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Local vessel launched

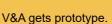


Water reuse can improve food security

New treatment systems cost less than



Drought spawns innovation





Oh, the joys of running a state monopoly!

Ms Janine Myburgh, President of the Cape Chamber of Commerce & Industry condemns Eskom and its 15% 'victory' hike in tariffs.



Photo credit: The Economist.

THE comfortable mind-set of those running our State-Owned-Enterprises was made clear in the magisterial media release Eskom issued following its triumph in getting the High Court to approve its demand for a 15% increase in its prices.

"Unlike managers in Eskom, private sector managers of corporations use such things as zero-based budgeting and get fired if they fail."

Headlined "Eskom notes and respects the order by the High Court on the tariff adjustment for Financial Year 2021/22", it announced, barely stopping short of using the "Royal We".

It then proclaimed that "This order will result in an average price increase of approximately 15% in the electricity tariff for standard tariff customers...."

keepers who will pay much more than an extra 15% once the municipal bureaucracies add their cut.

It then proceeds to say that thanks to its victory (over another government department), the State can now spend more taxpayers' money on "other priorities".

That makes it quite clear. Not said, but clear as day: Eskom, in its own eyes, is a sacred cow. Ergo, anyone riding on its back like its 30% surplus staff, is also protected.

For more examples of this innate belief in its superiority, Eskom's Chief Financial Officer, Calib Cassim, was quoted as welcoming the decision.

As well he might. It will give Eskom a tidy sum. This, the wonderfully-named Eskom Media Desk, took pains not to mention.

Only a small cloud on this otherwise happy day (for Eskom) was Mr. Cassim's point, buried deep in the text: To this bonanza will soon be added further increase (s) allegedly owing to Eskom from previous years.

You see, dear electricity customer/ This side-stepped mentioning lesser Eskom slave, you have been failing to pay beings like ordinary householders or shop- the full amount Eskom deems necessary to

pursue its lifestyle (its management, staffing practices, salary and wages policies, bonuses, company cars, expense accounts, and so on).

Unlike managers in Eskom, private sector managers of corporations use such things as zero-based budgeting and get fired if they fail.

This comfortable immunity from market reality is so engrained that it reveals itself even in department titles such as "Media Desk" -- a description that befits a government ministry more than a public relations department.

The written word can be more revealing than its authors intend. The media desk person says the 15% jump in the cost of electricity "Allows Eskom to recover efficiently incurred costs". In another sentence, the justification is described as enabling Eskom "to recover prudently incurred costs".

The 15% is also justified by the Eskom scribe by misquoting the "user-pay principle", usually a phrase to describe polluters, but never mind. It makes the point that if you run a monopoly your customers are compelled to take it or leave it.

That sums it up. Eskom is a monopoly. It has customers at its mercy. It is a quasigovernmental organization spending taxpayers' money. Operating it efficiently as demanded by all organizations competing in the private sector, is not high on its list of priorities.

Compare Eskom with any private business with shareholders. If its product is too expensive, customers will not buy it. If its overheads are too great, it has to shed them or go bust. Competitors will step into the breach.

Trouble is, no one competes with Eskom. It's THE problem. The solution stares South Africa in the face. Privatize it. Make Eskom (and every other feather-bedded SOE) compete in the marketplace, instead of behaving like a spoiled rich teenager with indulgent parents.

Which is what it is.

Hyundai donates brandnew library to Palm **Ridge Primary School**



UNDAI Automotive South Africa has donated a newly Ifitted library and learning centre to the Palm Ridge Primary School south of Johannesburg as part of the company's corporate social investment programme with its focus on education.

The handover of the library keys to Palm Ridge Primary at Katlehong is the ninth occasion where Hyundai Automotive SA donated a fully equipped library and learning centre to a school in southern Gauteng.

Hyundai Automotive SA, in collaboration with the Imperial and Ukhamba Community Development Trust, identified the Palm Ridge Primary School with its 1850 learners as one that serves a community where there is a demand for a learning centre such as the library.

Once the school was chosen, service providers and Trust staff worked swiftly at completing the work which included:

- Building of reading rooms and retaining walls;
- Repolishing floors and carpeting reading areas;
- Installation of security doors and
- Preparing the 10 800 books that were destined for the shelves;
- Preparing the charts and other material required for the reading programme;
- Tiling and paving of outside area for chess and checkers boards;
- Extending the small stage to
- accommodate more learners; and Installation of IT equipment.

Apart from the library sponsor programme in South Africa, the Hyundai Motor Company on the African continent also supports, among others, an educational program on road safety and environmental protection in Morocco and the donation of educational equipment to schools in impoverished areas in Nigeria.



