate

By Ernest Mazansky,  
Tax Director at  
Worksmans Attorneys

THIS seems to be much of a replay of the Panama Papers. But I have to say that, in terms of respectability of jurisdictions and their standing in the financial world, Bermuda and Panama are not, and have never been, in the same league. Bermuda has never been one of the so-called Caribbean tax havens (it is not even located in the Caribbean) and it is a very well regulated and sophisticated financial jurisdiction. In fact today Bermuda is the second largest reinsurance market in the world.

The journalists have been quick, and correctly so, to point out that merely because the names of individuals and companies appear on the lists, does not mean that they have done anything illegal. But that has not then stopped them from naming those individuals and companies, and the mere fact

that they have been named already raises the possibility of taint. Again, journalists acknowledge that it is quite legal to engage in tax avoidance, but then raise issues as to the ethics and morality of the tax avoidance.

This is not an easy subject to debate. Either what one is doing is legal or it is not. And if it is legal, then that should be the end of the matter, and no company or person should need to justify what it or he or she has done. If any Government does not like how the law is working out, it is free to change the law. As one judge in an English case famously said, the doors of Parliament are open every year to the Commissioner to seek to amend the law.

And when a Government or NGO or journalist raises the question of ethics and morality by a taxpayer, one starts travelling along a very rocky road. In every country of the world tax is governed by a statute passed by the legisla-

ture. Interpretation of that statute is a legal question based on the relevant facts and circumstances. Whether or not tax is payable or not payable is entirely a question of law based on the facts. The minute one starts introducing, what I might call, qualitative or soft issues such as ethics and morality, one opens the door to the taxpayer raising the same issues.

For example, in one case an NGO criticised an investor for structuring its affairs such that it avoided withholding tax in a particular country in Africa and the NGO commented that the tax avoided could be compared to the amount of aid given to that country, implying that but for the avoidance, there might not have been the need to grant the aid. The taxpayer might have responded that in that particular country the governance is not what it might be, the human rights record is not of the best, the level of corruption and wasteful expenditure leaves

much to be desired, and if those elements were not present, there would not be the need for aid either. And why should a foreigner contribute to the tax coffers only for it to be looted by corrupt politicians?

It is totally unacceptable for a taxpayer to base its calculation of its tax liability on such qualitative or soft issues such as the extent of corruption or the human rights record of the relevant country. The only possible and correct basis to determine the tax liability is based on the statute and the law as interpreted by the courts. And if that is to be expected of the taxpayer, and rightly so, then that must be expected of others as well.

Moreover, the idea that these island economies such as Bermuda, Jersey, Guernsey, Isle of Man, and so on, are tax havens in the traditional sense, where transactions are shrouded in secrecy, is an outdated concept. This was certainly true up until not so long

ago, but today that is no longer the case.

Most of these are now highly regulated and there is a great deal of transparency, especially as regards tax affairs. Commencing this year there will be the automatic exchange of information among most countries in the world who have signed up to the Common Reporting Standards where financial institutions will report investment details to their local tax authorities, who will then report those details to the tax authorities of the country of residence of the investor.

So if a South African resident has a bank account (or a trust with a bank account) in Jersey or Guernsey or Switzerland, that information will be exchanged and brought to the attention of SARS (or the tax authorities in the UK or France or Germany, or wherever). To suggest that hiding money in these jurisdictions is to rely on secrecy, is simply no longer a correct perception.

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# Check who's laughing

As happens on the rare occasion, I was sitting in a corner of the local pub and grill, quietly sampling the art of the brew master and causing nobody any trouble. Luke the Dude would have none of this peace and tranquillity. "I think democracy is broken," he announced.

Struggling to swallow his gulp of beer, Big Ben denounced sputtering, "That is preposterous!"

"Non-non, Monsieur, not so quickly to rev the mouth while the brain is idling," admonished Jean Jay. "Your Monsieur Churchill, he who never surrendered, that one, he agreed."

"Quite so," nodded The Prof, "Churchill was fully cognisant of the flaws of democracy. In fact, he said it was the worst form of government ... except for all the others."

"But we have the best Constitution in the world!" insisted Big Ben, determined to hold his ground against all comers.

