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Cape Town's water outlook

In a recent interview with the Deputy Mayor, Alderman Ian Neilson, responsible for the coordination of crisis mitigation measures, the editor was apprised of the current water situation and the status of both emergency and long term augmentation schemes to ensure water security.

Cape Town and surrounding town's water supply originates as rainwater runoff captured in 6 major dams. This system of dams also supplies agriculture and other urban areas. The current system is almost entirely dependent on rainfall.

This complex system is managed by the national Department of Water and Sanitation.

About a third of the water in this system is used by agriculture and 7% by other urban areas (smaller towns).

The consumption of the water used by the City of Cape Town (+/-63%) is shown in the following pie chart.

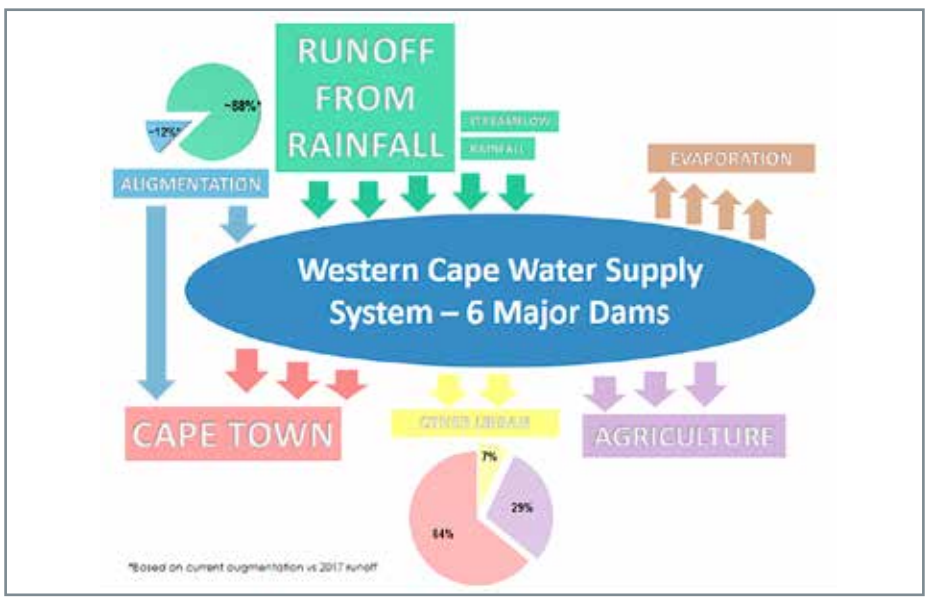
The National Department of Water and Sanitation is responsible for planning and implementing water resources schemes to meet water demand for cities, industries, mining and agriculture. The Department plans at a 1 in 50 year level of assurance. This means that during droughts with a severity of 1:50 years or more, restrictions need to be imposed to reduce demand. The current drought is much more severe than a 1 in 50 drought event - in fact it's a double whammy – estimated at being the worst in more than 400 years.

Predicting rainfall patterns isn't an exact science so extensive use is made of statistical analysis and computer modelling to provide the planners with insight. The next augmentation scheme for Cape Town was planned for 2022/3 and is being accelerated by the national Department. This scheme (augmentation of Voelvlei Dam) is unlikely to be ready before 2021.

While there are solid criticisms of the delay of augmentation measures – not just here but in other parts of the country too – especially since warnings were sounded by experts as long ago as 2005 – D Day has been reached.

The new plans

The City's response to the crisis is two pronged – manage the immediate situation and try to avert Day Zero, while embarking on a longer term initiative that will safeguard water security for the foreseeable future.



Both actions require 'new water' (sources) – a misnomer as water is neither created or destroyed, but an understandable term in our situation.

Augmentation measures include ground water extraction, wastewater reuse and desalination. Each plays its part in the provision of extra supply but none on their own is the panacea and must be combined effectively at various levels of practicability and viability.

In the short term, ground water extraction and small scale package desalination plants help to supplement supply but a major intervention in reducing demand is the pressure reduction measures implemented by the City and the imposition of usage limits on the general population, now at level 6B. The 'donation' of 10 000 Ml from the Grabouw farmers was much more significant as it pushed Day Zero predictions back by several weeks.

Further measures are or will be put in place to reduce demand, including:

- punitive drought tariffs
- demand management devices & flow restrictors
- more aggressive pressure management

While Cape Town has significantly reduced its demand (measured as production from the treatment works), from a peak of 1 200Ml/day in 2015 down to below 600Ml/day, a further reduction in demand is needed to below 450Ml/day immediately due to not meeting the 500Ml/day target.

So far, measures that produce incremental savings include:

- Tariff Increases: estimated at 50Ml/day by end of June 2018
- WMD (water management devices) installations: estimated at 10Ml/day by end of June 2018
- Pressure Management; Targeting High Consumers; Leak Repair: 32Ml/day (mid February to Oct 2018)
- Build Programme
- 80% success on build programme delivering an additional 120Mll/day by end Oct 2018

Augmentation

Augmentation schemes are a far more expensive source of water than runoff from rainfall. The volume of runoff cannot be easily augmented in short time periods (new or increased capacity dams) and is anyway dependent upon rainfall patterns. Under poor rainfall conditions like 2017 we would require augmentation of +/-720Ml/day to match the volume of runoff. Despite all augmentation efforts, the supply scheme is vulnerable to poor rainfall.

The cost per kl of water from other sources varies considerably. The cost of bulk water, waste water and reticulation

Continued on P2

Beach access a reality for the disabled

FORD Motor Company Fund is partnering with environmental organisation WESSA and the National Council of and for Persons with Disabilities (NCDP) in South Africa to make the dream of beach access a reality for the physically disabled.

As the philanthropic arm of Ford Motor Company, the Ford Fund has provided a grant of $10 000 (approximately R135 000) to assist WESSA's innovative Blue Flag Amphibious Wheelchair Project. The funds will be used to purchase four specially designed wheelchairs that are capable of traversing soft beach sand and can be used in the water.

A total of 45 South African beaches were awarded the prized Blue Flag status for the 2016/2017 season by WESSA, which is the national operator of the revered international Blue Flag eco-label for beaches, boats and marinas - a trusted symbol of quality that is awarded annually, and is recognised by the World Tourism Organisation.

In addition to meeting stringent criteria for water quality, environmental management and education, the Blue Flag status includes a requirement for universal access to these pristine beaches - both for able-bodied and physically disabled persons.

"Although some beaches across South Africa allow for persons with disabilities to access the beach, they are often met with the struggle of getting onto the beach itself," explains Robert Slater, of WESSA.

"WESSA is aiming to bridge this gap by providing four Blue Flag beaches across the country with amphibious wheelchairs that allow people who rely on mobility devices such as wheelchairs to get onto the beach and into the water."

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"What is happening in Cape Town could happen anywhere"

African Utility Week going ahead as planned despite water shortages

"WHAT is happening in Cape Town could happen anywhere" says Paul Yillia, Guest Research Scholar (Water Programme) at the International Institute for Applied Systems Analysis in Austria. "As population in cities grow and economic activities increase, the demand for water will continue to increase. If we now factor in climate change and extreme weather events such as prolonged heat waves and droughts, all of this will put additional pressure on water availability both on the supply and demand side. This not unique to Cape Town. Utilities worldwide should take the threats posed by climate change much more seriously and focus additional resources on adaptation measures to cope with water security challenges that will be exacerbated by climate change."

Paul is a returning featured speaker at African Utility Week in Cape Town from 15-17 May. The event will focus strongly on water including investment needed in water solutions by the public and private sectors to enable universal access, water security and resilient societies. The strategic water conference will also showcase how partnerships, financial models and latest technological advances can make the greatest impact in meeting Africa's water demand.

Water situation should be top priority

"We want utilities to start thinking out of the box on water solutions, capabilities and solutions," says Gerardt P. Viljoen, Managing Director of Sensus SA and GM for Sensus in Africa, an event sponsor and also a conference speaker.

He continues: "the water situation in South Africa is not only worrisome it should be considered as THE top priority for any form of economic sustainability. Increasing storing capabilities, reviewing traditional catchment areas and weather pattern changes, recycling of water and waste water treatment, network infrastructure maintenance and demand side management should all be top NATIONAL priorities going forward."

The Sensus SA MD adds: "it's important to not only have smart metering. Smart metering should be intelligent. How to make smart metering intelligent and use it to solve infrastructure, supply and demand issues is what we are all about this year." The full interviews with Gerardt Viljoen and Paul Yillia can be read on: http://www.african-utility-week.com/expertinterviews

Event going ahead as planned despite water shortages

Meanwhile, the organisers of African Utility Week have assured all stakeholders in this long running conference and exhibition that the event will go ahead as planned despite the current water restrictions in Cape Town. "As a major event in the City, African Utility Week plays a crucial role in contributing towards the in-ward bound travel market," says event director Evan Schiff, "by holding the event as planned, African Utility Week will continue to support the Cape Town economy as we cannot allow for there to be massive job losses on top of a water constrained situation."

Award-winning energy platform

The 18th annual, multi-award winning African Utility Week will gather over 7000 decision makers from more than 80 countries to discuss the challenges, solutions and successes in the power, energy and water sectors on the continent. Along with multiple side events and numerous networking functions the event also boasts a seven track conference with over 300 expert speakers. The African Utility Week expo offers an extensive technical workshop programme that are CPD accredited, free to attend, hands-on presentations that take place in defined spaces on the exhibition floor. They discuss practical, day-to-day technical topics, best practices and product solutions that businesses, large power users and utilities can implement in their daily operations.

Dates for African Utility Week:

Conference and expo:
15-17 May 2018

Awards gala dinner:
16 May 2018

Site visits:
18 May 2018
Location:
CTICC,
Cape Town.

Cape Town's water outlook

Continued from P1

is common so the costs can be compared to the cost of runoff which is R5.20/kl vs temporary desalination at >R40/kl.

The City's future proof planning takes into account not only viable augmentation but the 'big picture' supply scenario of future development. Desalination plays a significant part in these plans and studies indicate rather than construct a single, say, 300Ml/day mega plant, a more viable option is two 120 – 150Ml/day plants placed in strategic locations, where costs of +/-R15/kl are anticipated.

Such a location has been identified as adjacent to the Koeberg Power Station on the West Coast as it has the advantage of being able to share some of the power station's existing construction infrastructure, has ready power on hand, and can permanently serve the expanding residential and commercial developments of the area. A pilot plant is already under construction and permanent infrastructure should be operational within two years of commencement - possibly by 2021. Cost of construction and operations of such a plant are +R1-billion and R360-million pa respectively.

The other plant – location not specified as yet – will be on the False Bay coast.

Ground water extraction also plays a role via boreholes tapping hitherto unexploited reserves of the Table Mountain and other aquifers. While over pumping is and will continue during emergency conditions, managed aquifer recharge is part of the groundwater extraction process, where excess treated water including water from wastewater reuse plants, will be pumped back underground to balance supply so as not to severely deplete or pollute the aquifer.

Wastewater re-use is practiced in most developed countries around the world and the technology to purify the final effluent - which currently eventually ends up in the sea - to near potable or potable standards is now ubiquitous.

Six major treatment plants have been earmarked for re-use extraction across the City and will provide more than 50Ml/day to supplement main supply volumes. Direct and indirect reuse options are currently under cost review.

The overall augmentation plan aims to have an additional 500Ml/day available to maintain water security even in the most severe droughts.

Financial implications of the drought

The drought affects the City's finances in two primary ways:

1. Reduced sales means that city income is reduced because tariffs are volume based.
2. Additional expenditure is required to increase availability of water. New sources of water are more costly than the water obtained from the existing dams. This increases both capital and operating costs.

Primary goals in responding to challenges:

- Recover full costs including cost of water resilience programme and adequate depreciation. It is a legal requirement to balance the budget.
- Retain affordability for poor people and improve payment levels
- Increase resilience of tariff to shocks (greater revenue stability in face of drought conditions which the city is currently facing and is likely to face again in the future)
- Tariff reflects value of water and supports sustainability (including adequate cash-backed depreciation to replace assets)

Conclusion

It is the opinion of the Deputy Mayor that providing demand is kept to the 450Ml/day target and the construction of 'new water' infrastructure proceeds as planned, Day Zero will be averted. A certainty however is that we will see significant increases in water tariffs over and above the current punitive levels, despite the recent disaster management contribution of R6-billion to drought affected areas by national government. Continue saving!

Quantum of solace

AFTER some lean years Wellington-based agri-business Quantum Foods looks ready to dish out some sumptuous profits – shrugging off the recent outbreak of Avian Influenza (AI)

Last month Quantum's directors believed the outlook for the remainder of the financial year to the end of September 2018 should reflect an improved performance compared to the previous year.

Until this more upbeat pronouncement the company – which specialises in poultry production animal feeds and eggs – had largely been relegated to the fringes of the Western Cape agribusiness sector after being spun-out as a non-core cog by food brands giant Pioneer (which was determined to focus on its branded businesses).

As a mainly commodity player in the agricultural space, Quantum was initially not thought of as a venture that would endure for too long before being swallowed into a larger agri-business enterprise.

But Quantum has proved more resilient than most observers predicted.

Last month's trading update showed that the favourable feed raw material cost position of the second half of 2017 continued during the first four months of the 2018 financial year.

This development fortunately partially offset further Avian Influenza (AI) losses that occurred in Quantum's Western Cape layer farming operations.

Quantum's own feeds business performed satisfactorily with directors reporting stable Rand per ton margins and profitability compared to the previous year.

Directors disclosed that external feed sales volumes at Malmesbury-headquartered subsidiary Nova Feeds grew by almost 12% - compensating for the decline in the feed requirement from the poultry farming operations.

The decline in feed in the layer farming operations was caused by the lower hen numbers due to AI and in the broiler farming operations by the lower feed consumption achieved per bird reared.

In the last financial year Nova's external sales topped 343 200 tons, representing 54% of total feed volumes produced. The balance is consumed internally by Quantum's integrated layer and broiler poultry operations. The majority of external feed sales are to the dairy market.

Directors reported that Quantum's poultry and egg farming business performed in line with expectation in the four month trading period despite the additional loss of 242 000 birds.

Day-old broiler chicks of the Cobb500 breed are sold under the Bellevue Chicks brand. An average of

one million day-old broiler chicks per week were produced for sale (either as day-old broiler chicks or as live broilers to third-party abattoirs); or marketed to the live bird market under the Tydstroom brand.

The additional loss of birds followed a further outbreak of (AI) on a layer rearing farm in the Western Cape in the current year and fewer eggs being produced following the (AI) outbreaks in the Western Cape in September 2017.

In the company's annual report, chairman Andre Hanekom said two of Quantum's Western Cape commercial layer farms were affected by the AI outbreak in September last year.

This resulted in the loss of approximately 570 000 chickens, and a further outbreak was experienced at a rearing farm, which saw the culling of approximately 149 000 point-of-lay hens.

Hanekom said the majority of chickens were culled to prevent any further spread of the disease.

He said that to mitigate the impact on the production capacity of the egg business, a dormant farm in Gauteng was brought back into production in the first quarter of 2018. Additional capacity has also been created at previously dormant layer houses on a Western Cape farm.

Fortunately, Quantum's Nu-Laid egg business – ranked as the largest in South Africa - was buffeted by significant tailwinds in the four month trading period. Compared to the first four months of 2017, directors said the average selling prices per dozen eggs increased by 32.0% and egg production costs were lower due to the decline in feed costs. Egg sales volumes declined by only 5.6% due to Avian Influenza production losses. But directors expected the profit effect of the improved margins to be "substantial" for the first half of the financial year.

In the last financial year, Nulaid sold about 845 million to the retail sector and another 70 million eggs as liquid egg products.

City expands connectivity in CBD

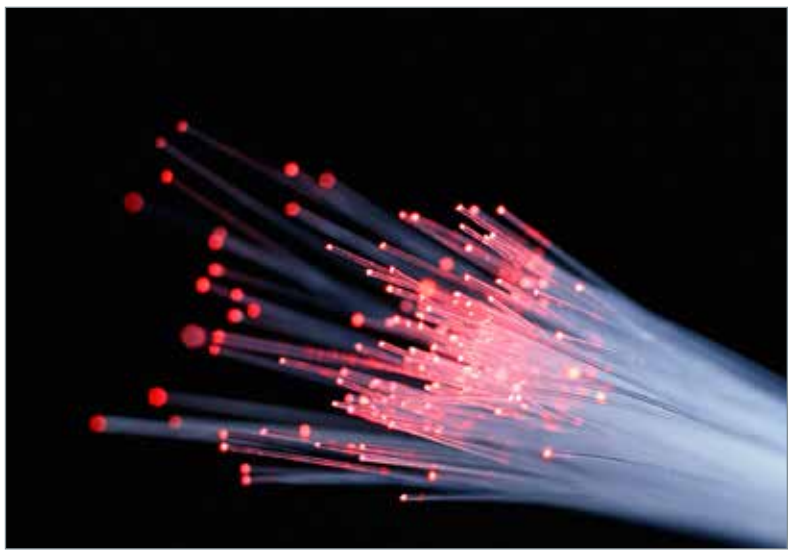
THE City's project to expand the fibre-optic footprint in the central business district (CBD) will fast-track communication in the digital world as it will create faster, more secure and more efficient broadband access. It will also allow the City to provide more effective services to businesses.

The CBD Connect Pilot Project is part of the City of Cape Town's Digital City Strategy, which seeks to put digital technology to work in order to support and improve service delivery, employment and the local economy. This project is also aligned with the Integrated Development Plan (IDP) as it will contribute towards making Cape Town a safer city, will promote better management of the urban environment within the CBD, and will improve economic opportunities within the CBD.

According to the City's Mayoral Committee Member for Corporate Services, Councillor Raelene Arendse, the Connect Pilot Project speaks to the key priorities of the City of Cape Town's Organisational Development and Transformation Plan as it will ensure that the City works smarter by leveraging technology for progress and efficient service delivery. It is also about innovation and strengthening Cape Town as a forward-looking competitive business city that can compete globally.

The CBD Connect Pilot Project entails piloting the expansion of a City-owned, open-access fibre-optic network within the Cape Town CBD. It will provide reliable broadband that will have the following benefits:

- Affordable open access high-speed fibre connections to every building in the CBD, expanding economic opportunities to business and internet service providers. Business will benefit from the decreased time of service provisioning and they will have the opportunity to migrate between internet service providers
- Limit the future need for further trenching in this difficult area
- Enable free public Wi-Fi for residents, tourists and visitors in the CBD



To limit the disruption during the implementation phase, micro-trenching was used where possible. This is a method where a machine cuts into the surface instead of works teams digging up the whole pavement area.

In addition, the pilot area will also be used as a confined urban living laboratory for the City to design and test smart device solutions such as traffic light systems, water and electricity meter management systems, CCTV camera and Wi-Fi/Radio technology systems.

One of the biggest advantages of fibre-optic broadband is super-fast data transfer speeds for meeting business internet needs.

'The digital environment is fast moving and dynamic and as a world-class city we should be able to keep developing and expanding broadband connectivity as it's an investment in improved communication and business growth,' said Councillor Arendse.

The City's Cape Town Metro Area Network already consists of 848 km of fibre-optic cables and 25 switching facilities. Fibre-optic cables and microwave links are used to connect 346 City buildings at speeds of up to 1Gbps.

The City's network infrastructure is operated on 'open access' principles and assists telecommunications service providers to extend the reach of their own networks to provide broadband services to their customers. The City offers related services such as co-location of equipment in switching centres and cross-connecting between the City's network infrastructure and the clients' network infrastructure.

The Pilot Project is in the four CBD blocks surrounded by Loop, Long, Church, Longmarket, Burg and Wale Streets. Construction work started in November last year and is scheduled to be completed by April 2018.

The Pilot Project will be used to monitor network operational results and various facets of the network to be able to establish best practice programmes. This information will be used to determine the City's technology roll-out strategy for future roll-outs in other CBD areas across the city.

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No new commercial poultry infections but Minister urges caution as avian flu detected in other seabird species

THE Department of Agriculture has confirmed that further incidences of highly pathogenic H5N8 avian flu have been detected amongst Western Cape sea bird populations. Amongst African penguins, seven cases from six different sites across the provincial coastline have tested positive.

Due to the status of African penguins as endangered, a decision to treat infected birds has been taken. Treatment protocols are similar to those for flu in humans- appropriate nutrition, hydration, vitamins, and the administration of anti-inflammatory drugs or antibiotics for any secondary infections if necessary. Of the seven cases, one has survived.

No new cases of the disease have been reported in the commercial poultry sector since October.

Minister of Economic Opportunities, Alan Winde said "the management authorities of all major seabird colonies around the coastline are monitoring their zones closely. All necessary precautionary protocols to contain the spread of the disease have been implemented and extended surveillance and collaboration across sectors is assisting with further epidemiological evaluations."