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Hats off to Bowler (again)

OTTERY-based plastics packaging group Bowler Metcalf once again showed the importance of maintaining a lean and mean corporate culture by bucking the dour industrial mood with strong profit growth in the six months to end December.

for over Bowler, three decades, has built a formidable reputation for maintaining a no-frills operating regime, and for not – like so many other listed companies - yielding to the temptation of the usual corporate trappings like fancy head offices. Bowler's Spartan factory premises is a testimony to a business operating on a proverbial shoe-string. Shareholders that attend the annual general meeting can take solace that their capital is being very well looked after...

In the latest interim report, CEO Friedel Sass reported that in



contrast to the general market sentiment, the core Bowler Packaging business performed very well in this past reporting half year. In a moribund economic climate, Bowler managed to push up revenue 12% on the corresponding interim period in 2019.

Sass noted: "The merits of a diverse essential goods portfolio, customer centricity and focused hands-on operations management came to fore."

The numbers also speak for themselves: The 12% revenue

increase was transformed into a splendid 34% hike in profit from operations to nearly R60m.

Sass cited economies of scale, effective cost control initiatives and disciplined teams in a challenging COVID-19 environment as major factors in the profit surge.

Sass said that while the Plastic Packaging segment showed solid growth against the comparative period, this must be seen in context of a 'lower base' over the past few reporting periods. This was caused by mainly volatile raw material prices and the impact of industry strikes.

is most What encouraging is that Bowler seems to have some immunity to the side effects of Covid-19. As a percentage of total trade debtors, the expected credit losses increased from 4.8% as the end of June 2020 to just 6.7% at the end of December. There were no material impact in bad debts written off in the interim period, or any material impact on cash flows from debt-

Perhaps - and arguably most importantly - Bowler reported that no staff were retrenched during the six months ended December 2020 as a result of COVID19.

In terms of future growth initiatives, Sass reported that the warehouse expansion was on schedule to be completed by September 2021. "Apart from the warehouse expansion,

R15 million in capital expenditure for business growth in a good projects environment is committed."

There remains an air of caution at Bowler, which might be prudent in the uncertainty of the lingering Covid-19 pandemic. This meant that despite the sterling profit performance the interim dividend payout was only hiked 14% - which is no mean achievement considering how many companies had deferred or discontinued dividends in 2020.

Looking ahead, Sass stressed there were good opportunities for long term business growth and that energy optimizations cost were at advanced levels of finalization in the second half. "However, during this period, a general slow-down in demand from the existing business and higher raw material prices are two of the main challenges that will need to be dealt with."

Ringing the retail changes

TWO Cape Town headquartered retail heavyweights – supermarket group Pick n Pay and fashion specialist Truworths International have seen key changes to their respective leadership structures.

The top executive changes have been introduced at critical junctures for the businesses, which are both facing stern competition in their respective markets.

At Pick n Pay, Rich-

ard Brasher steps down next month as CEO after a successful eight year tenure. Under Brasher Pick n Pay introduced the Smart Shopper loyalty card initiative, honed distribution efficiencies and overall took on a leaner and meaner operating aspect.

Pick n Pay chairman Gareth Ackerman pointed out that Brasher had led a "remarkable turnaround" and contended

that Pick n Pay was immeasurably stronger than in 2013. "He has almost doubled Pick n Pay's store network, and has grown turnover from R55 billion when he joined the company to almost R90 billion... as well as delivering consistent and sustainable profit growth."

Ackerman added that Brasher modernised the Pick n Pay business, expanding its offer and transformed efficiencies as well as transforming (subsidiary brand) Boxer into Africa's fastest-growing limited range discounter.

Brasher will be replaced by Dutch national Pieter Boone, who has served as COO at Metro, a giant German group that specialises in cash & carry wholesale businesses across a range of markets

At the time of writing, Boone had just landed in Cape Town

and it was too early to draw any deductions about changes that might be implemented at Pick n Pay during his tenure.

Pick n Pay's market share has been under consistent pressure from rival supermarket giant Shoprite, convenience store Spar and Woolworth's grocery and clothing offerings.

Ackerman noted that Pick n Pay had many possible candidates for CEO. "But we knew when we met Pieter that we had found the right person. Pieter has exceptional global retail experience across a number of diverse geographies."

Ackerman said Boone had consistently demonstrated the ability to lead and deliver sustainable growth in tough and emerging markets. "His wideranging experience will stand him in very good stead across all areas of the Pick n Pay business - including Boxer and franchise, our growing online offer, and our value-added services."

In a press statement, Boone said Brasher was leaving the business in a very strong position, with huge potential to grow and serve more customers. "Retail is changing throughout the world, and my job will be to ensure that the Pick n Pay Group is at the forefront of change..."