"That may well be true," consoled Stevie the Legal Poet, as always seeking out the peaceful way forward. "But that is no guarantee of a perfect democracy. In fact, the Constitution itself may be broken. As we speak, the Economic Freedom Fighters and the Gupta hirelings in Black First Land First are insisting that it is. The government itself is investigating whether or not the Constitution should be changed."

"I am talking about more than the Constitution," countered Luke the Dude. "I am talking about democracy. A constitution is only part of that. Won't you do me a favour, Prof, and describe democracy for the enlightenment of the jolly fellows congregated here for solemn reflection on the world and everything?"

"Useless!" expectorated Jon the Joker. "Jolly fellows indeed! Sarcasm is the last resort of the humourless."

"I do not agree," grinned Big Ben, "he did not include you when he said 'jolly'."

We gave all three of them the benefit of the doubt and laughed.

The Governor saw the opportunity and asked the usual rhetorical question about another round while simultaneously instructing Angie the Angel to refill his esteemed guests' glasses.

This was just the gap The Prof needed to escape. "Well, I should be happy to concede to your request, Lucas, but I fear I might be tempted to go all the way back to ancient Greece where the Athenians used stones for ballot papers and the Spartans, a more robust lot, shouted out their preferences. Interesting as I personally find such details, there is a risk that I might keep you till your snoring upsets me. So, if you don't mind, I should like to nominate Robert here to provide us with a short working description."

"If you say so, Prof," nodded Bob the Book, "that is, if it is okay with Luke?"

"Go for it, dude," said Luke the Dude.

"It is a system of government," explained Bob the Book, "where the people who are governed decide who do the governing. They choose their own representatives who then meet in a parliament or a clubhouse to take decisions on behalf of the people or members. A general election is held at regular intervals so that the voters can get rid of a useless or corrupt government."

"This contrasts with dictatorship or tyranny, where the rulers remain in power and appoint their own successors. The people may still get to vote, as in Zimbabwe, but the elections are rigged instead of free and fair, and the people suffer the consequences. The

rule of law is central to democracies; every person is equal before the law with the same protection and human rights."

"Thank you, sir, well said," applauded Luke the Dude. "You see what I mean now?"

Irene the Queen raised her eyebrows: "No, I don't," she questioned, "what on earth is wrong with that?"

"Not being a mind reader and all," added Colin the Golfer.

"The very first thing is broken!" emphasized Luke the Dude. "In a democracy the people get to choose the people who govern them. Doesn't happen here, does it? We don't even get to know the people who govern us, mostly not even the cadre who gets deployed to represent our constituency."

"What are you talking about?" fidgeted Big Ben, "you get to vote every five years, don't you? And even your vote counts when we decide who govern us!"

"Okay," grinned Luke the Dude deviously. "Pray tell me, big man, who is our MP? Your personal representative in parliament? Surname will do."

Silence.

"Oops," said Colin the Golfer.

"Okay, let's be fair to Ben," advocated Stevie the Poet, "Does anyone else here know the name of our MP?"

We did not.

"See what I mean," confirmed Luke the Dude, "we don't know who they are because we did not vote for them. We voted for a political party, didn't we? So we don't get to decide who represents us, the political party does. They draw up their lists of the cadres they like and the top names get elected. Not because the people choose them. Not a hope. Because the cabal controlling the party chooses them, that's why. Relatives or kinsmen or buddies. Lovers sometimes."

"A small number of politicians decide who represent all of us, the people. How democratic is that?"

"Now that you mention it, not very," mused Stevie the Poet. We all looked at Big Ben. He kept quiet.

"Of course, it does not have to be like this," informed Stevie. "This is the system on which the negotiating partners agreed during the transition. It can be changed and, in fact, some way into our democracy our political leaders did realise it is flawed. They appointed a team of experts to investigate ways of improving our system and bring it closer to a truly representative democracy."

"It was chaired by Dr Van Zyl Slabbert, a highly respected academic, political leader and change agent for a democratic South Africa. They did their investigation and, to the best of my knowledge, wrote an excellent report with a detailed road map to take us to a true democracy. The ANC said thank you and buried it at the bottom of the bottom drawer, never to see the light of day again. They also steadfastly ignored Dr Slabbert after that."