CapeNature CEO Razeena Omar said "CapeNature is working closely with the state vet and has put procedures in place to monitor the virus and restrict the spread by humans between infected and non-infected areas".

In respect of other wild seabirds, there is no benefit to be gained from trying to control the virus through culling or habitat destruction.

Affected birds show symptoms such as twitching and head tremors and may have difficulty breathing. Terns and other flying birds can lose their ability to sustain flight.

Avian influenza is a viral respiratory disease of birds that is primarily spread through direct contact between healthy and infected birds, or via indirect contact with contaminated equipment or other materials. The virus is present in the faeces of infected birds and in discharges from their nostrils, mouth and eyes.

The H5N8 strain has not been shown to infect humans.

Minister Winde has urged that sick sea birds be reported to the nearest seabird rehabilitation centre. As a precautionary measure it is advisable that you do not touch these birds if you have pet birds at home or if you are working in the poultry or ostrich industry.

Members of the public are also urged to report abnormal numbers of dead wild birds to a local state veterinarian or the responsible conservation authority. If possible, members of the public should take a photo, and record the location, species and number of dead birds observed.

Below is a list of contact numbers for seabird rehabilitation centres:

Western Cape:
Cape Town and surrounds: SANCCOB 021 557 6155
Overstrand and surrounds: African Penguin & Seabird Sanctuary 0725987117
Mossel Bay and surrounds: SAPREC 0823643382
Plettenberg Bay and surrounds: Tenikwa 0824861515

Eastern Cape:
Port Elizabeth and surrounds: SANCCOB 041 583 1830

Cape public transport system on the brink of collapse?

BRETT Herron, MMC for Transport and Urban Development in the City of Cape Town, says the City's public transport system is buckling under the pressure of increasing attacks on critical infrastructure and assets needed to run its bus and urban rail services.

According to Herron the latest statistics from the City's MyCiTi bus service, the Golden Arrow Bus Service (GABS), and the Passenger Rail Agency of South Africa (PRASA) confirm that the public transport system is facing an onslaught, and that very few, if any, arrests are made.

"It is not an exaggeration to warn that our public transport system could collapse if criminals are allowed to keep on sabotaging and undermining our services as is currently the case," he notes.

Bus stats

Herron says the cost of damage to MyCiTi stations alone due to vandalism and protest action from July 2014 to September 2017 amounted to nearly R4 million, which does not include the recent damage to the MyCiTi stations at Dunoon and Usasaza.

In addition two MyCiTi buses were burnt out in 2014 and 2017, and the cost to replace these buses was R4 205 000.

Turning to Golden Arrow statistics six buses were set alight between March 2016 and September 2017. According to Herron the cost to replace these buses was over R12 million, and a further R529 000 was spent on replacing shattered bus windows as a result of stoning incidents along the routes where the Golden Arrow buses operate.

Rail stats

The latest statistics from PRASA show an alarming increase in the number of attacks on the commuter rail service.

"Metrorail reported a total of 668 incidents relating to vandalism and other attacks on its rolling stock in the Western Cape in the 2016/17 financial year. This reflects an increase of 533 incidents, or 400%, from the 2014/15 financial year when 135 incidents were reported," Herron notes.

In addition, the number of incidents related to the vandalism and theft of other urban rail infrastructure in the Western Cape has increased from 197 in the 2014/15 financial year to 312 in the 2016/17 financial year.

Low arrest rates

While attacks on Cape Town's public transport system are on the rise the number of arrests being made in relation to the incidents is alarmingly low according to Herron.

"Worryingly, only 26 arrests were made in connection with the 312 incidents that were reported to the South African Police Service in 2016/'17. This means that arrests were effected in only 8% of the reported incidents.

"This pattern repeats itself across all of the public transport services – be it the MyCiTi service, GABS, or Metrorail – and confirms that those responsible for the sabotage of public transport services in Cape Town mostly get away with it."

"I am calling on the South African Police Service and the National Prosecuting Authority in the Western Cape to address this as a matter of urgency," Herron concludes.

Reprinted from www.Infrastructurenews.com

Ifm's level and temperature values via one cable – thanks to io-link

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

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Easy installation

Variable installation length for flexible installation.

A day in the life of the train commuter

"SUBURBAN trains are packed way beyond their capacity. The conditions are inhuman and much worse than I could possibly have imagined," said Ms Janine Myburgh, President of the Cape Chamber of Commerce and industry.

She was commenting after she and Mr Brett Herron, the member of the City Council's Mayoral Committee responsible for transport, boarded an early morning train at Kraaifontein station to gain first-hand experience of what train commuters suffer every day in Cape Town.

"You have to experience it first hand to fully understand it" said Ms Myburgh.

"Seeing is not enough, I could not see anything as I was squashed in the middle of a carriage surrounded by much taller people."

She said that at one stage she dropped a cool drink bottle but it never reached the floor. It remained wedged between the bodies.

> "You have to experience it first hand to fully understand it"

"On the whole trip into town I was able to see only one station name and that was Salt River because the crowd had thinned a little by then. It would be so easy to miss your station because you can't see the sign or you simply did not have enough brute force to get to the door."

Ms Myburgh said the coach doors were forced open all the way "which is extremely dangerous. I was told by the commuters that this was to prevent them from suffocating."

"I spoke to commuters who told me they had to get up at 4 am to get to work and they did not get home again till 7pm. One man told me he had to appear at a disciplinary hearing because he had been late so often. He wasn't bitter and he said he understood why his employers were taking action but there was nothing he could do. He said it is what it is.

Ms Myburgh said that the physical and mental strains on commuters were incomprehensible and she did not know they survived the daily trauma of the train ride. The elderly, disabled and children would be risking their lives if they attempted to use the trains.

"To make it even more frightening I was assured that it was a good day as the school holidays eased the pressure. I wonder what this is costing the economy in terms of lost productivity, pain and suffering. It must be millions of rands every week."

It was also clear that the problem was bigger than Metrorail. It is time we stopped pointing fingers and we need to work together to find an acceptable solution.

"The cable theft and vandalism have damaged and destroyed many train sets and that is one of the causes of overcrowding and I think that's where we have to start. Metrorail desperately needs help from the police, the community, national, provincial, local government and business. We have to find a workable solution in everybody's interest," Ms Myburgh said.

Cape start-up improve transport systems

CAPE-based start-up, GoMetro, is now part of an international programme to find solutions to the world's biggest transport problems.

GoMetro has been accepted into a UK business support programme, the Intelligent Mobility Accelerator. The programme is a partnership between Transport Systems Catapult and Wayra UK.

Their goals are to attract start-ups, with high-growth potential, into the UK transport supply chain, and support them to grow into big international firms. The focus is on companies using an evidence-backed approach to solve transport problems like congestion.

The Intelligent Mobility Accelerator is a six-month programme. Start-ups have access to office space, an investor network and mentors.

GoMetro travelled to the UK in May 2017, as part of a trade mission of the Western Cape Government and Wesgro.

Alan Winde, Minister of Economic Opportunities, said GoMetro's entry into the programme was a result of the trade mission.

"I want to congratulate GoMetro on this exciting achievement. Their entry into the Intelligent Mobility Accelerator is another example of Western Cape firms gaining international recognition for their innovations. Countries across the world, including our own, struggle with transport problems. This has resulted in the emergence of start-up companies like GoMetro, who are making a positive contribution to the commuter experience.

"Finding solutions to these transport challenges has become an international priority. The Intelligent Mobility Accelerator estimates that the global transport systems market is worth £900 billion. GoMetro is helping to position the Western Cape as leader in this space."

Tim Harris, Wesgro CEO, said: "GoMetro's story shows how it is possible for a Western Cape start-up to make an impact on a global level. A smart idea driven by a capable team, who persevere year after year, can break through into new markets."

WTA oil lab helps users avoid transformer failure

Oil samples being loaded for automated analysis process.

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."

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.

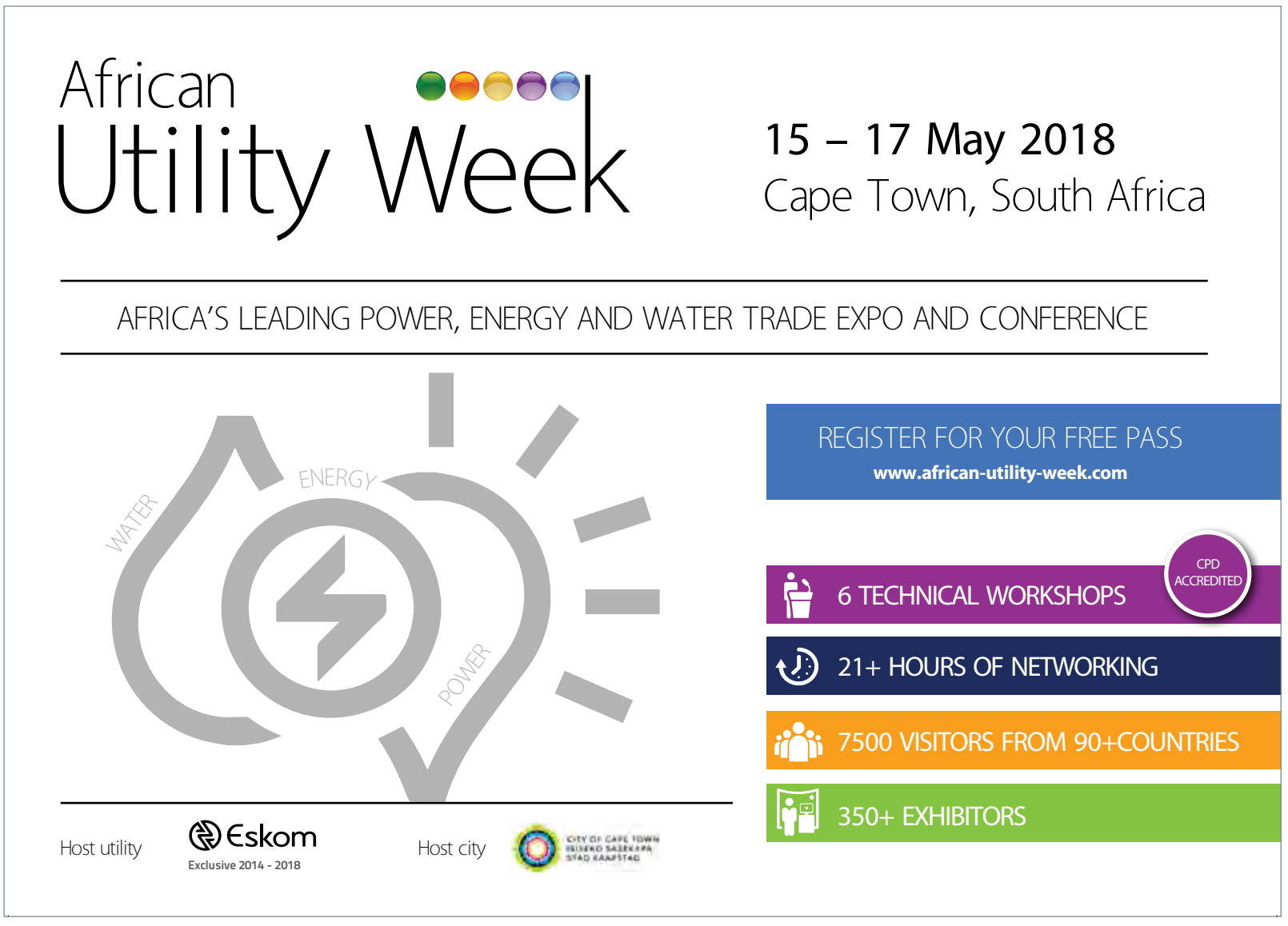
The laboratory is able to perform a range of important routine tests, starting from the 'kV' test which passes current through the oil to test its insulative properties. The water test would then measure the parts per million of water in the oil; as a conductor of electricity, high levels of water become 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.



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 benifits stakeholders and customers.

> "Both companies have made a substantial investment in increased warehousing facilities..."

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.

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.

WERC - smarter not harder

IN a recent article WERC (Warehousing Education and Research Council) said that labour costs are set to rise once again. For most of us that probably does not come as much of a surprise. The global economy has been in turmoil and shows little sign of impending stability anytime soon.

Labour is also only one element of the myriad challenges facing warehousing, retail and logistics supply chains and one has to hope and trust that there is a fair return on the cost outlay.

Well, you can hope and trust or you can turn to FMX to make sure. FMX not only collates accurate Run Hours, it measures the Productivity of the machine as well as the drivers, making sure that the Run Hours you are paying for align themselves with the labour costs that you carry. A driver can move a machine around all day but not be Productive. FMX can tell you whether a load has actually been carried. Simply put, for every Ignition-on Hour, there needs to be a corresponding Productive Hour.

For those operations where resourcing is already tight, it's important that every possible return is maximised. FMX takes away much of the pain through user friendly reports and alerts that are easy to read and action.

Water from private boreholes not for sale

THE Department of Water and Sanitation (DWS) says it has become aware of a trend where people sell water from private boreholes.

"Any such sale would need a requisite licence to be applied for. It is therefore imperative to bring to the attention of all South Africans that private boreholes are meant to operate for the benefit of the occupants of the piece of land/property on which the borehole has been drilled.

"The recent practice of secondary trade of water, particularly as observed currently in the Western Cape, is therefore illegal. Private boreholes are for private use, for reasonable domestic use, and therefore not to be commercialized," said the department.

Section 22 of the Water Services Act prohibits the transaction on water without authorisation.

"In the main, the National Water Act remains the principal piece of legislation guiding any use of water in the country," the department said. **– SAnews.gov.za**

Back to the drawing board? Hell no!

Dear Traditional Architect

I regret to inform you that we no longer draw lines on the computer screen. The process of designing includes build a digital model with parametric components loaded with specification data and information. Pretty cool, no?

Let me introduce you to the term BIM (Building Information Modelling.) It is, in fact, the most overused word in architectural journals, seminars and daily architect discourse.

I suggest you slowly start to learn to use either Revit or Archicad. If you are already using these, well done, I hope you are exploring its BIM capabilities, permitting the computer to do some of the work for you.

Now I'm sure you really love your old design software or drawing boards, pencils and paper, paper, paper. Unfortunately for you, digital world is moving faster than you can fathom and it is time to embrace this before it's too late for you and your business. I don't believe you wouldn't love to produce construction drawings quicker while you avoid conflicts between components? Wouldn't it also be cool to see your designs in 3D and not have to refer back to Sketchup or AutoCAD to make great client presentations and all your other glossy brochures?

Now architects and engineers may think they stand as a 'Sensei 'on a project. An architect's job is fundamental to design, manage and sometimes coordinate projects, but keep in mind, BIM is not all about you. It is not merely a 3D graphic representation, but a virtual model designed to evaluate the construction and performance of the built reality. Properly implemented, BIM delivers projects more efficiently, to a higher quality and more safely. It also provides an information asset that can optimise the management (and performance) of the completed facility and, upon wider adoption, has the potential to revolutionise the way public infrastructure is planned and public services delivered.

BIM isn't just a design software program, nor is it simply a 3D model converted from a 2D drawing. It includes (and this is important) a database or series of processes that include the model elements as well as vast amounts of information that constitute to a healthier project life cycle. BIM is all too often viewed in multiple file formats and becomes a disconnected process that quickly becomes complicated. This results in many architects becoming sceptical and writing BIM off as a sales ploy for software vendors or is seen as additional work that the client needs to be billed for.

I am sure that you are not opposed to BIM as a concept, but for many architects who are sole proprietors, the learning curve can be so much longer as you wear the many caps of entrepreneurship, while still drawing lines on the computer.

Many architects criticise BIM as it forces them to produce designs counterintuitively to how they have been trained, and how they think as architects. BIM design demands precision and information "too early in the design process," and drawing and sketching with pencils and fat markers on yellow traces is comfortable. BIM design amplifies the need for data, not just physical size and location, but other data that may not even be available until you have a schematic design concept. Data that is traditionally generated during the construction document phase is suggested (or even demanded) much earlier in the process. This requires a shift in the fee structure when convincing clients to invest more capital earlier to generate the model can prove challenging on projects. This is especially true for projects that may never make it past the Schematic Design phase.

Statement:

Let's be honest, looking at some of the buildings around our cities' skylines, Revit or Archicad deserves much credit.

Response:

The designs are exceptional, brimming with design creativity, yet the contractors that construct the building have little use for the model information provided. They generate their own quantity take-offs and information the way they prefer to do it in order to re-engineer the Bills of Quantities. Contractors still want 2D drawings to work off, and that's a fact.

I have to admit the above statement still rings true, but can we agree that globally construction is changing rapidly. My hope is that we train future architects, engineers and contractors to still think like professionals and not only see BIM as a software tool.

Do you really think BIM matters to owners?

In order to adopt a BIM strategy across all projects, we need to understand the owner's interest towards healthier buildings. We also need to consider the impact that the adoption of BIM will have on both private and public sector bodies, on construction related service providers, main contractors and their supply chain and facilities management.

If BIM is applied correctly by designers and contractors, many of our building can and will feature enhanced ventilation to improve air quality; layouts that encourage physical activity and take into account our lifestyle preferences. Then we will possibly see project team connectivity and the need for transparency on product information.

More than half of owners do not know the degree to which they can see financial and lifestyle benefits from their buildings, which include:

- Improved tenant/ employee satisfaction with the building
- Happier and healthier building occupants
- Improved construction quality
- Healthier buildings

Summary

BIM is prolific and is implemented across 54 counties across Europe, Australia, Singapore, Canada and the USA. The UK government mandated the use of BIM to Level 2 on all central government projects in 2016. Its use in the US is widespread. Singapore is seen as an innovator in this area requiring planning applications to be submitted in BIM format – an idea that has recently been applied by the city of New York and Dubai.

BIM is fast becoming an essential requirement for informed consumers of construction services across the globe.

Is it not time that South African architects, engineers, contractors and project management professionals start moving towards improved ways of working?

To learn more visit www.biminstitute.org.za

Erosion control – sustainable concrete solutions

RAMPANT urbanization is a major problem in many parts of the world. In South Africa an estimated 4/5 of the population live in urban areas. In combination with poor farming practices, this leads to rapid degradation of our rivers and streams. Apart from our precious soil disappearing down to the beach, so too are our undernourished ground water reserves and our biodiversity doing likewise.

The situation demands urgent and decisive steps on various fronts. Since there is little likelihood that population and economic growth will be curbed in the short term, other routes have to be followed to alleviate the pressure.

Awareness

According to a survey conducted for the Water Research Commission by consultants Economics Project Evaluation, most South Africans undervalue their water supply and a large percentage don't even know the origin of their Municipal water. Public/private partnerships in the form of maintenance contracts awarded to local communities should help in correcting this deficit.

Nature conservation

It is a well-documented fact that surface water runoff is aggravated by alien vegetation. A lack of understanding by large portions of citizens, coupled presently by substantially reduced state funding for nature conservation, do not contribute much toward solving these problems. Again, co-operation with local communities is the best route to follow for developing nations.

Rural areas

Theeffectsofovergrazing, deforestation and veld burning, which result in increased water runoff and soil erosion, are enormous. Ways and means to counter these involve strictly applied and enforced environmentally-compatible farming methods that have been well documented elsewhere.

"The essence of sustainable farming is the attempt to reconcile a short-term survival strategy with a long-term conservation one. The dramatic population growth in sub-Saharan Africa easily tempts us to revert back to survival strategies at the cost of natural resources. Meanwhile, in the developed north, protectionist government policies contribute to agricultural unsustainability" (Dr. Izak Groenewald, Centre for Sustainable Agriculture, University of the Free State).

Solutions

Most design professionals are discarding some of yesterday's solutions, such as impervious concrete-lined storm water canals. Instead, permeable catchment storage in the form of shallow channels, roadways or flood plains are recommend at the head of a system, whereas detention pond storage was found to be most economical at the outlet of the catchment. It has also been found that increasing the permeability in most urban situations is more beneficial than reducing roughness in storm-water canals. Research has shown that a well-designed hard-lawn with 25% openings can infiltrate 500l/s/ha.

River rehabilitation with Terrafix.

Erosion control blocks are ideally suited for flow velocities between 6m/s and 3m/s, provided that oscillation is effectively prevented. This is best achieved by providing sufficient lateral restraint between adjacent blocks (more than 75% face contact between blocks) and with mechanical anchors into the subsoil.

Generally no special considerations should be necessary for flow velocities below 3m/s expect standard requirements such as:

- drainage
- reinforcing for overtopping
- backfill details
- protecting from scour
- providing for lateral inflow
- alignment
- position of weirs
- vegetation
- maintenance

L13, L18, L22

Terrafix

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Water Loss Conference

THE IWA Water Loss Specialist Group, in association with City Of Cape Town, will host the biennial Water Loss Conference and Exhibition from 7 to 9 May 2018 at the Century City Conference Centre and Hotel in Cape Town, South Africa. The Conference will be one of the world's largest water loss events of its type in the world and is expected to attract 400 delegates from more than 40 countries. Of 200 abstracts submitted, 100 have been selected for oral presentation at the Conference.