Leadership changes are also transpiring at Truworths, albeit



despite the increased rate of change in the world of fashion retailing.

As part of its succession planning the

As part of its succession planning, the group appointed executive director Sarah Proudfoot as deputy MD of the group's main operating subsidiary, Truworths Limited.

Proudfoot has been at the group since 2001, and served as a director of Truworths Limited since 2016 and of Truworths International since 2019.

According to a Truworths press statement, Proudfoot held several managerial and executive positions, has a wealth of experience in merchandise design, merchandise buying and planning, marketing and general management.

Truworths added that she had been a "significant contributor" to the strategy and direction of the group.

Proudfoot retains her duties as executive director for ladies' merchandise.

The obvious specu-

lation is that Proudfoot is being set up to succeed long-serving Truworths CEO Michael Mark - who has led the group for an astounding 30 years. Mark, who is in his late sixties, is expected to retire in 2022 - but should have retired five years ago when Truworths appointed French retail expert Jean-Christophe Garbino as CEO designate.

Garbino – although highly rated as a modern retailer - never seemed to find traction in the corridors of power at Truworths. He left after nine months.

A number of investors have raised concerns about Mark's long tenure at the helm. Rival retailer, The Foschini Group, - which has outperformed Truworths on a number of metrics - has in the last 30 years seen more than a handful of CEOs that have honed the business model to the fastchanging nature of the fashion retailing segment.

Contrasting niche performances

TWO Cape-based niche retailers have seen starkly different performances under the restrictive Covid-19 lockdown environment.

Catalogue retailer HomeChoice – which already reported a more than 50% decline in profits in the half year to end June - is till battling along. The group advised its shareholders to expect a similar performance in the second half of the financial year to end December 2020.

That means bottom line profits for the full year could be down between 52% and 67% compared with the previous financial year.

HomeChoice did, however, note that the group's liquidity and capital position continues remained strong thanks to a focus on cash generation and management of working capital. Cash on hand was a reassuring R415 million, up from R378 million at the end of June last year.

Agribusiness retailer Kaap Agri, on the other hand, is in a sweet spot with farming conditions much improved.

In a first quarter update for the year to end September 2021, Kaap Agri – which owns the Agrimark retail brand - pencilled in a nearly 17% increase in revenue and a 20% jump in gross profits.

Earnings for quarter one grew by a hefty 36% from R83.5 million to around R114 million with CEO Sean Walsh noting strong operational performance across all divisions.

While the various Agrimark formats – which cover large stores, convenience stores, liquor outlets and building supplies - performed stoutly, Kaap's fuel retailing segment (housed under The Fuel Company) saw an encouraging recovery.

The group reported total retail fuel litre growth of 8.8% - although on a like-for-like basis retail fuel volumes decreased by 8.1% from the corresponding quarter last year.

More importantly, though, retail fuel gross profit per litre increased by 12.1%. Convenience store and quick service restaurant – that operate on fuel forecourts – saw gross profit increasing 23%.

Walsh said fuel litre growth was expected to continue.

In Kaap Agri's grain services division, the recent wheat harvest intake was the largest in 10 years. Walsh believed that, given the volume and timing of wheat sales in the first quarter, the expectation was that profit before tax within the grain services division will be higher in the first six months of the financial year compared to the second six months of the financial

Looking ahead, Walsh said the overall agriculture outlook was positive – but warned that wine grape farmers might experience cash flow pressure (presumably after the lengthy alcohol sales bans due to Covid-19 lockdown restrictions).

New prescription for Ascendis

THE prognosis for ail-Steenberg-based health care conglomerate Ascendis has changed dramatically in the last month.

Readers will remember that Ascendis found itself straining under a mountain of debt that was incurred during a rapid acquisition programme.

Ascendis was built from scratch by Coast-2Coast, a Cape Townbased private equity group. While early acquisition activity created earnings and cash flow momentum, the big leaps into offshore businesses lumbered the Ascendis balance sheet with a heap of debt. It only took one or two key operations to underperform before the balance sheet pressure started to tell...

To restore the balance sheet to full health, a decision was taken a few years ago to shed all non-core operations.

The critical part of the debt reduction operation was the sale of Cyprus-based pharmaceutical business Remedica, which – if speculation is to be believed - could have fetched between R4 billion and R6 billion.

Ascendis, last year, appeared to have a buyer after an unnamed entity made an unsolicited offer to purchase Remedica. But lengthy negotiations eventually came to nought, and Remedica was put back of the sales block.

The efforts to sell Remedica – or at least a part of Remedica - have

dragged out frustratingly. Now a 'Plan B' is on the table – driven by a consortium of thirdparty financiers that are owed large loans by Ascendis.