"But why," enquired Irene the Queen incredulously. "Didn't the ANC ask for the investigation, isn't that what you said? Why would they pretend it didn't happen?"

"The answer is evident," elucidated Stevie. "The leadership cabal had by then realised the flawed system is exactly what they want. They have all the power to do as they like - our own politburo. No troublesome representatives in parliament, or anywhere else if they can help it, to put the interests of the people first. None of that. The important thing, in fact the only thing, is loyalty to the party."

"Zuma and Co made no bones about it: loyalty to the ANC comes before loyalty to South Africa."

"Congratulations, Stevie," clapped Luke the Dude, "you have once again proven my point. Our democracy is broken."

"But what about other countries," asked Irene the Queen, loath to believe such heresy. "America, for instance. They get to vote directly for their representatives and senators, don't they? They even get to vote directly for the president they want."

"America? Now there's an interesting example," grinned Luke the Dude, happy to retake control of his own argument. "Sure the voters get to cast a vote directly for the person they want to be president. But what happened in the last election? Hillary Clinton got about three million more people's votes than her opponent, yet Donald Trump became the democratically elected president."

"Trump had repeatedly charged that the election was rigged; what he did not say, was that it was rigged in his favour."

"Then this Russia thing. Nobody doubts any more that the Russians interfered in the American election to make Trump win. The Mueller probe is ongoing and who knows what else he is going to expose. What does Trump do? Behave like a patriotic American and wait for the report? No way. He behaves like a very guilty person with everything to hide."

"I don't know if Trump is in Putin's pocket. But let's imagine for a moment that he is. What would Putin want him to do? Firstly fire the director of the FBI

## OPINION

### ON THE CONTRARY



Pieter Schoombee

and slander him. Remember that a day after James Comey was fired, a Russian delegation visited Trump in the Oval Office. Russian news pictures showed them having a jolly good laugh together. No American journalists were allowed.

"Secondly, fire the deputy director of the FBI a day before he retires and slander him. Destroy public confidence in the FBI by constantly raising unsubstantiated suspicions and accusations. Do the same with the US Department of Justice. Slander Robert Mueller and his investigation. Factionalise the people. Push up the oil price by attacking Iran. Isolate the US from China and her long-standing allies in the West with hostile withdrawals and tariffs. The G7 nations are now the G6 Plus One."

"I don't agree," fumed Big Ben. "You said yourself you are just imagining things!"

"Of course I am," smiled Luke the Dude. "We all agree we're imagining here. But check who's laughing: it's Vladimir!"

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## The seas are rising and it's our fault for eating sandwiches

Humanity's adverse effect on the world's climate has finally been proved. Those who pooh-poohed the idea that sea levels were rising because of us have been proved wrong. They will now be forced to eat their words and grovel at the feet of the climate change priesthood.

Thanks to the University of South Florida, in Tampa USA, and its 24 years of gathering satellite data, we now know that sea levels have risen by an amazing extra 1mm every ten years over the last quarter century, and might continue to rise by an extra 1mm every ten years from now on.

It is enough to make even the most ardent white male carnivore into a vegetarian.

This according to the professor who made the ground breaking finding is a "game changer" - "as far as the climate change debate is concerned".

To which one can only say, "Well he would, wouldn't he?" especially when he goes on to breathlessly declare that Tampa Bay in Florida is, "...one of 10 most vulnerable areas in the world to sea level rise and the increasing rate of rise is of great concern."

One surmises that the good professor lives in one of the condominiums built right on the high water mark in the last 25

### THE OTHER SIDE OF THE COIN



Keith Bryer

years, so he would be concerned. But let's see. After all it would take a century for the sea level in Tampa Bay to rise another 10mm, so he should be able to get to his front door for at least that long.

A game changer for the climate change debate these findings are certainly not. They might convince the believers but as for the sceptics -- when they can stop themselves laughing -- it will be seen as yet more evidence of the corruption of climate science brought about by angry Marxists after the collapse of communism and the Soviet Union in 1989.

That date will go down in history as the point at which disillusioned Marxists looked around frantically for some other way of eliciting mass support for their anti-capitalist obsessions and found it in the Green movement.

They saw environmentalism as a perfect substitute for communism and an ideal way of attacking western civilisation and free market economies - while appearing to be saving the planet for future generations.

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