Issues to be discussed will include:

- Cities that have experienced the "day zero" scenario and lessons learned
- Pressure management and reducing leakage and demand through advanced pressure control
- Reducing water losses in schools
- Identifying leaks through latest technology
- Identifying leakage and wastage in business and communities
- Water loss reduction interventions – case studies
- Use of technology in battle against water losses
- Community awareness. Education and public involvement in saving water

Many of the world's leading experts in the field of Non-Revenue Water Management will be present to discuss the latest developments, strategies, techniques and applications of international best practices as well as successful case studies. In addition they will present a 1-day pre-conference workshop on 6 May 2018 to provide an introduction to the issue of Non-Revenue Water Management and an overview of the latest IWA Methodology for reducing water losses from Municipal water supply systems. This one day, back to basics, workshop is an event not to be missed as it will provide a solid grounding on water loss management and will be hosted by 1 local and 3 international professional who between them have more than 100 years of practical hands-on experience.

The exhibition will host a number of world class companies supplying various items of equipment to assist municipalities and individuals to assess, control and reduce their water losses.

This is a highly relevant event for the City of Cape Town which is experiencing its worst water crisis in memory. Any company wishing to participate or attend the event should visit our website www.waterloss2018.com or contact the Conference Organisers on info@waterloss2018.com

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WATSON MARLOW
Fluid Technology Group

Turning on the profit taps

THERE MAY have been initial surprise at Stellenbosch-based investment giant PSG Group's decision to back GrahamTek, a small water technology company based in the Strand.

PSG is best known for its very successful investment in Capitec Bank, its bountiful forays into agriculture (Pioneer Foods, Capespan and Kaap Agri) as well as its more recent tilts at private education via Curro (schools) and Stadio (tertiary).

But PSG is renowned for spotting emerging trends and being able to capitalise on gaps in the market…and GrahamTek – which specialises in desalination and water purification -looks like it is ready to command a very lucrative niche.

While a first hunch might suggest GrahamTek has scored from winning tenders to solve the Western Cape's ongoing water shortage crisis. Instead, success had come from distant shores…

Last month GrahamTek was awarded a major contract to build a desalination plant in Saudi Arabia. The contract will be worth around R5 billion upon completion.

Interestingly, the desalination plant is the sixth contract that the Strand-based company has secured in the Kingdom of Saudi Arabia.

The contract involves designing, building and operating a desalination plant for The Saline Water Conversion Corporation (SWCC) – which operates several water treatment plants across Saudi Arabia.

GrahamTek CEO Julius Steyn said the contract consisted of several phases – but more importantly gave the company a foot in the door for the global water solutions market.

"SWCC controls about 40% of the desalination plants in the world and owns and operates 27 such plants in Saudi Arabia, producing in excess of 6 billion litres of desalinated water for the country each day."

Steyn pointed out that Saudi Arabia was investing ahead of the future demand caused by population growth, replacement of ageing infrastructure as well as an increase in urbanisation.

He added that the prolonged low oil prices compelled Saudi Arabia to consider the latest technologies to provide desalinated water at the most cost effective prices.

"We will now commence with phase one, with a view to complete the entire contract over the next 18 months."

Steyn said the contract would be executed in conjunction with a consortium of major international engineering firms that would construct the various phases within the time frame and design parameters.

So far it seems GrahamTek is enjoying more success outside South Africa. The company already has over 20 years of experience in desalination and waste water treatment.

Two years ago the company was restructured from a family-owned business into a corporate entity with a strong focus on the international market. Last year PSG subsidiary Energy Partners emerged as a controlling shareholder.

Last year GrahamTek was contracted to do consultation and optimisation work on the four largest desalination plants in the world, producing more than 4 billion litres of water per day.

Steyn said GrahamTek engineers identified opportunities to reduce the cost of water production by more than 20% and to improve the reliability of the plants in the process.

"Based on the successes achieved with this work done, SWCC asked GrahamTek to design a modular desalination plant optimised for their local conditions. This resulted in the contract we have received."

GrahamTek is also engaged with contracts in India and Ghana.

Steyn stressed that GrahamTek's technology is ideally suited for the South African environment. "We are a proudly South African company and well positioned to provide solutions for the Cape Town water crisis."

Rumours suggest that GrahamTek might pitch its services to the private sector with tenders for the construction of desalination plants in Cape Town still outstanding (at the time of writing).

There are currently three desalination plants in the pipeline - which collectively should add approximately 16 million litres of water per day into the Cape Town water system by May 2018.

The Strandfontein plant is on track to supply its first water in March 2018 – and will add 7Ml/day.

The plant at Monwabisi will also add 7Ml/day, and will reach full production by May 2018.

The plant at the V&A Waterfront will add 2Ml/day, and is on track to go online shortly.

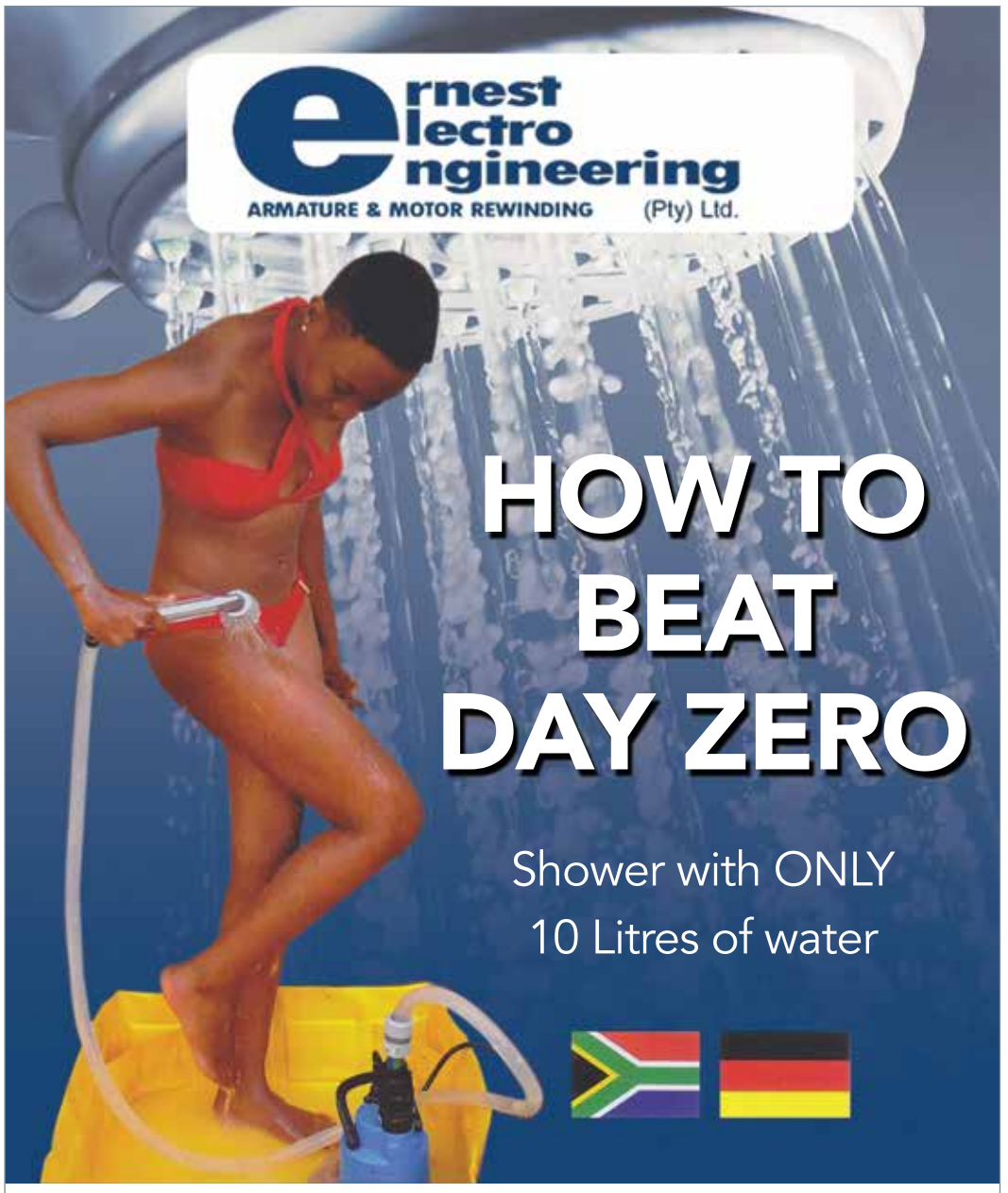
In the interim, other water saving solutions are springing up.

CBN was made aware of rewards-based crowdfunding platform Thundafund that was running a campaign for a revolutionary new product called DryBath.

DryBath identified personal hygiene as the single biggest consumer of water daily (about 50 to 150 litres per person per day).

DryBath is a waterless hygiene product manufactured locally in Cape Town – but is an unaffordable product for the majority of South Africa. This is why DryBath launched a crowdfunding campaign on Thundafund to raise enough money to significantly reduce this cost for the public.

A successful campaign (raising up to R10 million) will give the company the volumes necessary to sell DryBath at a more affordable price in retailers within the next financial year (with a R5 per wash price target compared with a R50 tag for export markets).



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Waste no longer, or go without

Arnaud Malan, Technical Director: Water, WSP, Transport and Infrastructure, Africa

WASTE no longer, or go without! The message towards all consumers of water – industry, business, residential and agriculture - needs to be clear and definite if we are going to adapt to the "new normal" and effect lasting positive change in consumption behaviours; to protect remaining and future water resources.

Maintaining infrastructure networks

The infrastructure challenge is two-fold; firstly, despite the fact that no less than 21 million people have benefitted from a basic supply of water since 1994, there are still many areas around major cities or towns in South Africa that are underdeveloped and have limited access to clean running water. A study of 905 towns, (excluding metros and large cities,) found that 28% have inadequate water resources. On the other hand, with urbanisation and industrialisation across the country, demand for water services has grown at a faster pace than the infrastructure. And, in those more developed areas, much of the existing water infrastructure is rapidly ageing and hasn't been maintained to standards that would ensure maximum efficiencies. In fact, up to 35% of the country's water is lost due to leakages in the infrastructure networks.

Current projections forecast that without serious intervention we could face a 17% gap between supply and demand by 2030. This will have a significant influence on the country's future economic and social sustainability.

Changing habits of wasteful water usage

For decades people living in South Africa have being using water as though they are living in a water-rich country, with little regard for conservation.

To put this into perspective, average daily water use in South Africa is around 237ℓ per capita, which is much higher than the world average of 173ℓ.

For a water-scare country, this usage is too high and not sustainable. Hence the need for a clear message to reduce water wastage.

In the agricultural sector, which uses more than 60% of the water in the country, the biggest difference can be made through using more efficient irrigations systems and technologies.

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NOT sure which sealant or adhesive is the most suitable for the job on hand or you need to clarify technical specifications? The Den Braven sales team - Cape Town – who service the areas from Cape Town up to East London and Saldanha Bay, can help.

The Den Braven sales teams are trained on the technical and performance aspects of every product. This incorporates hands-on demonstrations and discussing the successes achieved on projects such as the Green Building Council Star rated Standard Bank office in Gauteng, Cape Town International Convention Centre, The Silos District, and Baywest Mall in Port Elizabeth.

Training and accumulated knowledge provides confidence to end users of sealants and adhesives.

Telephonic or site support is provided and depending on the magnitude of the job, Den Braven may offer to train customer's staff on the application of the sealant.

Demonstrations and training can also be arranged at Den Braven's office in Montague Gardens, Cape Town.

Occasionally, requests for sealants of a specific colour are received. This was the case for the Nelson Mandela's Children's Hospital, in Johannesburg where a specific batch of window sealant was produced - to match the colour requirement of the window frames. The Silicone Colours range now offers a wide variety of standard colours suitable for façade, glazing and sanitary applications.

As Den Braven sealants are manufactured in the Netherlands, Germany, Romania and France, delivery of special request orders are dependent on quantities and time frame.

The Den Braven's website (www.denbraven.co.za) is interactive and informative, displaying the full range of sealant products, which include applicators and accessories, backing cord, adhesive bands and tapes, silicone sprays and solvents. Each product has its own specification and technical information sheets, and colour options available.

Bova enters a new era

SINCE its launch 21 years ago, Bova has earned a reputation for delivering quality in the safety footwear market, both locally and beyond RSA's borders.

The Bova brand, which has been built on a foundation of innovation, quality and passion, has now entered an exciting new era by extending its portfolio to include purpose-engineered safety wear.

Bova is a brand of BBF Safety Group (Pty) Ltd., a proudly South African company that employs over 1 600 people and remains committed to the local manufacturing sector, job creation and economic growth. Like its footwear range, its safety wear is manufactured locally in an ISO:9001 accredited factory.

Bova's range of safety wear includes a range of overalls, boiler suits, dust coats and high visibility work shirts that have applications in mining, construction, manufacturing, agricultural and State Owned Enterprises. Garments in the Bova safety wear range meet the same manufacturing standards as the footwear portfolio, with an emphasis placed on quality, comfort and value.

Bova Safety Wear range

Bova safety wear provides a perfect fit between comfort, safety and durability and the garments are available in a range of fabrics, specifications and weights incorporating quality YKK zips and VizLite™ reflective tape. The garments have been tailored specifically for the South African market with features that include a wider back yolk and extended thigh space as well as increased durability through triple stitched seams and bar taking at stress points.

Examples of the Bova range of safety workware.

The range includes:

- Conti suits: Standard, reflective and high viz
- Boiler suits: Reflective and Durafit
- Dust coats
- High viz work shirts

Drones in construction: Ready for take-off

IAN Tansey of ProDroneWorx discusses this growing technology and its potential to transform the sector.

The construction industry is moving towards to a world where digital information is an essential part of conducting business due to the many benefits it brings. Within this industry, its commercial adoption is being accelerated by the shift towards more and more companies using BIM (Building Information Modelling).

Here are some interesting facts about drone technology:

1. Early and effective implementation of the technology will give companies a significant edge in a very competitive market.

2. According to PwC, drone technologies will upend and reshape construction-related business models. Of all industries, construction has the best prospects for leveraging drone technology.

3. Balfour Beatty is also predicting that drones in the construction industry will play a key part in the digital transformation.

These forecasts and adoption of the technology were confirmed in a recent survey by my own company, ProDroneWorx.

A third of the respondents, which included construction firms, surveyors, architects and engineers, were already using drone technology and of those that did not, almost 70% of them planned to do so in the near future.

Of the third of respondents that were already using drone technology, the majority (60%) had been using it for less than a year. But an important sub-group of this set (11%) had been using the technology for three to five years – making them very early adaptors indeed.

Drones in the construction industry have a wide variety of uses, from 3D modelling (point clouds and textured models), topographical surveys and volume measurement to progress monitoring. Indeed, at nearly every stage of the construction process drones can be of huge benefit, from the planning stage to final construction.

Drone technology and BIM

Although drone technology has many applications within the construction industry, currently its primary use is in photography and video, surveying, asset inspection and progress monitoring. The technology also has many uses within BIM, for example:

- 3D modelling: 3D models (point cloud, textured model) over large areas or objects can be easily created using drone technology or can be combined with ground-based laser scanning and conventional total station surveying to produce the complete 3D model. 3D models can be imported into BIM or CAD packages so that comparisons can be made with the design plans or it can be used to create an intelligent 3D model.
- Progress monitoring: Drones are the best way for companies to monitor work progress on a project. They provide managers with data to better track a project's progress, manage resources, reduce downtime and keep projects on schedule and within budget. They also allow teams to verify the 'as-built' project status against design models using 2D and 3D data.
- Orthomosaics: High resolution aerial imagery can be captured on the whole project area and all of the images can be merged to form a seamless mosaic. This data can be used within BIM to understand the development area in great detail, while the 2D image is orthorectified so measurements can be taken from it.

3D models bring the real world or 'as-build' into the office and this means that the user can carry out some of the following tasks: appraisal of existing conditions, monitoring construction progress, carrying out structural assessments and recording 'as-built' conditions.

A key benefit of using drone technology, and the specialised photogrammetry software used to create the 2D/3D maps or models, is that the data can be imported into BIM or CAD packages in various file formats, such as dwg, dxf, xyz, las, laz, obj and kmz. This makes integration of the digital 2D/3D data into workflow processes straightforward.

Kubota L45 a natural choice for 2Hire

THE downside of unreliable plant hire equipment is two-way. For the end-user, unplanned downtime translates into project delays, while for the plant hire company, faulty gear is tantamount to channelling both potential profits and reputation down the drain.

Having been in the plant hire business since 2006, 2Hire, a plant hire company that specialises in the rental of compaction equipment, is well aware of the dangers of compromising quality when it comes to selection of equipment. Consequently, when the company recently scouted for a tractor loader backhoe (TLB), settling for a Kubota L45 became a "natural choice". To sustain a hire business, buying a quality product is non-negotiable. For 2Hire, the Kubota L45 seemed a natural choice."

2Hire dug its way into the plant hire business back in 2006 and currently has three hire branches in the Garden Route, situated in Knysna, as well as George and Mossel Bay. A service-orientated business with its eyes on mainly the building and civil construction markets, 2Hire specialises in the rental of small gear, including 3t sit-on rollers, pedestrian rollers, compressors, mini-excavators and typical hand-held compaction and demolition gear, among others.

Recently, the company decided to add a TLB to its existing fleet to clean and clear rubble in the Knysna area following the devastating fires that wreaked havoc in the area in June this year, destroying hundreds of properties.

While the Kubota L45 was originally sourced for cleaning and clearing, once all the demolition is done, the L45 will be deployed to dig foundations and assist with the rebuilding of the properties.

Key considerations

One of the key drivers in 2Hire opting for the Kubota L45 was its compact size that allows it to be operated in smaller areas, especially inside buildings, where conventional TLBs are unable to access.

Iando Minnie of Carlu Trekkers, explains that the L45's 3,2t operating weight makes it a lot lighter than most TLB offerings in the market. "It is not as heavy. It is narrow and a lot compact that it can fit easily into buildings, fitting the bill for building contractors, landscapers and property developers. This machine is also ideal for civil contractors and rental companies. The versatility also leans it perfectly to farm use," says Minnie.

The L45 is said to be a radical redesign and upgrade of the previous model. The real game changer on this machine is the new Kubota HST Plus hydrostatic transmission which replaces the conventional Glide Shift transmission (GST) on the predecessor model, the L39. The L45 is also powered by a four-cylinder Kubota diesel engine which generates 45hp, compared with the 3 cylinder, 39hp on the previous model. With 1,6t of breakout force, the L45 has a lifting capacity of 1t at a maximum lifting height of 2,8m. The hydraulic pump flow has been increased by 12%, resulting in smoother, more powerful performance, while maintaining the superb fuel consumption.

Several other features on the L45 are geared at increasing the machine's uptime. The simple to use quick coupler on the front loader offers easy on/off for buckets with no need for any tools, but only mounting pins and hose couplers. This allows the operator to move onto the next task in a matter of minutes, reducing downtime related to changing of attachments. The backhoe also features a four-point quick-mount attach/detach system, allowing the backhoe to be removed and installed easily.

Large scale erosion control project

INITIATED by the Department of Public Works as custodian of state land, this large retaining wall is located on the West Coast, Pepper Bay harbour area, to stabilize existing eroded embankments in the interest of public safety.

The embankments consist of multiple layers of sedimentation up to 21m in height and 2.5km in length, where softer material has eroded leaving harder layers of overhanging and unstable rock. The Terraforce retaining wall system was specified by the consulting Engineer, Ulwazi Consulting Engineers, as offering practical, stable, and weather resistant surface protection.

Before block installation could begin, all vegetation and loose material had to be removed to expose the underlying rock face of the embankments. Says Adriano Guerrini, of Guerrini Marine Construction: "These were swept clean and benched for slip prevention, so the extent of stabilizing could then be determined and the angle (generally between 60 and 70 degrees to the horizontal) of the final face slope set out. Using soil-crete (sand: cement mix) the rock face was covered by backfilling in well-compacted layers, with depth of the backfilling being monitored and minimised to follow the natural contours of the exposed face. At the same time the block facings were built up and the blocks filled with soil-crete, stepping back towards the rock face where appropriate, to minimise depth of backfill and reduce the visual impact of a sheer wall. Finally, the tops of the step-backs and the finished level are capped with a concrete slab.

Some of the challenges encountered and successfully managed during installation included the continual navigating and assessing of the steep, 15m high, heavily vegetated terrain with cranes and telescopic handlers. An estimated 180 000 blocks, supplied by Van Dyk Stene, Terraforce manufacturer on the West Coast - with 100m² backfill sand per 1 200 blocks (100m2) - are being installed using five TLB loaders, a 20 000 litre water truck and 80 labourers, of which 90% are local untrained labour, who underwent onsite training. Also, under the auspices of the Expanded Public Works Programme, 25 official learners were given basic construction skill training over a period of approximately three months.

On completion in March 2018, indigenous plants will be planted by a company specialising in establishing the sensitive vegetation of the West Coast.

L13, L18, L22

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Workers Compensation simplified

What is Workers' Compensation?

Worker's compensation, or what is commonly referred to as COIDA cover, is a compulsory assurance that is taken out, by a company, to cover their employees in the unlikely event that they are injured or contract an illness while performing their daily work duties.

What is covered by this insurance?

Worker's compensation cover is prescribed by the Compensation for Occupational Injuries and Diseases Act 130, /1993. Accidents that arise out of and during employment resulting in personal injury or illness; occupational diseases contracted in the workplace; and fatalities because of an accident that happens on duty are typically covered by this assurance

Where can I get this assurance from?

As an employer within the construction sector, you can get cover through the Federated Employer's Mutual Assurance Company (RF) (PTY) LTD. FEM is only one of two private companies, licensed by the Department of Labour, to provide COIDA cover outside of the Compensation Fund, and we are the only company that provides cover for the construction sector.

Who is FEM?

FEM was established as a mutual insurer in 1936, to provide more affordable assurance for the construction industry, after new legislation forced all industrial employers to insure their workers against accident or injury.

The introduction of the Workers' Compensation Act of 1941 saw FEM being granted a license to continue to transact workers' compensation insurance for the construction industry. FEM operates in line with COIDA.

Why should I join FEM?

We are specialists in providing COIDA cover to the construction sector with a track-record of more than 80 years. We reward good health and safety practices through merit rebates. A merit rebate is an incentive paid back to the policyholder for a good safety track record. Policyholders with a claims experience of 10% or less, of their total annual premium can get up to 50% of their premium paid back to them, subject to certain terms and conditions. We also issue Letters of Good Standing.

How does FEM use technology?

We provide easy access to online Assessments. We have embraced technology which allows you to complete your documentation online, which will speed up the Return of Earnings process. How are premiums calculated? Premiums are based on the total amount of wages you pay per annum. Depending on the nature of your business, a predetermined percentage, as set by the Compensation Commissioner, is applied to your annual wages which will determine your premium due. On payment of your premium, you will receive a 'Letter of Good Standing' which will allow you access to construction sites to perform your work. Letters are valid up to 15 months Subject to terms & conditions.

Where do my employees go for treatment?

FEM works closely with an array of service providers including a vast network of private hospitals to ensure your employee receives the best possible medical care for any injury. The cover provided not only includes the immediate treatment of an injury but also includes the transport to and from hospitals as well as follow up treatment and ongoing care to ensure the employee is fit and ready to resume their duties.

Who does the administration of claims?

Personalised claims services by our team of specialised administrators ensure that the administration burden is taken off your shoulders. We are the experts in our field and will guide you through the claims procedure leaving you the time to fulfil your core functions.

What is FEM's Corporate Social Responsibility?

As a company we are committed to making a positive contribution to South Africa. We have a structured CSI program that covers areas such as housing, health and social services and education. In addition to our CSI program, in 2016 FEM committed R750m to set up the FEM Education Foundation to contribute towards education and leadership development. We have to date partnered with the Make a Difference Leadership Foundation and the Columba Leadership Trust, providing much-needed funding towards education and developing leadership skills amongst young South Africans. For more info email marketing@fema.co.za W

Wacker Neuson partners with Coastal Hire Botswana

Sealing the exclusive dealer agreement L to R Coastal Hire Botswana business partners Brenda Gerber and Wessel Wessels with Wacker Neuson MD Dennis and Export Manager Justin.

IN December 2017, Wacker Neuson South Africa sealed an exclusive dealer agreement with Coastal Hire Botswana, as part of a strategic move to expand the premium brand's footprint across the region, increase market share and unlock new sectors.

In 2014, business partners, Wessel Wessels and Brenda Gerber from Coastal Hire Botswana, responded to a call from Wacker Neuson for a marketing plan to develop the Wacker Neuson brand and grow market share in the country. Following a year of close co-operation between the two companies, light compaction equipment showed significant growth.

When Wessel and Brenda started Wessels Plant Hire in Gaborone in 2000, it was also the start of their passion for the Wacker Neuson brand. Their relentless focus on serving customers' complete equipment hire needs through the supply of quality products and a strong service tenet saw the company establish five more branches in Phakalane, Francistown, Palapye, Letlhakane and Kasane.

Wessel and Brenda decided to franchise Wessel Plant Hire and in November 2015 the company merged with Coastal Hire, the largest hire franchise in Africa.

Coastal Hire Botswana's Gaborone hub is home to the sales team and houses a centralised workshop. Each branch is equipped with its own workshop to take care of basic service and maintenance but more specialised work such as major overhauls is handled in Gaborone.

Its Wacker Neuson fleet even includes a seventeen year old roller. "We still rent out this old-timer for compaction jobs," confirms Brenda. Wacker Neuson compaction equipment – rollers and rammers – remain their fastest movers. "Wacker Neuson is simply the best and is without any doubt the market leader in compaction equipment," state Wessel and Brenda. "It's a household brand in Botswana; customers don't ask for a rammer, they ask for a Wacker!" Coastal Hire Botswana has a dedicated store that exclusively stocks Wacker Neuson parts and spares for the entire fleet.

While construction is Coastal Hire Botswana's biggest market, the business partners are confident that the exclusive agreement will enable the company to make inroads into the country's mining and agricultural industries.

"The agreement secures the Wacker Neuson product for us and with us," continues Wessel. "It is difficult to service equipment purchased from another outlet which has a commodity-only mentality. Lack of service and breakdown can damage the brand. The agreement gives us full responsibility for the brand by putting us in complete control not only of the sale or hire of the product but also, most importantly of after-sales service" concluded Wessel and Brenda.

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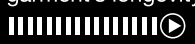

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Three Musketeers analogy – a fit for the PBA Group

Perhaps the title of the historical novel written in 1844 by French author Alexandre Dumas - The Three Musketeers - is a bit of a misnomer – there were actually four main characters Athos, Porthos, Aramis and d'Artagnan.

The similarity between the novel and the PBA Group doesn't just end with the relationship between main protagonists but the common values of association between the partners of loyalty, professionalism, enterprise, ingenuity, expertise and integrity shine through as it did in Dumas' writing.

The PBA Group comprises four levels of engineering expertise, each run by qualified professionals:

PBA Projects – Andre du Toit, Paul van der Vyver and Martin Burger
PBA Engineering – Nathan Claassen
PBA Electrical – Eugene Marais
PBA Equipment – Grant Fourie

- all supported by PBA Spares run by Michael Hodgson.

Group Executive Director Paul van der Vyver explains that while each company within the group operates autonomously with its own facilities, staff and client base, the Group's advantage is that they are able to tackle multidisciplinary projects by pulling together and seamlessly integrating disparate disciplines to provide a complete turn-key package to clients.

"Collectively the Group employs 177 skilled staff of which 53 are undergoing various levels of training and includes 20 female apprentices" said Paul.

The Group with the exception of Projects, occupies 3 000m² factory space in Parow Industria – Projects is located in nearby Bellville Business Park where it resides on two floors in the Tyger Terraces office block.

PBA Electrical (Pty) Ltd.

Run by Ops Director Eugene Marais and his skilled team of panel builders, electricians, technicians, engineers and sales staff, PBA Electrical (PBAE) has 12 permanent staff members supplemented by contractors and apprentices, bringing the actual staff compliment at any one time to between 35 – 66, depending upon project work load.

"We design, manufacture, commission, construct & maintain electrical systems for the Mineral and Mining, Food and Feed Processing, Chemical Processing and Building industries & specialised in marine installations" said Eugene.

As one of only two SABS approved manufacturers of motor control centres in the Western Cape, PBAE has a long list of successful electrical engineering projects, offering a turnkey service from conception, panel design and engineering to procurement, construction, commissioning, optimization and maintenance.

The leadership team at PBA Group Left to Right, Paul van der Vyver, Nathan Classen, Eugene Marais, Michael Hodgson and Grant Fourie.

"PBA Projects was established in 1996 and focused on draughting and drawing services. Since then we have evolved into EPM and formed PBA Electrical (Pty) Ltd. in 2009.

"Our competency matrix of well experienced and professional technicians and engineers offers state of the art solutions inspired by "out of the box thinking" and the utilization of the best available technology and maximizing the resources of every application and service".

PBA Electrical offers superior brands, products and services that satisfies virtually every requirement of an Electrical, Control and Instrumentation (EC&I) project.

PBA Equipment

In October 2009 the Directors and staff of Weighing and Packaging Systems and Mat Hand Engineers joined the PBA Group of companies.

PBA Equipment designs and manufactures a range of both materials handling and packaging equipment on a turnkey system basis - from product intake to final packaged product, all under one roof.

Coal processing plant for Vele Colliery.

The variety of work undertaken includes:

- Intake systems
- Transfer and storage systems
- Processing and handling systems
- Packaging and palletizing systems

"Our capability is in the design, manufacture and installation of specialised equipment and turnkey systems across all industries in Southern Africa, Africa and abroad" said Ops Director, Grant Fourie.

"We have more than 40 years' experience and over 1 000 standard equipment designs on CAD and can provide manually operated and automated turnkey packaging systems solutions ranging from simple screw conveyors to the more sophisticated automated bag filling and packaging systems" he explained. *"More than 2 500 different machines – conveyors, elevators, weighing systems and process equipment have been supplied across the mineral processing, marine and land based mining, food handling and packaging, feed manufacturing, chemical processing Industries.*

"Most of our output – 90% - is in bespoke designs for clients where we conceive, design, manufacture, install, commission and maintain systems. We employ two mechanical engineers who conceive and design the products and systems and eight artisans who are engaged in manufacture and assembly. Additional contract staff are employed as demand dictates" he explained.

PBA Engineering

PBA Engineering was established in 2008 and over the years has established a reputation with its clients for optimum solutions for their specific requirements.

The Parow factory is fully equipped for the production of high quality modular plants as well as superior quality structural steel fabrications and platework - particularly for the marine industry where PBA have established an enviable reputation.

PBA Group

Specialised equipment and complete processing plant for a wide variety of markets is catered for including:

- Manufacturing
- Mining
- Minerals Processing
- Quarries
- Marine
- Heavy platework

Facilities and specialised equipment allow:

- Profile cutting
- Bending
- Cropping
- Rolling
- Turning
- Milling
- Line boring
- Welding
- Liner plates
- HDPE piping and fibreglass fabrication.

Twenty ton capacity factory cranage allows one piece fabrications up to that weight to be constructed in any ferrous or non-ferrous materials, and a yard mounted 8t tower crane with full remote control allows the assembly of modular fabrications complete with services prior to despatch to client's eventual destination.

"Assembling complete modules in our yard ensures that all components will 'fit' as designed" said Paul, *"and on the rare occasions where design modifications are required, these can be carried out easily without compromising quality standards with our full range of factory equipment, rather than on a remote site or foreign shipyard."*

The 'hands on' mantra of the company and development of strong client relationships has resulted in a client base where the majority have been with the company since its inception.

Most of its permanent employees have been involved in the steel fabrication industry for in excess of 20 years, working as a team for most of that time, which is supplemented by skilled artisans.

PBA Spares

Supporting the various manufacturing elements of the Group business is Michael Hodgson, whose responsibilities included procurement and the supply of spare parts to ensure continuous production.

20m Long by 9m wide hull section manufactured for Damen Shipyards Cape Town.

Established as a separate division in 2013, Spares represents various agencies of specialised equipment particularly for the weighing and packaging aspects of the Equipment business and Group wide handles up to 40 000 items which are either bought out or manufactured in house.

PBA Projects

PBA Projects (PBAP) is an Engineering, Procurement and Construction Management (EPCM) company that provides engineering solutions for the minerals processing industry.

Its core business is the supply of all engineering services pertaining to the production of both land based and marine minerals processing plants and equipment. A full turnkey solution is offered to clients led by an experienced project management team.

PBAP was established in 1996 and originally focussed on providing design and detailing services.

In 2001 the company increased its scope to provide multi-disciplinary engineering services, from concept to completion, comprising Pre-Feasibility Studies, Engineering Design (process, mechanical, structural, electrical and instrumentation), Estimating, Planning, Detail Design, Procurement, Cost Control, Project Management, Testing and Commissioning.

Modular process plants by PBAP are designed and detailed engineered and manufactured in totality by the Group with a focus on quality and high manufacturing standards which involves the use of the latest design and engineering software packages including:

- AutoCAD and AutoCAD LT – draughting and 3D modelling
- Strand 7 – finite element analysis (FEA)
- Prokon - structural analysis and detailing
- Bentley Prosteel, AutoPLANT Plant design and Isometrics – piping and structural modelling and detailing
- Limn – process related design
- Autodesk Navisworks Manager – 3D checking and presentation
- MS Projects

PBAP utilises a systems engineering approach in executing its projects to ensure results that match and mostly exceed client's objectives. To achieve this, on occasions, PBAP partners with a specialist companies and individuals.

"So while we don't tackle our projects with Dumas' swords and muskets or save damsels in distress, we do wield the latest high tech equipment and processes for a highly successful, world class engineering business" concluded Paul.

PBA elctrical is SABS approved with a "permit to apply certification mark" for sans 1973-1 and sans 1973-3 for motor control centers (mcc's) for marine and landbase facilities. apart from the manufacturing and supply we installation and commission.

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Designing functional, attractive footbridges within limited budgets

FOOTBRIDGES are built to improve road safety for pedestrians and motorists. First and foremost they must be functional and low maintenance structures. There is, however, the question for designers of whether they can be more than that. "Footbridges of unique character can fit into any environment and add a pleasing quality to such", states John Anderson, SMEC's Functional General Manager for Structures, based in Cape Town. "They can be hardy and robust and still become visible markers that good design can improve the public space".

SMEC was involved in the design development of three concrete footbridges across varying landscapes within South Africa. Their designs relate to their surroundings and also to the fact that they must survive the harsh realities of theft, vandalism and life with limited preventive and routine maintenance.

A common thread through each bridge design is the use of bespoke in situ concrete forms rather than standard precast concrete sections. In each case the bridges were staged and formed with shutters.

The Pacaltsdorp Pedestrian Bridge situated in George in the Western Cape, serves its purpose by connecting people from a low cost housing development to work opportunities in the nearby town. The bridge is a 65m long continuous four span, self-anchored arch supported stress ribbon bridge with a maximum span of 21,2m. It has semi-integral abutments and a slender 220mm thick concrete stress ribbon deck that spans up to 12,6m between the crests of the arch sections.

"The project was not about urban regeneration or creating recreational routes it was about getting people walking to work off the highway", explains Anderson. "It was evident that the design process must find the pedestrian's preferred route and then serve that route to draw people onto it.

"We looked at solutions that might minimise the height pedestrians must climb and descend. We also considered issues of safety and security for the pedestrian and the motorist. It can therefore be argued that every footbridge is unique because the people that use it are unique; purely in where they have come from and where they are going to. If designers ignore this basic starting point there is a high chance that the intended end-users will respond by ignoring their footbridge", he notes.

The bridge superstructure was simply built in situ in layers. This process was labour intensive and provided work for a significant number of skilled carpenters and artisans. In the South African context, structures that minimise materials and maximise labour input help uplift poorer communities.

The questions raised in the design of the Pacaltsdorp Bridge are recurrent in the South African context where many people live in informal settlements and have to walk to job opportunities, schools and amenities.

Another such instance was the **Ergo Road Pedestrian Bridge** on the N17 highway in southern Johannesburg. For the residents of an adjacent informal community, with work opportunities and schooling on the other side of the freeway, the bridge was an urgent necessity. The challenges at Ergo Road were the flat terrain and convincing the community to use the bridge and to avoid the temptation to quickly run across the highway. The concept for the bridge therefore had to first and foremost serve the pedestrians' needs and to follow their desired route.

Once again the use of a continuous cast in-situ structure allowed a bespoke structure that could be tailored to the specific needs of the site.

Much Asphalt welcomes increase in road projects

MUCH Asphalt is seeing a slight upward trend in road infrastructure projects in the Cape region in 2018, resulting in improved orders received by its plants in Port Elizabeth, George, Eerste River and Contermanskloof.

"Our workload has increased slightly overall compared to this time last year," says Much regional manager Dave Bullock, adding that orders are coming from national, regional and local government departments.

"There are more large projects on the way for SANRAL, particularly on the N2 freeway, but these will only affect volumes in Much Asphalt's next financial year from July 2018."

Bullock says a reduction in road infrastructure development and maintenance projects in the past few years has impacted the asphalt sector, exacerbated by high credit risks and poor payment as the construction sector battles the slow economy.

However Much remains the biggest producer of asphalt in the Western Cape and he believes the firm's 51 years of product knowledge and technical expertise puts it ahead of the competition. "The fact that we have two plants in greater Cape Town, Eerste River and Contermanskloof, also gives our customers the reassurance of consistent supply."

Paving of NCRT warm-mix asphalt on Clarence Drive between Gordons Bay and Rooi-Els.

Bitumen

Much Asphalt is sourcing most of the 50/70 penetration grade bitumen commonly required in asphalt mixes from a subsidiary, SprayPave, which in 2016 acquired unique technology to provide Much and other asphalt producers with the bitumen quality required for the sustainable supply of high specification asphalt.

This capability is provided by a multi-stage bitumen converter from Technix Industries in New Zealand that changes conventionally available refinery penetration grade bitumen to grades that suit the asphalt specifications required by the road building sector.

This technology is particularly important in the Western Cape, which does not have any immediate access to the bitumen grades required to produce high quality asphalt. Now these grades can be produced simply by inputting the 70/100 penetration bitumen supplied by Chevron and converting it to SABS approved 50/70 or whatever is required.

In addition to offering clients this solution to several years of bitumen shortages, Bullock says Much is placing specific focus on communicating with the Cape regional clientele to discuss requirements with a view to improving service delivery and product quality.

Current projects

The Port Elizabeth plant was awarded the asphalt supply contract by Concor Infrastructure for the rehabilitation of the R75 between Port Elizabeth and Despatch for SANRAL.

The George plant has recently won a contract to supply asphalt requirements for all depots of the George Municipality over a three-year period. In February 2018 this plant also started producing asphalt for a Roadmac Surfacing project on the N2 between Mossel Bay and Groot Brak for SANRAL.

In Cape Town, Much Eerste River will start work in April supplying Roadmac's SANRAL maintenance contract between the Baden Powell and Broadway Boulevard Interchanges on the N2 freeway.

In a project on Clarence Drive between Rooi-Els and Gordon's Bay for the Western Cape Government, Much is supplying New Crumb Rubber Technology premix to Roadmac.

Further afield on the N2 asphalt is being hauled 180km from Much Eerste River for a reseal project between Swellendam and Riviersonderend. Roadmac is the contractor.

The same branch has just successfully completed delivery to Martin and East for the Strandfontein (M23) project between Govan Mbeki and Spine Rd over 24 months.

The Contermanskloof plant continues to service the West Coast region and is currently supplying three Haw and Ingles contracts on the N7 freeway for SANRAL. These include sections between Voortrekker Road and Hopefield, Leliefontein and Abbotsdale, and Atlantis South and Kalbaskraal.

The high profile N1 rehabilitation contract under way by Martin and East in Cape Town's northern suburbs is also being supplied by Much Asphalt from Contermanskloof. This four-year project requires product to be delivered to a very busy section of the N1.

Giving people the chance to succeed in life

Bongani Nkonyane.

FOR many companies, transformation remains a tick-box exercise; in most cases it's simply about adhering to BEE Codes and ensuring leadership equity. But for Afrimat, an open-pit mining company supplying industrial minerals and construction materials, it's about far more than just that.

CEO Andries van Heerden says: "Like with so many things in life, hard work is rewarded, but in the unique South African case, one sometimes requires an environment where a company is willing to go the extra mile to back an individual it believes has what it takes. The result is success for the individual as well as the company."

Someone who has felt the power of this life-changing approach first-hand is Bongani Nkonyane, the Human Resources Assistant at SA Block.

The son of a KZN taxi driver who matriculated with the grades required to be accepted by the-then University of Natal, Nkonyane relied on the National Student Financial Aid Scheme (NSFAS) to fund his tertiary education. But his dreams of getting a degree in the social sciences ended abruptly when Natal merged with University of Durban-Westville in 2004, resulting in many changes, including fee increases. When NSFAS announced they could only fund 75% of bursaries, leaving students to come up with the remaining 25% themselves, Nkonyane abandoned his dreams of a full-time university education. He simply could not afford it.

Forced to move to Gauteng in search of work, Nkonyane was hired as a brick loader operator at SA Block. As determined as he was to carry on his studies via distance learning, this was not to be. Living in the nearby compound in often overcrowded and noisy conditions, Nkonyane struggled to find the time and quiet space he needed to study, and so, once again, shelved his plans. However, not one to give up hope, he soon proved himself on the job, and was transferred to SA Block's Alrode head office as a mounted crane operator. The experience served him well, and in 2009, when the company was looking for a sales clerk, back at the Redan site where he'd first been employed, Nkonyane seized the opportunity.

It was in this role that Nkonyane pushed himself harder than ever, working long hours, being left in the main alone to figure things out due to personal circumstances of other colleagues at the time. "I can honestly say this is when I began to understand that nothing is impossible if you believe in yourself."

It was when Afrimat acquired SA Block, says Nkonyane, that people development gained real impetus. "Afrimat recognised the skills and experience we had, and the fundamental principle entrenched throughout the company now is that while skills and experience can lead you to a certain level, qualifications will push you beyond your limits."

In mid-2013 Nkonyane moved back to Alrode in the Stores and Procurement department. It was here that his HR manager discovered that he had completed several social science courses at university. "Management responded immediately, inviting me to join the HR team and prove my capabilities. Not only that, but I was given the opportunity to revive my dream of going back to school."

Nkonyane is currently enrolled at UNISA through the Afrimat Study Assistance programme where he is completing a Managing and Training Development course. He has also completed college courses in basic computer skills and computer literacy. "These last 11 years has been the most amazing journey, and hence my favourite quote, by Arnold Schwarzenegger, is this: 'You can't climb the ladder of success with your hands in your pockets'."

Rehabilitation of Camps Bay Drive

CAMPS Bay Drive is a major scenic route within the City of Cape Town and provides access to Camps Bay and Hout Bay. Based on the project brief and geometric analysis, Camps Bay Drive required widening to safely accommodate the high volumes of tourists and MyCiti bus traffic. In order to minimize the impact on traffic, the design brief targeted construction outside the summer peak tourist season and also required investigation into shortened construction periods. The key role was played by Wirtgen cold recycling technologies.

Originally, the project consisted of localized road widening to accommodate the proposed MyCiti buses however due to the large volume and sizes of the proposed buses, a geometric analysis resulted in the entire portion of the road being widened by 1,4m. The proposed pavement design involved a light rehabilitation with the widening area requiring full depth construction however during construction, numerous weak horizons were discovered along the road. The pavement design implemented for construction involved the following:

- 50 mm AE-2 Asphalt Surfacing
- 200 mm Foamed BSM 1 Base
- 150 mm G5 Subbase, natural gravel
- 150 mm G7 Selected Subbase, pioneer rock layer
- In-situ
- In order to ensure more uniformity and better quality of the mix, a static mobile mixing plant was specified for production of the BSM.

Proper Recipe is decisive

Power Construction was appointed to carry out the construction of the works with Milling Techniks carrying out the production of the BSM using their Wirtgen KMA 200.

During construction, the stockpiled RA was sent for technical testing at BSM Laboratories in Durban. The design was carried out on three design options using the two dedicated stockpiles of materials from two sources which were created for the project by the City. The design options included:

- 100% Reclaimed Asphalt
- 100% Reclaimed Asphalt with 10 % crusher dust
- 100% Reclaimed Asphalt with 25 % G4 gravel material

Based on the results obtained, the most cost effective option to yield a BSM 1 was the 100% Reclaimed Asphalt mix design using 2.1 % foamed bitumen with 1 % cement.

The batching plant was set up at the Ndabeni Roads and Stormwater depot in Maitland. The depot provided sufficient space to establish the KMA 220 as well as allowing for the stockpiling of the unprocessed RA, screened RA and processed BSM. The specification called for crushing of the RA to remove the oversized fractions. An alternate proposal in the form of screening the material to minus 19mm in place of crushing the material by the contractor was accepted provided the fines fraction (0.075mm) met the specification of 4%. This was monitored for the duration of the project with a fines fraction of between 3 % and 4 % recorded. The screened

RA was processed using the KMA to form a BSM 1 which was stockpiled for up to 7 days at the depot

BSM quality check before paving is mandatory

The BSM was paved using a heavy duty tracked paver from Power Construction in two 100mm thick layers in the same process.

Before starting with paving and compaction, a testing of the BSM was undertaken by Soillab who established a testing rig in accordance with the TG2, 2009 specification. Acceptance control was carried out on the Indirect Tensile Strength (ITS) and MDD taken from the batching plant and site samples.

The three sections identified were constructed using similar techniques, however in Section 1 and 3, the BSM was opened to traffic immediately after construction and in some cases 24 hours after construction.

Overall, the project was a major success. During the project, approximately 8 150t of RA (4 200m³) was processed using 165t of bitumen and 78t of cement. Using the RA within the pavement structure provides a much more cost effective and sustainable solution for the future with depleting aggregate resources.

Local beverage sector starts to stir

THE beverages sector in the Western Cape – ironically at a time of dire water shortages in many parts of the province – is literally fizzing with new developments.

Cape Town headquartered BOS Brands – the rooibos iced tea specialist started in 2010 by entrepreneurs Grant Rushmere and Richard Bowsher – looks set to move into the big league after signing a sales and distribution agreement with Drakenstein-based food brands conglomerate Rhodes Food Group (RFG).

The agreement with Rhodes follows BOS's initial successes which attracted investors in form of InVenfin, the venture capital arm of Stellenbosch-based investment giant Remgro as well as football legend Alex Ferguson.

BOS's organic rooibos is grown at co-founder Richard Bowsher's farm, Klipopmekaar, in the Cederberg Mountains.

BOS's sales and distribution agreement with RFG follows last year's partnership between the two companies (which saw RFG taking over packaging of part of the BOS's portfolio).

BOS South Africa MD Will Battersby said the sales and distribution agreement with RFG would further enhance synergies across the two companies, creating a significant growth opportunity for both.

The agreement sees RFG managing all sales and distribution of the BOS range of products in Sub Saharan Africa from March this year.

Battersby said the agreement was the beginning of a new chapter in BOS's aim of becoming the leading player in the overall Southern African ice tea market. "Together with RFG, BOS will now be able to tap into over 10 000 outlets – double of what our current reach allows."

Battersby pointed out that around 70% of BOS sales was executed through the retail sector with 30% sold through the on-consumption segment (including restaurants, coffee-shops and schools).

He said the South African ice tea market was currently valued at approximately R900m and that BOS had already captured 12% of the retail segment.

"However, we believe that along with the partnership with RFG a long term target of 25% share is achievable."

The reach of RFG - one of South Africa's largest food producers and a significant player in fruit juices – will be a huge advantage for BOS.

RFG CEO Bruce Henderson says that since its inception BOS has been a brand admired by RFG. "We are truly delighted to announce the manufacturing, sales and distribution agreement."

He said the partnership with BOS strengthened RFG's position in the Southern African beverages segment. "We now have our own powerful Rhodes juice brand alongside the premium market leader in ice tea."

Significantly, the local sales and distribution agreement coincides with BOS expanding its drive in the international market place.

BOS first introduced its range of premium ice teas in Western Europe in 2014 - securing listings in major retailers like Albert Heijn, Jumbo and Carrefour and opening offices in Amsterdam and Paris.

Towards the end of last year, the company opened its doors in San Diego, California. This year will see BOS launching into the West Coast of the United States – the biggest global ice tea market with annual consumption over 22 litres per capita.

In another key development deal-making doyen Brian Joffe's new investment venture Long4Life announced it had acquired 100% of Stellenbosch-based beverages company Chill.

Chill is a leading producer, packer and distributor of a range of beverages with storage and distribution facilities located in major cities across South Africa.

Chill's key brands include Score Energy, Fitch & Leedes, Bashews and Country Club. Its Stellenbosch operating facility produces beverages in cans, glass and PET (polyethylene terephthalate) – and also includes house brands for large retailers.

Joffe said Chill was an exciting opportunity for Long4Life to enhance our presence in the growing South African beverage space. He said Chill had a diverse product offering that catered to various market segments. "I am excited about the management teams' ability to drive product and brand development, as well as positioning, and further advance the strategy of maintaining a good balance of branded products and co-packing arrangements".

Chill's founding investor and MD Grant Hobbs said that over the last year the company had invested some R100 million of capital expenditure to expand production facilities and improve efficiencies. "This has boosted our class leading capability. With the strategic and balance sheet strength that Long4Life provides, we can further enhance our integrated business model and take advantage of the tremendous growth prospects in the industry."

Hobbs said Chill would also be in a better position to leverage its growing export activities.

According to detail accompanying the deal, Chill recorded net profit after tax of R46 million for the financial year ended 30 June 2017.

Long4Life's purchase price will be determined by future profit performance – but the minimum price tag attached to Chill is R452 million (with net of debt of R182 million).

At the time of going to press, news also filtered in that Ottery-based packaging group Bowler Metcalf might have found a buyer for its 43% stake in soft-drinks bottling venture SoftBev.

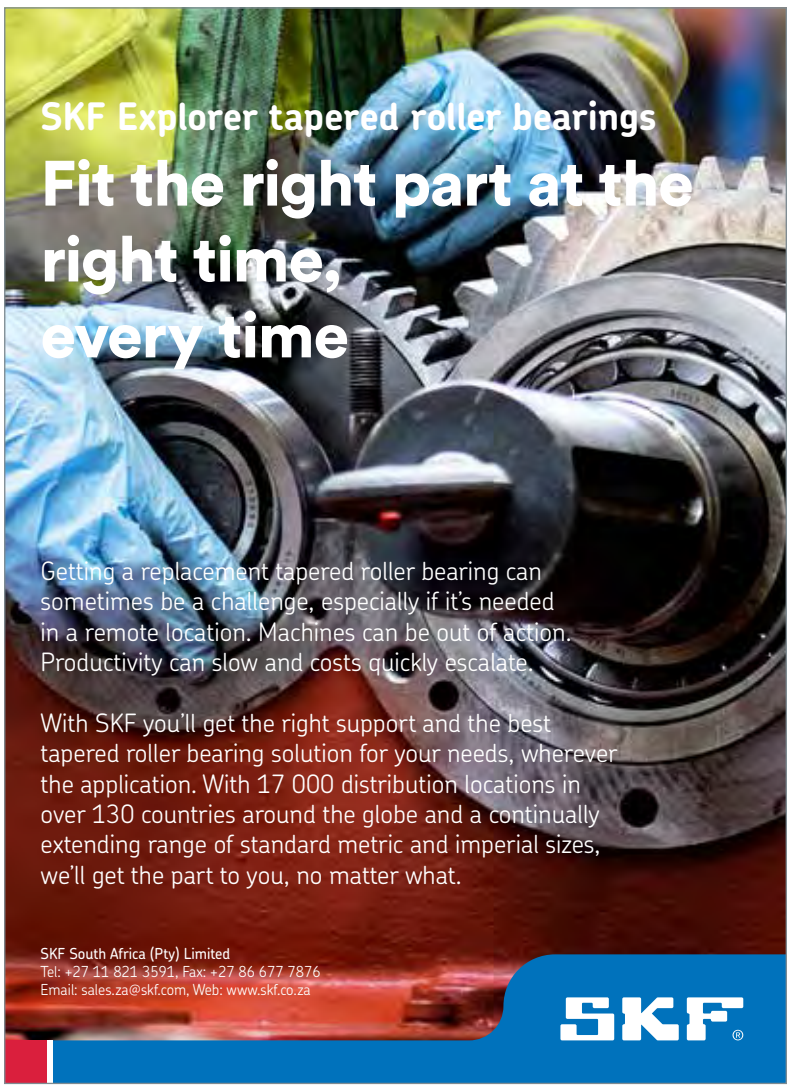
SoftBev – which was formed from the merger of Cape Town-based Quality Beverages and Durban-based Shoreline - manufactures Jive and energy drink Reboost as well as Pepsi under contract.

Last month Bowler advised its shareholders that an expression of interest for SofBev had been accepted.

Bowler said it was engaged in final negotiations around the terms of such a disposal. Detail will only be released once the final terms have been settled.

The development is not terribly surprising. SoftBev has been battling for profitable traction – especially in the competitive Gauteng market.

Bowler would be able to focus on its core plastics packaging operations without the distraction of the soft-drinks business.



Bisquit Cognac goes to Campari Group

DISTELL, Africa's producer of premium wines, spirits ciders and ready-to-drinks (RTDs), today entered into a definitive agreement to sell its cognac business, Bisquit Dubouche et Cie (Bisquit), to Campari Group for € 52.5 million (approx R800m).

Under the terms of the agreement, Campari Group, one of the largest spirit groups in the world, will acquire all the shares in Bisquit, as well as existing stock, maturing inventory, the trademarks as well as production facilities consisting of warehouses, blending cellars and a bottling plant.

The brand offering includes a classic range of cognacs, namely Bisquit V.S. Classique, Bisquit V.S.O.P., Bisquit Prestige and Bisquit X.O., together with rare collections and limited editions.

"The sale will ensure the assets within our portfolio align with our strategy and generate long-term shareholder value.

The disposal of Bisquit will allow us to focus our efforts on accelerating our growth in key product categories and markets where we believe we can deliver more attractive returns and deliver on our growth aspirations," said Richard Rushton, Distell's Managing Director

The deal is expected to close during the first quarter of 2018.

New momentum for wine tourism

A Memorandum of Understanding signed between Vinpro and Wesgro will give new momentum to wine tourism in South Africa through a newfound and exciting partnership.

This, together with the appointment of a new Vinpro wine tourism manager in January, Marisah Nieuwoudt, together with a Memorandum of Understanding between the SA Wine Route Forum and Vinpro, make way for a new era of collaboration, innovation and opportunities for local wine tourism.

The aim of this new partnership is to leverage South African wine regions and brands to strengthen the entire sector, to further develop it and to gain international recognition.

The collective efforts will be focussed on engaging travel trade, domestic and international media hosting, using events as showcases for South Africa's wine tourism offering and optimising digital marketing channels. This will run parallel to a research agenda, quality management programme and creating training opportunities for wine industry workers.

The vision is to establish South Africa as a leading wine tourism destination in the global arena, recognised for memorable experiences, quality wine, exceptional food and a commitment to responsible tourism.

"Through developing and broadening wine tourism together, we would like to attract a greater range of visitors to South Africa and improve the spread of visitors to smaller and rural areas," says Christo Conradie, manager of Vinpro's cellar division. "We also want to encourage locals to travel to the source of wine and experience a wide range of experiences in various wine regions, thus contributing to the growth of domestic tourism, especially at rural level with a direct impact on enterprise development and job creation.

"This will have a knock-on effect on increased employment and new business opportunities within the wine and wine tourism sector, as well as within the wine regions generally with the focus on black enterprise development and employment."

Wesgro CEO, Tim Harris, welcomed the signing of the MOU with Vinpro. "With the Western Cape making the 10 Best Wine Getaways list in 2018 by Wine Enthusiast, the timing of this agreement could not be better. Wine tourism in our province is on the up, and we are excited about working together with Vinpro to make sure that we leverage the many opportunities that continue to present themselves in the growing wine tourism sector.

"We are confident that the marketing projects that we will soon engage on will help increase the awareness of wine tourism experiences in the province and help drive visitor numbers across the region," Harris concluded.

Atlas Copco launches compact and lightweight mobile compressors

ATLAS Copco has launched a new range of lightweight and versatile air compressors for secure integration into utility trucks and other OEM applications. The space-saving 8 Series Utility range has a footprint that is 10 per cent smaller, on average, than comparable compressors. In addition, all models weigh below 750kg, including those with the option of a built-in generator.

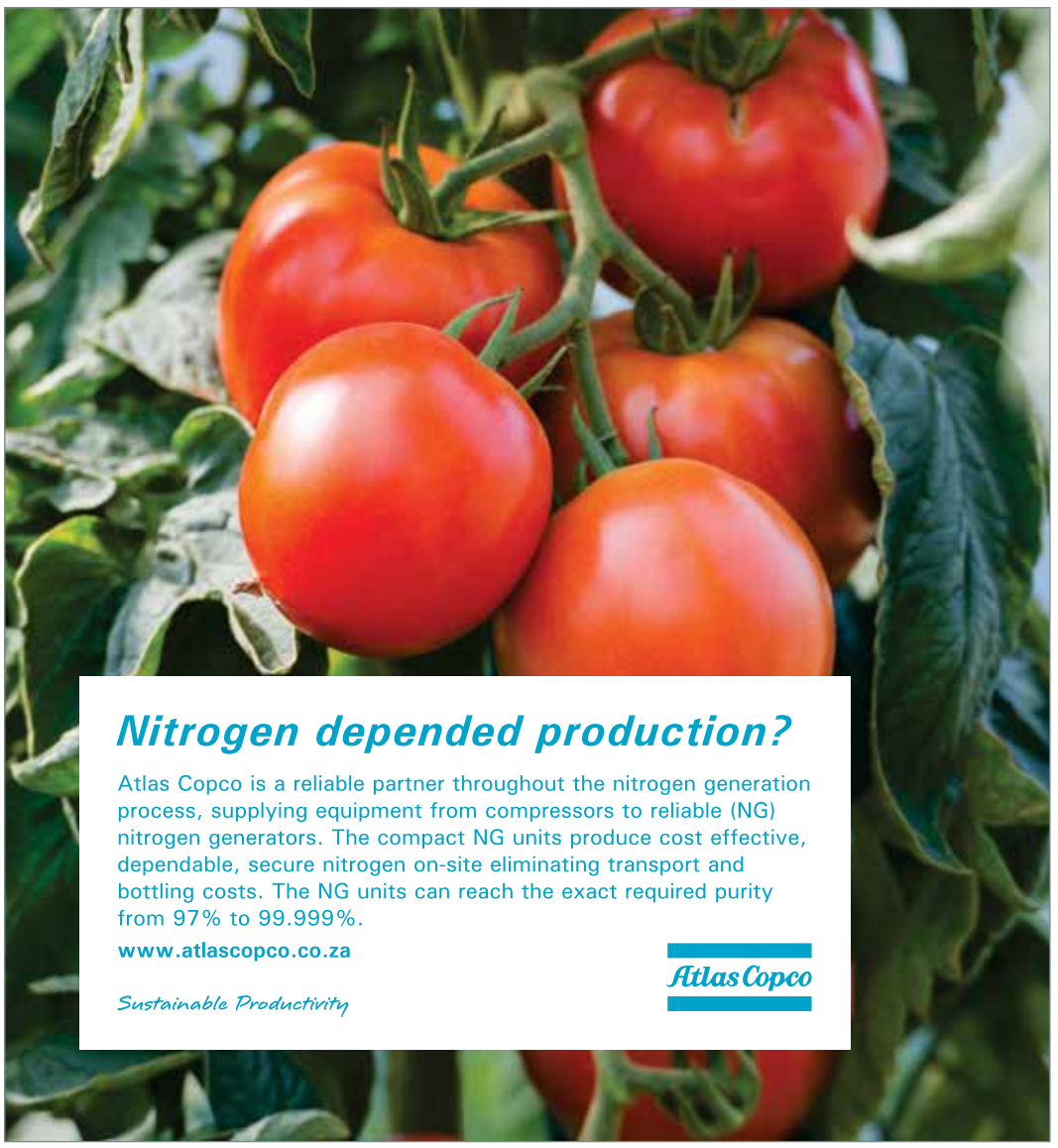
All 8 Series Utility models weigh below 750kg, including those with the option of a built-in generator.

"The term 'utility' is defined as the state of being useful, profitable or beneficial. This is summed up perfectly by the compressors in our 8 Series Utility range, which combine all three benefits inside a lightweight and compact package," said Hendrik Timmermans, Vice-President, Marketing for Atlas Copco's Portable Energy division. "Due to their small size and light weight, the 8 Series now fits into more vehicle types and can be used in applications including highway works and crash barrier repair."

All compressors in the 8 Series Utility range feature a robust, corrosion resistant C3 rated canopy. Reliable, high-performance engines are fitted as standard, which deliver industry leading fuel efficiency savings of up to 8 per cent against comparable machines. The range consists of four compressors available in flow ranges between 3.7-5.4m³/min and working pressures between 7-12 bar.

For added versatility, the compressors can be fitted with Atlas Copco's innovative PACE (Pressure Adjustment through Cognitive Electronics) system. This enables users to precisely adjust the air flow and pressure of the compressor to match their specific application needs. It's also possible to turn the compressor into a multi-function machine that delivers both air and power by equipping it with an optional generator. Furthermore, an extra fuel tank is available for end users requiring a two-shift operation without refuelling.

Simplicity of service was clearly factored into the design of the range. Each model is easy to access via wide doors and requires an oil service just once every two years. In addition, all consumables within the compressor can be replaced in under an hour. For instance, the use of spin-on filters and separator elements mean that no special tools are needed during maintenance.



Acorn drops on Overberg

A MAJOR shake-up is on the horizon for the Western Cape agricultural sector with proposals to amalgamate the businesses of Caledon-based agri-services giant Overberg Agri and Somerset West-based agri-investment specialist Acorn Agri.

Overberg chairman Douw de Kock believes the combined entity will create a unique leading national agriculture- and food investment company.

"We share the same values and culture, a focused and complementary investment portfolio and a proven management and track record."

Some of the best known Western Cape agribusiness giants have been created out of mergers – most notably Kaap Agri (WPK and Boland Agri) and Pioneer Foods (Sasko and Bokomo).

De Kock said the amalgamation was of crucial importance to ensure the sustainability of the agricultural business of Overberg Agri as well as maintain the high and competitive service levels to clients.

Overberg has a retail component, fuel wholesaling (via a 51% stake in Moov), financial services to farmers, irrigation as well as grain storage and mechanisation services. The company also holds interests in Boltfast, Bontebok

Lime and the Bredasdorp Abattoir. Overberg also owns a 2.1% shareholding in Pioneer Foods, which is worth more than R600m.

In the year to end February 2017 Overberg generated R3.16bn in revenue and posted bottom line profits of R151m.

Acorn – which already holds an influential 25% stake in Overberg –boasts stakes in fruit marketing companies ACG Fruit, Grassroots Group and Montagu Dried Fruit and Nuts as well as a 25% stake in Lesotho Milling and an interest of around 11% in Eastern Cape-based agribusiness BKB.

De Kock pointed out that the combined business will hold an attractive blend of local- and export orientated businesses with exposure to export earnings.

He said both companies had investments in agriculture, food and other enterprises that have generated solid returns. "We believe that all stakeholders will derive benefit from this transaction."

Aside from the existing shareholding that acorn has in Overberg, there is a business relationship that dates back some years.

De Kock noted that the Acorn Agri team was well known to Overberg and had been "involved in the business" since 2004 when Pierre Malan, the co-founder of Acorn Private Equity, assisted BNK Landbou Groep and CRK Landbou Limited to merge and create Overberg Agri.

He added that since Acorn Private Equity's inception in 2009, it has provided corporate finance and advisory services to Overberg Agri.

For instance, Acorn Private Equity assisted Overberg Agri with the acquisition of Graanboere Groep (the erstwhile holding company of Moorreesburgse Koringboere) as well as the acquisition of interests in fuel wholesaling operation Moov and Agricultural Packaging (Agpack).

Two Acorn Private Equity executives already serve on Overberg's board with De Kock arguing that the company "benefitted substantially from their experience".

If the amalgamation is supported by shareholders in both companies, the enlarged business would potentially hold a value of between R4.3bn to R4.7bn with an independent expert valuing Overberg Agri at between R2.1bn and R2.3bn and Acorn at between R2.2bn and R2.35bn.

Understandably, there is already talk that the amalgamated business – which will need to find a new corporate identity – will be listed on the JSE.

The merged entity would be a rival to JSE-listed Zeder Investments, the agribusiness conglomerate controlled by the Stellenbosch-based PSG Group.

Naturally, the additional operational scale offered by the proposed amalgamation of Overberg and Acorn should allow the new entity to aggressively pursue new agri-business opportunities – especially in its own backyard where the prolonged drought may throw up more than a few well priced deals.

Solutions for fruit exporters' pesticide residue headaches

AT 2,7 million tons per year, South Africa is the largest fresh fruit exporter by volume in the southern hemisphere. Local produce is sold in 92 countries around the world, ranging from markets just north of its borders, to destinations as far afield as America, Europe, the Middle East and China.

The European Union remains our main export destination. It is a lucrative market for local fruit producers, but also one that is highly regulated in response to consumers' demand for high quality fresh fruit that was produced using practices that conserve natural resources and protect the health of workers throughout the value chain.

To achieve these outcomes, growers depend on pesticides. It has been estimated that between 30% and 40% of our food would be lost without products that increase crop yield and protect quality. But agrochemicals are controversial because of their potential to harm people and the environment.

Countries therefore seek to regulate the use of agrochemicals on fresh produce through, among others, maximum residue levels (MRLs). MRLs are the maximum amount of a pesticide legally allowed in a food or feed crop, and are set nationally. This, however, causes huge problems since food is traded internationally and it is not uncommon for different MRLs to be set in different countries. To compound matters, large supermarket chains often set their own MRLs.

In the interest of giving the local industry smart solutions to navigate this minefield, Syngenta hosted a series of workshops where international speakers shared their insights into MRL regulations in the EU with fruit producers, packhouse managers and key industry stakeholders.

Held in the Eastern and Western Cape in the last week of August, the roadshow featured Caroline Willetts from Jealott's Hill, Syngenta's biggest R&D facility, which is located in the UK.

Willetts pointed out to delegates that the MRL is an assessment of, and indicator for, correct local use of a pesticide. And while a MRL has to be safe, it is not in itself a safety standard. MRLs are trading standards whose primary purpose is to facilitate trade between countries.

"One of the greatest challenges fruit exporters face, is the fact that MRLs are not harmonised globally," she said. Reasons for this include the fact that national MRLs reflect national concerns, and that pest pressure can vary enormously from one country to another, requiring varying levels of pesticide use. Furthermore, if a product is not registered in a country, it will have no set MRL.

Knowing the complexities is one thing; dealing with them is another, hence Willetts offered practical solutions that local industry players can apply. The key to not falling foul of MRL regulations is integration and taking a holistic view, she advised. When choosing a crop protection product, for instance, the grower should consider where the product will be positioned in the overall crop protection programme, what the intended export destination is and whether the product residues meet EU supermarket requirements.

Willetts furthermore emphasised the importance of proper sampling, noting that reliable results depended on the analysis of a representative sample that is prepared according to how the crop would be sold.

"And if the lab results don't tie up with your analytical experience, ask them to check their results or redo the analysis. You could even get a second opinion from a different lab," she recommended.

Willetts concluded her presentation with a reminder of the wealth of information available within Syngenta locally and internationally. "In most cases a Syngenta agent will be able to help a grower find solutions to MRL issues," she says. "As long as we sell a pesticide we continue to make sure that it is safe, hence there is always new information coming out to enhance farming practices in line with Syngenta's Smart Farm philosophy."

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SICK Automation has developed a range of bar code scanners to address the challenges of the food and beverage industry. These bar code scanners feature innovative technologies to provide high-accuracy track and trace performance in challenging environments, such as in freezers and in wet conditions. The scanners also adhere to strict hygiene requirements and are resilient to potentially harmful cleaning chemicals.

Traceability is of paramount importance in the food and beverage industry. Companies need to be able to identify when, where and by whom products were received, processed, stored, transported, consumed and disposed of, and must provide fully documented proof thereof. SICK Automation bar code scanners are used throughout the industry for this reason, tracking and tracing all processes from delivery of the raw materials through to intralogistics.

"In this highly regulated and fast-paced industry, it is essential to not only have scanners that are able to track and identify every single item for safety and logistical reasons but also that are able to withstand the challenges of the industry, like constantly changing temperatures and high-pressure cleaners, for example," explains Mark Madeley,

Goscor appoints GHF in Botswana

GCE is providing added product and service through GHF its official dealer in Botswana.

ESTABLISHED in Gaborone in 1999, GHF – a specialist in maintenance, design and fabrication of specialist equipment, with a wide range of products catering for a spectrum of industries, from mining to commercial and agriculture, has been appointed as its distributor in Botswana by Goscor Cleaning Equipment (GCE).

GCE is supplying GHF with its full range of Tennant auto scrubber-sweepers, Ghibli wet and dry vacuums, Delphin industrial vacuums, Maer high-pressure cleaners and Kaivac cleaning systems.

"Botswana is a market we have been supplying for some time now. GCE has previously sold a considerable amount of equipment directly to end users in Botswana. However, the problem was that, by not having personnel on the ground in-country, we were unable to provide the swiftest and most efficient aftermarket service, which is a hallmark of our business," GCE Key Accounts Executive George Jolly comments.

By concluding the distribution agreement with GHF, the company will be able to leverage off GHF's knowledge of Botswana's business culture, and its local expertise, so as to provide an improved service for GCE's Botswana clients.

Moreover, Jolly notes that GCE has machines already in operation at several of Botswana's larger mines. The distribution agreement offers additional opportunities such as an increased capability to upgrade machines already in operation. It also allows GCE to offer buybacks as a service for tis customers, in order to get new equipment into the market.

"GHF is an ISO 9001-accredited company, which was very important to us, as it clearly indicates that it is a high-quality and trusted service provider," Jolly highlights. GHF boasts a full maintenance and back-up team, which has received training from GCE to ensure it can maintain all the equipment supplied.

GCE's reputation in the industry for the provision of high-quality cleaning equipment is vitally important. "Therefore, we spend a considerable amount of time evaluating potential partnering companies, before we collaborate with them. We are very excited about the prospects of fostering a strong relationship with GHF, so as to provide the highest level of product and service to customers, and expand our footprint, in Botswana, which we believe has fantastic growth potential," Jolly concludes.

Value-adding and compliant labelling solutions for the agrochemical industry

IN the interests of keeping customers and the environment safe – and, of course, to comply with the stringent legislation governing packaging and labelling in this industry – agrochemical companies have to ensure that they communicate a large volume of product information on pack, in the correct way.

This typically includes handling, dosage, usage, storage, disposal, and first-aid instructions, as well as information about potential hazards. Often, these details must be translated into multiple languages.

Furthermore, all this information has to be presented clearly and legibly, in a way that stays with the product throughout its lifetime – until final safe disposal.

All this required information could become very cumbersome, but fortunately Pyrotec PackMedia offers a solution – Fix-a-Form® Booklet Labels.

These convenient extended text labels allow manufacturers to:

- Publish instructional information in various formats, whether pictograms, diagrams charts or simple text, to ensure legal requirements are met and the end-user is fully informed about the product and its usage.
- Laminate Fix-a-Form® Booklet Labels so that any spills can be wiped down without smudging the all-important information.
- Safeguard the integrity of a specific product by being able to track and trace through the supply chain, incorporating coding or serialisation.
- Deter counterfeiting by using unique printing techniques or holograms in their labelling to ensure authenticity of their product.
- Enjoy environmentally conscious, long-term return on their investment because sustainable packaging solutions minimise cost.

Pyrotec PackMedia's Fix-a-Form booklet labels not only offer the agrochemical industry significantly more space for legally required information, but they offer excellent legibility as well as a simplified and neat aesthetic to the overall packaging.

Moreover, they offer easy application using standard labelling equipment, which results in uninterrupted production lines – so important in this competitive arena.

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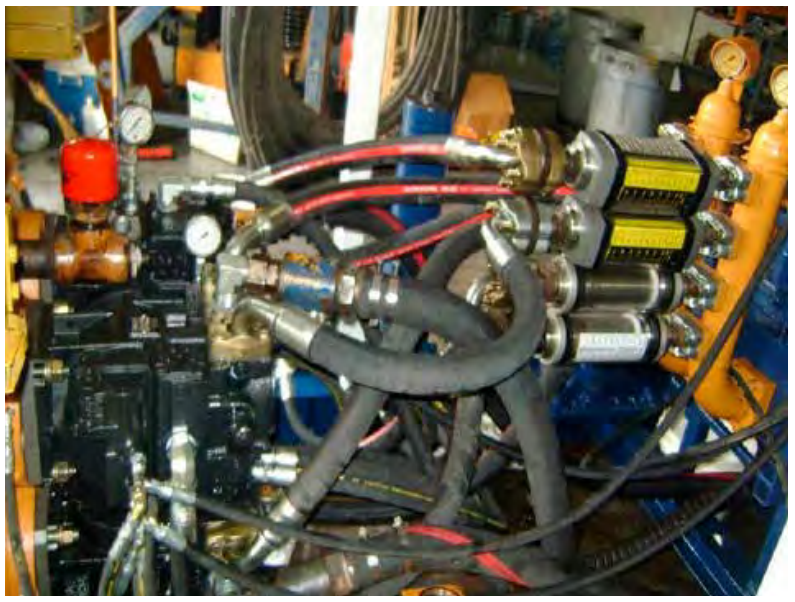
Hydraulic Fluid leak detection made safer a case study with Hedland flow meters

HYDRAULIC fluid power is often used to perform operational movement of heavy equipment. Small leaks in most hydraulic equipment are difficult to avoid, and in some cases small leaks are acceptable if they can be controlled. However, if left undetected, these smaller leaks can become larger, which can cause outright machinery failure. Failure of hydraulic machinery can cause costly downtime and put machine operators' safety at risk.



Because hydraulic fluid operates under high pressure, it is difficult to diagnose hydraulic circuit issues when the machinery is powered off. A common cause of operator injuries in hydraulic systems is operators physically investigating leaks while the system is operational because the fluid can be very hot and the lines are under pressure.

By installing Hedland flow meters to their equipment, operators get a clear, visible indication of hydraulic line health during operation, without the dangers of a person coming in close contact with operating machinery. A higher-than-usual flow reading may indicate a significant leak while a lower-than-usual flow reading may indicate a possible line blockage.

A Hedland consultant, says;" Based on experience, many systems engineers use declining efficiency as a factor to determine the need for a pump rebuilt. A typical signal might be a ten-point loss in pump efficiency"

He cites the following example: a 3-inch cubed pump running at 1 800r/min would theoretically flow around 89/90ℓ/min at the specified rated pressure. At an efficiency rating of 92% actual flow to the system would be around 81ℓ/min with the remaining flow of 8ℓ/min flowing back to tank through the case drain line. However, if the pumps efficiency dropped to 82% it's flow to the system would reduce as case drain flow would increase close to 16ℓ/min – more than double the flow at an efficiency of 92%.

A suitable flow meter would easily highlight the increased flow through the case drain line. The maintenance team or operator would be able to record flows and establish a trend of the rate of fluid flowing through this line at predetermined intervals. The Hedland EZ View requires no special piping or flow straighteners. It is easy to install, has a polysulfone plastic body, piston and cone and a T300-series stainless spring. The accuracy is within 5% of full scale. To minimize human involvement, an optional electric signal switch, called EZ View Flow Alert is available.

Hydrasales Kevin Walker says; "These meters are functional, economical and easy to monitor flow. They can save systems engineers expensive pump repairs and the resultant downtime by simply installing in the case drain line. Hydrasales carries a complete range of Hedland flow meters."

Festo Pneumatics basic courses 2018

THE course deals in detail with the most up-to-date products, current tools and methods used in industry. A principle is learning from the real world for the real world!

Target group

Everyone who has to deal with pneumatic systems in their working environment

Contents

- Objectives of low cost automation
- Basic principles of compressed air supply, production, preparation and distribution
- Power section devices (Linear and rotary actuators)
- Use of directional control valve, flow control, pressure and time control valves and sensors
- Structure and function of pneumatic devices and valves
- Basic logic functions and their application
- Symbolic representation of devices and standards (ISO 1219)
- Systematic design of circuit diagrams
- Reading pneumatic circuit diagrams
- Operating modes in pneumatic control systems
- Safety regulations and valid industrial standards
- Typical industrial circuits
- Identifying and eliminating faults
- Practical exercises for all circuits "hands on"

Outcomes

The Participant:

- can design, assemble and test basic pneumatic circuits
- can identify and describe the design, features and operation of pneumatic components
- can identify and explain symbols for pneumatic components
- can read and interpret pneumatic circuit diagrams
- can interpret technical specifications and data relating to pneumatic components
- knows the fundamentals of compressed air generation and preparation

Requirements
Technical understanding

Duration
3 days

Accreditation
NQF - Level 3
Contact Festo for dates and venues.

New Enerpac Venturi Valves

VENTURI valves improve the reaction speed of single-acting, spring and load return cylinders by up to three times. Venturi valves create a vacuum-like effect in a pump system; drawing the oil from the cylinder back to the pump's reservoir at a much faster rate which increases the retraction speed of the plunger by up to three times. Venturi valves are available in both manual and electric configurations.

Recommended for High Tonnage Cylinders
Venturi valves are an excellent choice for improving the efficiency of high tonnage cylinders. The retraction speed for spring return models can be slower than desired. Once the load is removed from a load return cylinder, the plunger will not fully retract without additional equipment to force the plunger back into the base of the cylinder.

Retrofit Kits
Retrofit kits are available to upgrade current Enerpac pumps. For field installation on existing pumps retrofit kits for pumps with the valve models are offered:

- Pumps with a VM33 or VM33L manual valve - order the VM33RVK Venturi Valve retrofit kit
- Pumps with a VE33 solenoid operated valve - order the VUV5 Venturi Valve retrofit kit

Upgrading a Pump with a Venturi Valve
For situations when the pump isn't capable of being upgrade with a retrofit kit, an entire valve is available with a new VM33VAC or VE33VAC.

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SMC merges its digital pressure switch range

SMC is building on the success of its ZSE20(F)/ISE20 pressure switch range that features 3-screen display, 3-step setting mode and selectable delay time function, with the ZSE20(F)#/ISE20# (A, B and C). The extended series will help operators deliver efficiencies in terms of control and time saving.

The A, B and C variations share the original ZSE20(F)/ISE20's display, setting, selectable delay time, as well as the lightweight and compact design. All models simplify the visualisation process for operators, while saving time as there are fewer push button operations to perform.

The added variations also match the terms of enclosure, output type and media of the current series:

- A Model-> Current ZSE30(F)/ISE30A-> IP40, NPN/PNP and Analogue output
- B Model-> Current ZSE40(F)/ISE40A-> IP65, NPN/PNP and Analogue output
- C Model-> Current ZSE80(F)/ISE80-> IP65, NPN/PNP and Analogue output, for fluids.

A spokesperson from SMC said: "Following the success of our ZSE20(F)/ISE20 pressure switch last year, we have taken the step to extend the range with these latest models. Customers have been particularly impressed with the functionality of design, its ease of use and accuracy of information that is readily available with minimal delay. They have found it both energy efficient and cost effective to operate."

Further flexibility and advantages of the ZSE20(F)#/ISE20# include the peak and bottom values are maintained, even if the power supply is cut, offering greater control in the process.

Also, being compact and lightweight, the models not only deliver space savings, but due to the weight reduction there are less inert moments when the sensor is mounted in mobile applications such as robotic arms.

Hydraulic deadweight tester

DEADWEIGHT testers are accepted as the most accurate method for the calibration of electronic or mechanical pressure measuring devices. Instrotech is offering the LR-Cal LDW series of deadweight testers, which are available in the ranges from 10 bar up to 1 400 bar.

The direct measurement of pressure (according to its definition as a quotient of force and area) ensures high accuracies and long term stability. These testers are used extensively in calibration laboratories in industry, standards institutes and research facilities.

The LDW series are ideally suited to on-site use as well as for service and maintenance purposes. The customized assembly allows set up of a complete, compact system consisting of a universal basement and the measuring systems (piston/cylinder units). The high quality piston/cylinder units are manufactured from tungsten carbide which is known for its small temperature co-efficiency. Fast and uncomplicated changes of the measuring range are possible using a flat spanner.

In order to generate the individual test points, the piston/cylinder system is weighted with mass loads which are also calibrated and specially adapted to the required application. The basement is fitted with the corresponding system, depending on the measuring range of the device under test. The pressure is set via an integrated pump or, if an external pressure supply is available, via control valves (pneumatic models).

For fine adjustment, an adjustable volume with precision spindle is available. The weight applied is proportional to the desired pressure and provided by using optimally graduated weights. As soon as the measuring system reaches equilibrium, there is a balance of forces between pressure and wheel weights.

Extended range lowers cylinder downtime

HYTEC Engineering has recently made another commitment to lowering cylinder downtime with the purchase of an additional 242 cylinders that will be used in its Service Exchange Programme. The increased stock and additional sales representatives enables clients to better maintain a continuous production in their mining and industrial operations.

Through Hytec Engineering's exclusive Service Exchange Programme, clients are able to exchange defective hydraulic cylinders for fully functioning units while theirs is repaired, ensuring minimal downtime at their operations. "The primary aim of the Programme has always been to get clients replacement cylinders in the shortest timeframe possible," comments Pierre Goosen, General Manager, Hytec Engineering. "With this increased stockholding, we're now able to offer clients an even shorter downtime potential by lowering the lead times on exchanged units."

The new stockholding will complement the company's current extensive Liebherr service exchange stock which includes various-sized hydraulic cylinders from leading brands such as CAT, Komatsu, Volvo and Hitachi that have long proven success in Africa's earthmoving, drilling and surface mining operations. While a majority of this stock will be set aside solely for the Service Exchange Programme, clients can also purchase excess stock from Hytec Engineering's facility in Johannesburg.

Operational efficiency of all second-hand and refurbished cylinders is assured by adhering to strict OEM standards through its CAD facility, reverse engineering services as well as its specifically designed cylinder test bench that tests stroke sizing and leak detection on every cylinder.

"Every component is inspected and tested upon arrival at our factory," adds Goosen, "we also monitor the amount of times we reuse a component before scrapping it to ensure that no cylinder is at the risk of material fatigue." Once a cylinder has been tested, the automated system generates a certificate that can be used for quality control by clients.

Hytec Engineering also has recently expanded and strengthened its highly experienced sales force to accommodate this recent market growth. The company is also looking expand its 4 000m² workshop facilities to further increase stock and refurbishment turnaround times.

The Service Exchange Programme is available through Hytec Engineering's Johannesburg-based operations and is supported throughout Africa by the Hytec Group's network of 35 branches in South, East, West and Central Africa. Hytec Engineering is the hydraulic cylinder specialist company within the Hytec Group.

New Nduli Reservoir

DPI Trading has supplied a range of pipe and fittings to Ruwacon Civils of Bloemfontein, the main contractor on the Nduli Reservoir project in Ceres for the Witzenberg Municipality.

The 4.5Mℓ reservoir will not only supply water to the existing Nduli community, but also cater for future low-cost housing developments, Ruwacon Civils Construction Manager **Adriaan Liebenbergh** highlights. The project commenced in March 2017 and was scheduled for completion at end January 2018.

DPI Trading's component of the project comprised the supply of Grade 316 steel pipe and fabricated fittings (200mm, 250mm, and 400mm diameters). In addition, it supplied a small quantity of HDPE and uPVC pressure pipes.

"We were successful in securing this contract due to the fact that we were able to supply a full basket of products, which means no need to deal with multiple suppliers. Our pricing is also highly competitive, in addition to offering technical advice and support where needed, such as alternative jointing options, depending on the materials and requirements," DPI Trading Sales Agent **Clayton van der Nest** explains.

The project posed various technical challenges, including the connection from a larger to a smaller reservoir, which required water levels to be balanced. In addition, a variation on the original contract called for the upgrade and replacement of corroded steel piping.

Ruwacon Civils is one of a few construction companies with 51% black ownership, and a 9GBPE CIDB rating. It has a yearly turnover of over R1 billion, a workforce of about 1 500, and is currently engaged on about 70 active sites across Southern Africa. Projects completed recently include the R199 million St Patrick's Hospital in Bizana for the Eastern Cape Department of Health, and the R189 million Busamed Harrismith Private Hospital in the Free State.

Stainless Steel for water security

CAPE Town's dire water crisis and the rapid approach of the much feared 'Day Zero' is shining a light on the role that corrugated, stainless steel water pipes can play in securing South Africa's long-term municipal water supplies.

This is thanks to the introduction of a new SABS standard for these pipes after five years of research and writing and an additional one year of rigorous testing, driven largely by Sassda members Flexotube and Inox Systems. This culminated with the finalisation of the standard in May 2016, which stipulates amongst other factors, the exact composition of the stainless steel to be used, specifications on flow rates and involved comprehensive testing - i.e. pressure, vibration and oscillation - prior to the standard being awarded.

Sassda Executive Director John Tarboton says; "Stainless steel water service pipes represent a simple, yet cost-effective solution to South Africa's water crisis, especially since international case studies from Tokyo, Seoul and Taipei show that plastic service pipes (PE or PVC) have an average global life of 20 years, while stainless steel service pipes can expect a minimum of 60 years. As Day Zero looms large in Cape Town, they are therefore definitely one of the solutions to consider in the longer-term, given their resistance to leaks and ease of use," he adds.

The local availability of the pipes stems from the opening of Inox Systems Boksburg factory in 2014.

Plastic pipes help save water

SOUTH Africa is currently in the grips of one of the worst droughts in decades, with five of the country's provinces already declared drought disaster areas. The Western Cape, and Northern and Eastern Cape and Limpopo are the areas facing the most serious lack of water, with the Mother City counting down the days to the predicted "Day Zero", when the province's taps will run dry.

Could the problem have been avoided?

Whilst environmental factors such as El Niño and climate change are to a large extent to blame for the country's crippling water woes, the Southern African Plastic Pipe Manufactures Association (SAPPMA) says that lacking and aging water infrastructure has exasperated the problem.

"We have started to sound the first alarm bells as early as 2010 over the lacking water infrastructure and the failure by local municipalities around the country to invest in upgrading and replacing their pipeline," says Jan Venter, Chairman of the SAPPMA – a non-profit association that represents more than 80 % of the plastic pipe produced in South Africa and focuses its efforts on ensuring pipe systems that are leak-free and durable for long-term use. It also focuses on the rehabilitation of old pipelines.

Venter confirms that the impacts of the severe drought could have been negated had their calls for water infrastructure improvements been heeded earlier by the authorities.

"The majority of South Africa's pipelines were installed in the early 1950's and 1960's, and were manufactured from cement, asbestos or steel. These old pipes have an economic lifespan of a maximum of 50 years and have long since corroded and disintegrated. This became evident many years ago as we started seeing an increase in water leaks and disrupted water supplies around the country. Millions of litres of treated water have been going lost every year," he says.

Municipal investments into improving water infrastructure

Towards the end of 2017, the City of Cape Town announced plans to spend R8 billion on its water infrastructure over the next 10 years. According to Anic Smit, Head of Planning, Design and Projects of the City of Cape Town's water reticulation services, the city has invested R1.2bn on water engineering, refurbishment and replacement infrastructure during the 2015/16 financial year.

During the past 12 months alone, the CoCT has spent at least R500 million on replacing aging infrastructure, repairing burst pipes and expanding pipelines in and around the Mother City. "We have installed more than 40km of HDPE pipes by pipe cracking and open trench methods," Smit said. "In many cases we have opted for trenchless pipeline methods to fix burst pipes for both water and sewer mains as part of the City of Cape Town's pipeline replacement initiatives. This reduces the overall project time and proves less disruptive and inconvenient for local residents and road users and allows us to replace long lengths of pipe without digging long trenches".

The CoCT also supports the recently unveiled master plan by the Department of Water Affairs and Sanitation, entitled "War on Leaks", whereby national government aims to reduce municipal water losses estimated at R7,2 billion a year due to leaking pipes, from 35% to 15%.

Plastic pipes vs other materials

"We prefer using plastic pipes and pipe fittings for our City's infrastructure, because international studies have proven that these pipes last in excess of 100 years. In this regard we follow the example of international metropoles such as London and Sydney where HDPE pipes are being used to replace old infrastructure. When manufactured correctly and meet international standards, these pipes are cheaper, quicker and easier to install, do not rust, the joints are leak-proof (if installed correctly) and have lower failure rates than pipes made from alternative materials," Smit says.

For this reason, the CoCT insists that all HDPE and PVC pressure pipes being installed bear the SAPPMA mark as guarantee that the pipes comply with the relevant national & international quality standards.

"We have revised our tender requirements and specifications to include SAPPMA as an additional quality reassurance measure. In addition, we are also insisting that all bends on HDPE pipes comply with SANS 6269 and that pipe installers have valid IFPA certificates as it gives us a guarantee and the necessary peace of mind that the pipes we are installing comply with international standards and will be able to do the job for many years to come without the risk of pipe failure".

Venter adds that HDPE and PVC pipes also offer low frictional resistance. "Their hydraulic properties remain virtually unchanged over its useful life, resulting in lower energy use and pumping costs. Because they are also available in a range of sizes and pressure ratings, are lightweight and easy to handle and to join, it is little wonder that they are the preferred material for modern infrastructure," the SAPPMA CEO says.

Gas – Installers vs. Practitioners

THE increasing availability of fuel gas in South Africa has impacted many households and commercial spaces as homeowners and business owners migrate to gas as an energy alternative. The increase in availability has impacted the increase in demand, however, this could have also initiated an increase in "chancers". Installers seem to outnumber Practitioners.

What is the difference between Installer and Practitioner?

The word "Installer" in its own right means anyone who positions or connects a component or equipment for service, in a gas context this would mean anyone who walks into a premise to install gas equipment or a gas system. This Installer is the "guy on the street" who is most likely self-taught and experimental. Such installers hold no certification or qualification that warrant them to operate on a gas system. Fuel Gas is a safe and predictable energy source to work with, however, if the Pressure Equipment Regulations (PER) are not closely followed, gas can be hazardous.

The Pressure Equipment Regulations

The PER outlines the duties of the different role-players, from manufacturers through to Users. These regulations set out the requirements regarding the design, manufacture, operation, repair, modification, maintenance, inspection and testing of pressure equipment. In terms of the Occupational Health and Safety Act, 1993, the PER also requires persons handling the installation of any gas systems to undergo specific training and to be registered with the South African Qualification and Certification Committee for Gas (SAQCC Gas) as mandated by the Department of Labour.

A Practitioner is an individual who adheres to the PER, who is; trained, holds competency certification, and is registered with SAQCC Gas. This is a competently trained, experienced and legally registered individual who can be entrusted with a specific gas system. Due to the variety of gas systems, Practitioners hold different certifications, therefore when requesting a Practitioner, the end user needs to make sure that the individual's certifications are aligned with the required work. Dissimilar to an Installer, a Practitioner can issue a Certificate of Conformity (COC).

Certificate of Conformity

A Certificate of Conformity (COC) for Gas installations is a legal document which must be obtained whenever a gas system or appliance is installed, modified or repaired and should be retained for probable future requirement. This document can only be issued by a Registered Practitioner. It should be noted that, should there be no valid COC, many insurance companies will not accept liability for costs of damage caused to property or assets.

When an end-user chooses to use an uncertified Installer instead of a Registered Practitioner, they place themselves in an alarmingly dangerous situation, where their safety and assets lie jeopardised.

About SAQCC Gas

SAQCC Gas is Non-Profit Company that has been formed by the four (4) Member Associations to establish a central database which displays details of registered and authorised Gas Practitioners to work on gas and gas systems. The SAQCC Gas has been officially appointed and mandated by the Department of Labour to register gas practitioners, on their behalf, within the following gas industries:

- Natural Gas
- Liquefied Petroleum Gas
- Air Conditioning and Refrigeration Gas
- Compressed, Industrial and Medical Gases

The Member Associations are:

- LPGASASA – Liquefied Petroleum Gas Safety Association of Southern Africa
- SACGA – Southern Africa Compressed Gases Association
- SARACCA – South African Refrigeration & Air Conditioning Contractors Association
- SAGA – Southern African Gas Association

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Serco's positive outlook

THE spike in business enjoyed towards the end of last year by leading South African trailer and truck building company Serco has extended into 2018 with a healthy order book providing hope that the trend will continue for some time.

Managing Director Clinton Holcroft attributes the improvement mainly to the introduction onto the market of the company's new refrigerated vehicle, the Protec Steel Frostliner.

"We have seen a swift uptake of the new Protec Steel refrigerated bodies with our order book for trailers being 95% Protec Steel, a clear indication that the vehicles have been well received," said Holcroft.

"Fleet owners have been extremely positive and impressed with the finish of the coated steel panels, including the new rice grain aluminium floor – a flat full sheet bonded onto the vehicle – creating a durable, high wearing feature.

"An added attraction is that repair costs to the coated steel units are very similar to that of our fiberglass model that when coupled with the improved thermal performance and increased durability makes for a significantly lower cost of ownership," said Holcroft.

The vehicles have welded scuffs creating a waterproof and high strength structure.

"We also introduced a new 5 lip door seal made of an extruded rubber, providing an excellent thermal barrier which prevents the leakage of cold air.

The seals have a coating that makes it easier to open and close the rear door,"

An attractive feature for customers is that repair costs to the coated steel units are relatively low.

"A key issue becoming highly relevant is that clients are keen to improve the thermal performance of their refrigerated vehicles," said Holcroft.

"With our new injected foam technique for the panels we expect an improvement of more than 20% in thermal performance compared to our previous products. The significance of this, of course, is that the load on the fridge unit will be significantly reduced – that is a big plus factor for clients."

FAW produces 3 000th local truck

FAW Vehicle Manufacturers SA (Pty) Ltd has notched up another record. The latest milestone added to the company's history is the 3 000th locally built vehicle to roll-off the production line.

Besides the fact that FAW SA started modestly over 20 years ago selling trucks locally, it has in recent years truly stepped up its expansion plans for the SA market. FAW SA has made a major commitment in the last four years amounting to over 100 million USD in local plant, infrastructure, job creation and training. The Coega-based plant and body-building facility have only been in full operation for just over three years.

Recently the production line was geared for the new FAW 33.420 truck tractor.

The Coega plant has increased production to include almost all FAW commercial vehicles sold in the local and Southern African regions. Customer demand specifically for locally built FAW trucks has increased exponentially in the last three years, say the firm.

A growing number of African truck dealers who traditionally placed their orders for vehicles built by FAW China continue to move their orders to originate out of South Africa owing to the shorter lead time for delivery, the high levels of quality from the South African plant, and the reduced cost of sourcing FAW vehicles on the same continent.

Jianyu Hao, CEO of FAW SA adds; "What is most gratifying is that many of our units being bought by sub-Saharan customers are now 2nd and 3rd generation repurchases. This affirms our commitment for service and support into the African regions."

Serco wins new order for Pharmaceutical bodies

IN December Serco completed 54 refrigerated truck bodies for Virtual Logistics a division of Adcock Ingram, a new customer to Serco– which the leading healthcare company will use to transport its pharmaceuticals to various parts of South Africa. The vehicles are on rental through Bidvest Car & Van Rental.

The bodies, being manufactured at Serco's factories in Johannesburg and Durban, were fitted onto Isuzu trucks accompanied by Transfrig fridge unit.

Bodies vary in length from 2.3m, to 5.5m, to 7.2m and 8.5m with the vehicles being welcome additions to Virtual Logistics current fleet.

Features on the bodies include rear and side door access and Dhollandia tail lifts for easy offloading.

Stringent distribution practices for pharmaceutical goods require that these highly sensitive products be transported in temperature controlled vehicles, which Serco specialise in.

The new refrigerated trucks will transport the company's products to distribution centres and customers around the country.

The deal was brokered through Bidvest Car and Van Rental where Fleet Executive, Grant Fraser, says Serco's solid reputation in the market swung the deal its way.

Fraser said all the trucks were put into use in December 2017.

Flexible power solutions

ACCORDING to Cummins, ISL is one of the most popular engines in the transit market due to its high reliability, low maintenance, and fuel efficiency. This provides a highly flexible power choice with a fuel-efficient 8.9 litre configuration. With a lighter weight than competitive engines, operators benefit from high performance, strong acceleration, and lower operating costs.

Designed for medium and heavy duty, inner and intercity transit operations, Cummins ISL features targeted piston cooling, roller followers, and articulated pistons to increase durability. A combination full-flow and bypass oil filter extends piston ring and bearing life. Together with mid-stop cylinder liners, this also means that the Cummins ISL is easier to rebuild.

The ISL has been designed for medium and heavy-duty structural strength. It incorporates design features associated normally with larger Cummins engines, notes Cummins Sales and Business Development Manager **Bo Fu (Bob)**. An enhanced camshaft and roller cam followers, a viscous damper, and high-capacity lube system enable Cummins to maintain high durability and reliability, in addition to a high power-to-weight ratio.

A high-efficiency lube cooler lowers oil temperatures for longer life, while Six Sigma design practices have resulted in enhanced reliability for individual components and total engine design. A crankcase ventilation system with a coalescing filter practically eliminates oil carryover. Coolant flow has been optimised and balanced, thereby effectively reducing cylinder temperatures.

Weighing in at just over 800kg, the Cummins ISL offers significant benefits for payload-critical and high-bulk volume operations. With unrivalled levels of torque for an engine of this size, the Cummins ISL provides a flexible power solution for premium rigids, lightweight tractor units, higher-powered buses and coaches, and specialist vehicle applications.

The ISL, say Cummins, incorporates proven technologies and subsystems such as a cooled EGR, a patented VG Turbo, a high-pressure common rail fuel injection system, and a Cummins diesel particulate filter. These technologies have been used in Cummins transit bus engines for years. The VG Turbo, for example, adjusts airflow constantly to reduce turbo lag, in addition to providing for smooth acceleration.

The fact that there is only a single moving part in the hot exhaust stream means that the Cummins ISL is vastly more reliable and durable than competitive turbos. "We have produced more engines with particulate filters than any other manufacturer, earning a reputation for low maintenance and trouble-free operation," Fu notes.

Cummins ISL also reduces both operating and maintenance budgets. Based on one of the most fuel-efficient engines available on the transit market today, it helps keep fuel bills low, while the long service and maintenance intervals translate into the lowest total cost of ownership for fleet owners.

Ratings from 250hp to 330hp cater for any transit bus, from 8.8m through to 18m articulated designs. Cummins ISL is also available in conventional driveline and hybrid-ready configurations..

Soybean oil technology wins 'environmental award

THE Goodyear Tyre & Rubber Company has been presented the prestigious Tyre Technology International Award for Innovation and Excellence in the category of "Environmental Achievement of the Year" during the 2018 Tyre Technology Expo in Hannover, Germany. The awarded technology represents a breakthrough by Goodyear in applying soybean oil in the tread compound of tyres, as a replacement for traditional petroleum oil.

Over the past few years, Goodyear worked with the United Soybean Board to develop soy-based

technology to enhance tyre performance. Following extensive analysis and road testing, this new technology is now being used in new Goodyear tyres.

"Our work with the United Soybean Board presented a unique challenge and opportunity for our material scientists and tyre engineers to employ soybean oil in the development of superior performing tyres," said Chris Helsel, Goodyear's chief technology officer. "It is exciting to see that work payoff with commercially successful products, and an honour to be recognized by the industry for the environmental achievement."

Goodyear discovered that soybean oil could improve tyre flexibility at low temperatures, helping the rubber to remain pliable in cold weather and enhancing traction in rain and snow simultaneously. Additionally, Goodyear discovered that soybean oil mixes more easily with rubber compounds and reduces energy consumption, therefore improving tyre manufacturing efficiency.

CDC optimistic

THE Coega Development Corporation's (CDC) Dr Ayanda Vilakazi, CDC Unit head of Marketing, Brand and Corporate Communications is optimistic that 2018 will be a good year for investment in the SEZ.

Expected investment projects valued in excess of R12 billion include, Osho Cement – R600 million; Customs Control Area (in the logistics sector); Beijing Automobile International Corporation (BAIC SA) – R11 billion; Hella (Automotive investment in the CDC Logistics Park) – R53.3 million and MM Engineering – R350 million.

By the latter part of the FY2017/18, the CDC forecasts to achieve a minimum of new 12 investors with projected 675 jobs being created. Targeted investment sectors include automotive, agro-processing and chemicals.

"Last year, the Coega SEZ saw the successful completion of five projects - Kenako Concrete, Corromaster, National Ship Chandlers, Sanitech and FinCorp - valued at R180 million," adds Dr Vilakazi.

"Furthermore, no less than 9 441 additional construction jobs and 7 953 cumulative operational jobs were created. The organisation has trained over 2 716 people in the current FY," highlights Dr Vilakazi.

Saldanha IDZ

THE Saldanha Bay Industrial Development Zone (SBIDZ) is a strategic government initiative, linked to the broader strategic framework of the South African Government, driven by the National Development Plan (NDP) and the National Growth Path (NGP).

The SBIDZ's vision is to create an enabling environment to promote sustainable economic growth and job creation, and specifically in this instance in the upstream Oil & Gas, and Marine Fabrication, Repair and Maintenance industrial sectors in the Saldanha Bay area. It aims to achieve this vision by utilizing existing enabling national legislation from the DTI, SARS and TNPA, and the active support of key programmes such as the PICC (SIP programmes), Operation Phakisa1, Project Khulisa2 and the Provincial Game Changers, in partnership with Transnet and its operating divisions and many other SOCs, agencies, departments, societal organisations and business.

The SBIDZ is South Africa's first sector-specific zone and the first to be designated in and around a port, thus enabling it to develop a unique value proposition to the targeted industries in collaboration with the Transnet National Port Authority (TNPA). The SBIDZ supports the creation of industries with established and proven local and regional value chains, which are enabled through dynamic, flexible and an ease of doing business in the zone.

Enterprise Development

The aim of the enterprise development department is to develop the Saldanha Bay municipal-wide business communities in line with the supply chain requirements for the oil, gas and marine repair and fabrication industries. The department is reliant on support secured from a range of funding partners, facilitators and practitioners, and works hard to identify and develop a range of initiatives to meet the needs of the zone's industries and the local business community.

• 478 local small and medium-sized businesses have been successfully recruited and registered on the SBIDZ's supplier development database for business gap analysis assessments. The assessments will provide the important first step in assisting local businesses to understand and meet the stringent quality, health, environmental and safety standards of the upstream oil, gas and marine industries. SBIDZ has secured funding support from the DTI for the initiative and looks forward to engaging with more partners over the next year as the initiative evolves.

• Over 140 SMMEs completed business development workshops in business strategy, human resource, marketing and social media, and tendering. These workshops were made possible through strategic public and private partnerships with the University of Western Cape, Productivity SA, and ABSA Bank.

Permeable storm water infrastructure at Saldanha Bay IDZ

THE days of slapping concrete and asphalt down to construct walkway, driveway or storm water channel may be numbered. Commercial properties, public spaces, and residential developments have upped the standard on what they require from a paved surface. Land restrictions, storm water management, and other environmental regulations have turned the growing housing market and other land developers to seek solutions that can address these issues.

In 2013, the Port of Saldanha Bay was earmarked as an important resource for the sustainable growth and development of the West Coast region, and on the 31st October 2013 the Saldanha Bay Industrial Development Zone (SBIDZ) was officially designated as South Africa's fifth Special Economic Zone (SEZ).

As development took place at the SBIDZ in recent years, the need for effective storm water control arose, especially with new tenants taking up residence this year. Following the Integrated Development Plan (IDP) laid out by the Saldanha Bay Municipality, to address all issues pertaining infrastructure development with a sustainable solution in mind, Power Group, South Africa's largest family and employee-owned construction company and main contractor on site, stipulated a permeable, environmentally friendly solution. Says Robbie Dreyer, Senior Site Agent, Power Group: "Having considered all options, we eventually settled with the Terracrete block manufactured by Van Dyk Precast in Vredenburg, confident to have found the best solution for the least environmental impact on the area."

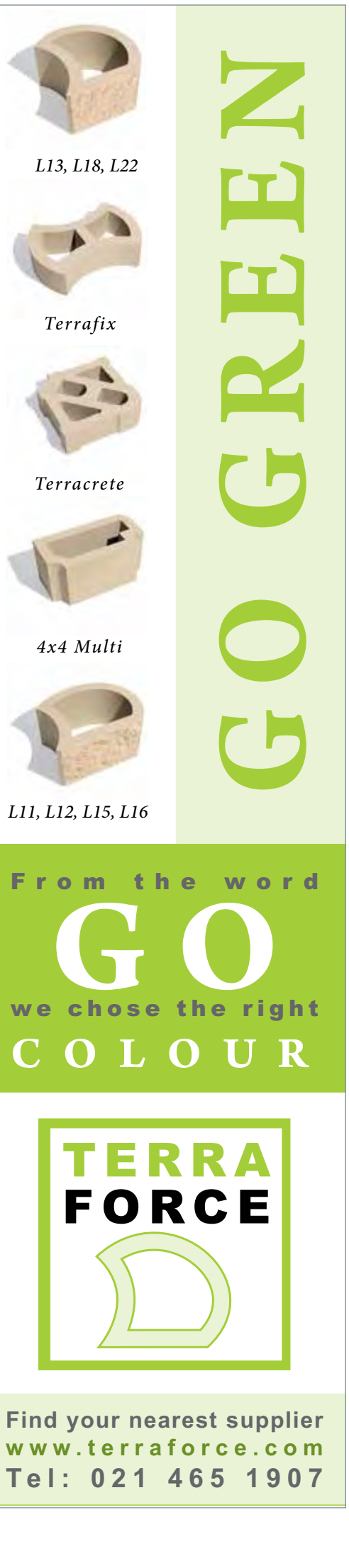
The Terracrete permeable paving blocks or "grass paver" blocks encourage water infiltration and prevent rain water runoff, to replenish our dwindling ground water reserves. The grass paver is ideal for areas prone to erosion, and the versatile blocks can be used for domestic, industrial, and agricultural applications such as driveways, parking areas, vehicle tracks, hardstand for trucks and machinery, attenuation ponds, embankment tabilization, to name a few.

Installed by Keystar Trading and Cleophas Construction early 2017, the entire area has been supplied with a network of permeable storm water channels that will effectively collect any excess rain water and redirect it to the appropriate culverts, with some of it passing through the large holes in the Terracrete blocks into the sub-terrain water reservoir. This effect encourages low shrubs to take root on the surrounding soil, to reduce wind and water erosion in the area.

Many industry experts agree that permeable pavers can offer a good solution to increased storm water run-off. Says Dr Sönke Borgwardt, self-employed landscape architect and consulting engineer and leading expert on the subject in Germany: "the use of permeable paving is an important contribution to a sustainable and environmentally useful management of drainage systems.

The handling of storm water runoff from sealed traffic areas is made less complicated and more affordable when it is decreased considerably by the application of filterable pavements."

This type of infiltration management, he adds, has the added benefit that the already overstressed urban sewer systems are relieved. A further advantage is that secondary drainage measures, such as channels or swales, as well as detention ponds, can be greatly reduced.



Toyota forklift delivers on second major order from Pick n Pay

IN its second and largest order to date for Pick n Pay, Toyota Forklift, part of the EIE Group, is delivering 31 reach trucks and 70 order pickers to its Longmeadow distribution centre in Gauteng. The order includes Toyota Forklift's award winning, high-performance model, the BT RRE200H two-ton reach truck.

The order, received mid-June 2017 for delivery by November/December 2017, was placed on an outright purchase with full maintenance basis. The machines comprise 31 RRE200H TX11500 reach trucks, 50 OSE250 long forks for handling three rolltainers. and 20 OSE250 extra-long forks for handling four rolltainers. The machines are being deployed in fast-moving consumer goods (FMCG) warehousing for pallet putaways, retrievals and order picking. An onsite workshop with parts, established by Toyota Forklift, offers full maintenance backup and service to the machines.

The Toyota high capacity reach trucks were developed for intensive stacking applications and are being supplied with the award winning I_Site Fleet Management System. This system provides instantaneous and essential forklift fleet data in the major areas of cost, productivity, health and safety, and environment. Incorporating a new chassis design and new generation mast, the Toyota BT Reflex reach truck offers a total view concept from, amongst other features, the low front panel and window in the overhead guard post. This, together with the Optimised Truck Performance, made possible by the controlled acceleration, braking and steering depending on speed, ensures stable and controlled driving for high levels of safety and productivity. Safety is further enhanced through Pre-Operational Checks and a PIN-code start-up, ensuring that only authorised drivers have access, while advanced ergonomics are provided by a fully adjustable operator environment.

The BT Optio OSE250, with up to 2.5t capacity and a lifting height of up to 2.6m, is suited for both first and second level order picking. The order pickers are equipped with a low step-in, automatic speed reduction and E-man steering to optimize productivity and safety.

In the first order from Pick n Pay, received in 2016, Toyota Forklift supplied Philippi distribution centre in the Western Cape with 50 LPE 200 pallet trucks and 10 OSE250 order pickers.

Three important technologies to slash manufacturing input costs

The cost of production remains the biggest pressure point for local manufacturers, but there are technology-driven solutions to assist.

By Dereshin (Dees) Pillay, Head of Manufacturing & Automotive at T-Systems South Africa

- Integrated systems and asset tagging enables better operational management in factories
- Predictive analytics enables managers to 'see into the future'
- Low-cost prototyping enables increased experimentation and innovation

Local manufacturing firms continue to face blustering headwinds – from heightened global competition from the likes of China and India, to sluggish demand and macroeconomic conditions, to critical skills shortages and labour issues.

But technology can help to relieve one of the most common pain points that we're seeing: the stubbornly high costs of production. By using the right digital tools, manufacturers can sustainably reduce their production costs, breathing new life into their margins and ensuring profitable operations.

Let's look at three areas in which this can be achieved:

1. Raw material inventory and production planning

By using digital tags like RFID, plant operators can gain greater visibility into materials, equipment, parts and other assets. Combine this with other datasets to build up a very rich picture of materials as they flow through a factory to eventually become finished products.

By knowing exactly where everything is, it becomes easier to plan production, as data is automatically piped into one's Manufacturing Execution System or Production Lifecycle Management System. This means faster logistics and greater throughput of products, as well as increased levels of uptime and productivity – ultimately driving down input costs.

Rapid advances around 3D printing means that certain parts and materials that are required urgently can be created on-site and at short notice, even further enhancing the management of materials.

One of the leaders in this space is, in fact, General Electric. The manufacturing behemoth is reinventing itself with a variety of strategically-connected technologies – including lean manufacturing, additive manufacturing (also known as 3D printing), and advanced software analytics to enhance productivity. At Grove City, GE has used these technologies to reduce unplanned downtime by 10 to 20%, improve cycle time and reduce costs*.

2. Predictive maintenance and predictive analytics

With sensors gathering key data on each machine – from humidity, heat, wear and tear, usage times, oil levels, and various other data points – we can start predicting when a machine is likely to fail, or require servicing.

This principle, known as predictive maintenance, helps to curtail the costs of managing industrial equipment, and reduces unexpected downtime (as services, repairs and refurbishments can all be scheduled to avoid interrupting production lines).

With some analysts' findings suggesting that downtime costs the average factory between 5 and 20 percent of its productive capacity**, predictive maintenance can be one of the most crucial weapons in the fight against billowing production costs.

But we can extend the principle of predictive maintenance to encompass predictive analytics across the entire factory operations. With predictive alerts flying in from all corners of the factory, it becomes possible to orchestrate the operations more dynamically, changing the daily plan according to fresh data that comes in from along the production line.

3. Proof-of-concept prototypes

In traditional manufacturing, creating a new prototype (for a particular product) was a lengthy and extremely expensive endeavour – particularly when the concept turned out to be the wrong one and never progressed into full-scale production.

But with cutting edge digital simulations, 3D representations, and holograms, it becomes possible to play around with various new prototype designs – testing them with users and getting a tangible feel.

By creating sophisticated prototypes in these new ways, the dramatic upfront costs of producing a single unit on the production line are greatly reduced. In this way, rapid prototyping and Proof of Concepts (PoCs) can cut out another layer of cost.

As traditional manufacturers evolve towards smarter and more digital production lines, it's not always easy to know where to invest first, where one will get the loudest 'bang for their buck'.

But by focusing on these three areas, and then building from these foundations and gradually connecting other technologies, manufacturers can address the most pressing pain point (input costs) and set themselves well on the way to reducing the costs of production.

OPINION

Clearly, some US university campus professors have lost it

Continued from back page

Professor Williams comments thus:

"Would you hire an engineering graduate who has little mastery of the rigor of engineering? What does Riley's vision, if actually practised by her colleagues, do to the worth of degrees in engineering education from Purdue (university) held by female and black students?

Indeed, nothing good. Try getting a job once this sinks through to the market for engineers.

But Professor (Ms) Riley has sympathizers. One of them is Professor Rochelle Gutierrez, a math education professor at the University of Illinois. She says that the ability to solve algebra and geometry problems perpetuates "unearned privilege" among whites. Educators must be aware of the "politics that mathematics brings" in (to) society.

She thinks that "on many levels, mathematics itself operates as Whiteness (sic)." After all, she adds, "who gets credit for doing (sic) and developing mathematics, who is capable in mathematics, and who is seen as part of the mathematical community is generally viewed as White."

(Her grammar cannot be fixed so I will stop pointing it out).

More support for this craziness came from the university's provost, (Note: a male this time) John Wilkin, who described Ms Gutierrez is an established and admired scholar who has been published in many peer-reviewed publications. (That makes one wonder about the rigour of peer reviews).

Professor Williams hopes that University of Illinois' black students don't have the same admiration and stay away from her classes.

It gets worse. Apparently in some academic circles in the US free speech is no longer free if you disagree with what is being said. No less than 13 universities/ colleges and the mayor and 12 elected councillors of the City of San Antonio signed an open letter declaring that "hate speech" and "inappropriate messages" should not be treated as free speech on college campuses. Apparently one has to guess which messages are inappropriate.

As Professor Williams noted, this way tyranny lies. The true test of a commitment to free speech is not allowing people to say things you do not find offensive, it is by allowing people to say things you do find offensive.

Then there is this magnificent example of cock-eyed thinking: a University of Georgia professor last year adopted a policy of allowing students to select their own grade (marks) if they "feel unduly stressed" by their actual grade in the class.

The professor's boss called this "inappropriate" which in this particular grove of academe apparently passes for a severe dressing-down.

But not all is doom and gloom. When another US university professor tweeted "All I Want for Christmas Is White Genocide," he complained that he was forced to resign because of death threats.

The good news is that the professor is no longer polluting young minds. The bad news is the existence of right-wing students who also need lessons on the principles of free speech.

Just as bad is the mere tut-tutting over outrageous statements made by academics, merely calling them "inappropriate" when in reality they are a serious attack on fundamental liberties that are the foundation of individual freedom in a democracy.

When universities are limp-wristed about such matters they imperil their status as the guardians of reason and of civilisation itself. Instead of hand-wringing when professors utter such nonsense, they should be compelled to take a course in 18th century European and North American history – and pass it.

Come to think of it, a study of the Salem Witchcraft trials in an earlier period when Puritanism ran wild in Massachusetts should also be made compulsory.

Paradise Papers - not a clear cut debate

By Ernest Mazansky, Tax Director at Werksmans 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 legislature. 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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- Materials Handling and Equipment
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To steal or not to steal, that's the question

OPINION

ON THE CONTRARY

Pieter Schoombee

The refined group of conversationalists gathered in the local pub and grill was uncharacteristically quiet. Even Luke the Dude, who regards disturbance of the peace as his personal contribution to the universal battle against boredom, sat frowning at his pint of golden brew.

The reason was not that we had nothing to say. On the contrary, we had too much to say. As South Africans of all persuasions know, we live in interesting times, having no doubt annoyed some good Chinese person. So what to discuss out of the many threatening calamities requiring solutions?

Is Ramaphosa proving to be an improvement on Zuma? Well okay, that one is easy. Anybody would be preferable to our former, unlamented leader. But look at the mess he has caused by getting the ANC to follow the Malema lead on land reform. And is it the great train smash some experts are predicting?

Also, the violent words marinated in racism used by some political delinquents. That same Malema again: The DA likes whites too much. The EFF is going for the white mayor in Port Elizabeth. "We are going to cut the throat," or words to that bloody effect. This while farm murders are continuing mercilessly. Is there a link? Are criminals encouraged to believe their actions are justified? Or supported by unthinking politicians?

The Prof, as usual, came up with a solution. "Well my esteemed friends," proclaimed he, "we all have strong feelings and as we are living in a democracy, at least here in the confines of the local pub and grill, I respect and value your opinions. As I am sure you will treat mine. So, let's all have a say, albeit not at the same time of course. And please be assured that your opinion is just as valuable as anyone else's."

We all concurred heartily and The Governor used the opportunity to enquire whether another round would be in order. Of course it would, what a question, and so the delightful Angie the Angel set forth pouring it.

"Speaking as a farmer and not a poet," spoke up the romantic Jean-Jay, "I wish to say that this Ramaphosa, that one, the one with the smile and reasonable voice, he does not fool me. He has set in motion an emotional tsunami about stealing farmers' hard-earned land and then he tells us not to worry. He is even blaming South Africans when foreigners start having second thoughts about entrusting their investments to Cyril Ramaphosa's government and Julius Malema's economic theories."

"Well then," conceded The Prof. "Our Gaelic friend is the first to take the floor."

"I do not agree," interfered Big Ben. "You, Monsieur, how can you talk about stealing? Nobody said the government is going to steal your land!"

"Ah Monsieur Ben le Grande!" Jean-Jay took a bow and waived his arm in his French manner in the general direction of "the person who so rudely interrupted a civil conversation". He looked around for dramatic effect and then delivered his coup de grace. "You say it is not stealing, non non, it is, how you say, expropriation without compensation. Yes?

"Do you remember, my friend, when those fiendish scoundrels expropriated your bakkie with all your tools locked safely under the canopy? When they did not compensate or even thank you, what did you call them? Thieves, did you not? Thieves who had stolen your private property! If the government does the same with my private property, being land, how is that different from stealing?"

"Useless!" exclaimed Jon the Joker, for once coming to Big Ben's defence. "Al they decided to do, is to investigate. Now they will hold endless meetings and travel all over the country at taxpayers' expense until everybody is thoroughly gatvol, if you'll excuse my French, and don't want to hear another word on the subject.

"Then they'll complain that August is too soon to write a decent report on the mountain of information they have collected and get a postponement. Eventually they will produce a long, boring and grammatically embarrassing report some time next year, which nobody will read.

"By that time we, along with the fools and others in Parliament, will be getting our knickers in a knot about the looming elections and will mouth off about that. The current great controversy will enter a winter slumber as most South African controversies do."

"Mon Ami!" exclaimed Jean-Jay, "how refreshing to hear a pessimist so delightfully positive! Maybe you are right; maybe we will slowly push this boiling pot to the back burner. But it is more serious than you think, my friend. The ANC, dragged along by the EFF, did not decide only to investigate, full stop. They are investigating the most convenient ways of stealing private property. Deny it as you will, they have given notice of their intention to steal private property."

"Indeed so, reluctant as I am to sound alarmist," said The Prof in his most reasonable voice. "You may see it differently, my dear Jonathan, but the world will not. Private property, specifically state guarantees of its protection, lies at the very foundation of every functioning economy and every democracy in the world.

"Do not think this is going unnoticed by the investors in charge of some of the billions we need to make a success of our country. We need to borrow money, lots of it, to balance our national budget; to educate our children, to provide shelter and medical care to our people. And then we need to borrow more to keep then lights on and our infrastructure functioning.

"Already top international financial media have expressed warnings about our unwise intentions. Investment managers do not like unnecessary risk. And they can do with their money what they like; they owe us nothing."

"Merci, my learned friend," nodded Jean-Jay, "to say it in simple language: Nobody lends money to a thief. Nobody places investments with a thief. It would serve our red berets and their meeker seniors well to remember that."

"That thing you said about the pot of boiling water," Luke the Dude addressed Jean-Jay, "that reminded me of something. If I am not mistaken, it is our President Ramaphosa himself who repeated the analogy in his younger, less careful days. You know, comparing the whites in South Africa to a frog in a pot of water. If you increase the heat slowly enough, the frog does not notice until it is too late and we have boiled frogs' legs for dinner."

"A delicacy Mon Ami," advised Jean-Jay to those who might not have partaken in this particular culinary delight, "but not when you are the frog."

"Useless!" complained Jon the Joker. "I have not intimated anything of the kind!"

"Oh yes, you have," insisted Luke the Dude. "Going on about how Clever Cyril and his ANC voting cattle were playing softly, softly with the EFF and South Africa until the problem smothers itself in a swamp of boredom. Jon the Joker, you are too clever for your own good, and ours. You have fallen nicely into Clever Cyril's plot; hook, line and frog. When you start feeling uncomfortably hot under the collar, it will all be done and dusted."

"Maybe so," added Stevie the Poet, "but if the government does reach a decision on changing the constitution to facilitate expropriation without compensation, it will be an even longer, more expensive and difficult process than we or the chest-thumping politicians seem to realise.

"Nowhere in the Parliamentary or Nasrec debates have I seen it mentioned, but it is a fact: to change the Constitution will require more that the two-thirds majority envisioned for dealing with Section 25. Advocate Paul Hoffman of Accountability Now has shone the light on it. Allow me to quote him from Politicsweb:

'Section 74(1) of the Constitution is not often referred to in the daily lives of South Africans. In essence, it provides that the foundational values of the new order cannot be amended unless the proposed amendment enjoys the support of 75% of the National Assembly and six of the provinces in the National Council of Provinces.'

"As it happens," continued Stevie, "one of the foundational values at stake here is the rule of law. And, in turn, respect for private property is an essential element of the rule of law. So that raises the bar to 75% plus six of the provinces, a much more onerous requirement."

"Fascinating," mused The Prof. "I think we can, despite our differences, agree on one thing: We will be arguing this issue over many barrels yet ..."

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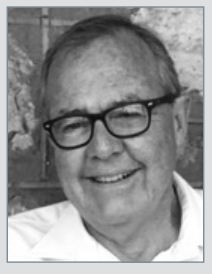
Clearly, some US university campus professors have lost it

THE OTHER SIDE OF THE COIN



Keith Bryer

Walter E. Williams is a professor of economics at George Mason University in the US. He is known for pointing out the travesty of education that takes place on many university campuses these days in the United States.

The disease, for that is what it appears to be, is catching. In South Africa we have our own versions summed up by the young UCT student who claimed that all science as taught was "White" and therefore should be ditched in favour of African science.

Apparently this branch of science contains many mysteries yet to be revealed. This may or may not be true, although chucking the baby out with the bathwater seems an extreme reaction to the unforgiveable ignorance on the part of the UCT science faculty contaminated as it is with reason and empiricism.

Back to professor Williams who started the New Year with a brief survey of last year's campus antics in the US.

Brace yourself. Here are prime examples.

One Donna Riley, a professor at Purdue University's School of Engineering Education (never heard of it either), published an article in the most recent issue of the peer-reviewed Journal of Engineering Education, suggesting that academic rigor is a "dirty deed" that upholds "white male heterosexual privilege."

Professor Riley went on to say that "scientific knowledge itself is gendered (sic), raced (sic), and colonizing," thus providing perfect evidence that applying rigor to English grammar is not one of her strong points.

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