Even though the divestment strategy which includes smaller assets over and above Remedica – is a key term of the group's Senior Facilities Agreement with the consortium of financiers, it seems consent from the majority of lenders was needed for any asset disposals.

So the big twist came in form of a letter sent to the Ascendis board last month from Blantyre Capital and L1 Health.

Blantyre is a Londonbased investment firm "on partnering with

companies in relaunching good businesses

temporary financial challenges." Blantyre has been a member of the Ascendis lender consortium for some

L1 Health is a longterm investor in the health care sector.

The letter informed Ascendis that these two entities had - through funds managed and advised by Blantyre and L1 Health - increased their aggregated exposure as a consortium lender to more than one third of the debt exposure of all the group's lenders.

As seen in many companies where high debt levels add vulnerability to the financial standing, Ascendis'

fate is now firmly in the hands of its biggest lenders.

Blantyre and L1 Health indicated that - with the exception of the disposal of certain non-core assets already subject to advanced negotiations - they do not believe the current divestment plan is in the best long-term interests Ascendis and

its shareholders. Blantyre and L1 Health Ascendis should rather be pursued to reduce debt to a sustainable level and to provide the funding necessary to maximise the long-term strategic value of the business.

Reading between the lines, it seems Remedica – which has been the star performer for Ascendis - will not be

sold...at least just yet. In the meantime Blanttre and L1 Health have asked the Ascendis board to negotiate a reorganisation of the group's capital structure. Both Blantyre and L1 Health have indicated a willingness to invest further into Ascendis to achieve an improved capital struc-

CBN reckons what

could be on the cards is a rights issue - which might well be tagged to Blantrye and L1 Health swopping all or part of their debt into Ascendis equity.

It could be an interesting few months ahead as shareholders that were banking on the Remedica sale have to re-calibrate their expectations for Ascendis.

Eurolux shoots out the lights

THE Covid-19 lockdown cast a dark pall across most business sectors, but it seems that industries involved in supplying home improvement products are managing to display bright profits.

The theory is that with most South African locked at home during the early stages of the Covid-19, there was an inevitable turning of attention to house and garden. So many households busied themselves with home improvements...

For instance, a company like Cashbuild which supplies affordable building supplies - has seen its share price accelerating in anticipation of strong profits.

The 'lockdown home improvement' nomenon is also abundantly clear in the latest results of electrical goods supplier ARB Holdings - most particularly its Cape Town based lighting subsid-

The lighting division - comprising Eurolux,

Cathay Lighting and Radiant - increased revenue by almost 6% and operating profit by a whopping 95%.

ARB directors said profitability improved substantially over prior years largely due to the effects of the rationalisation from the integration of the Eurolux and recently acquired Radiant facilities. These were now starting to reflect significant savings.

They restructuring of the lighting division was now finalised - with the right-sizing of the business for the "next normal" resulting in a substantial reduction in the cost base.

This included the rationalisation of the Johannesburg warehouses, retrenchments, and a reduction in contract workers. In addition, transport costs were put out to tender, which should result in further savings.

between Reading the lines, it seems the improvement home boom helped the lighting division solve a over-stocking pesky problem, which was inherited from Radiant.

ARB directors confirmed that the preoverstocked viously position had positively affected the results in the period – and had even resulted in a slight increase in market share.

The stock has been reduced by almost R90m and directors reckoned it was more balanced than the situation at



the end of June 2020. Directors did warn, however, that given the long procurement lead times of this business, stock management a major focus.

Cracking SA's largest untapped market

AROUND the world, township communities have historically been largely ignored by businesses. This is beginning to change, however, as corporates and organisations are taking note of the potential within this untapped market.

Take Piramal Sarvajal, for example. In India's slums and underprivileged communities where safe drinking water is a scarce commodity, this mission-driven social enterprise is using technology to ensure that the underserved have access to this basic necessity.

One of their solutions is water ATMs that provide 24/7 access to safe and affordable drinking water. These dispensers are off the grid thanks to solar power and cloud connected to enable remote tracking of consumption and water quality. What's more, Sarvajal enlists the help of franchisees, or 'water entrepreneurs', in communities to boost the local economv.

In Brazil's favelas, many businesses are offering microfinance partnerships, loans and services to community entrepreneurs. Access to financial services has long been an issue in these impoverished areas. One business that aims to combat this is the community-run Bank of Paraisopolis in south São Paulo, which serves the Paraisopolis favela. It has even created a new currency to ensure greater financial stability for local residents and businesses.

Closer to Cape-based tech startup Yebo Fresh has paved the way with an innovative online shopping service that delivers fresh produce and household goods to areas that are predominantly unserved formal retailers. To drive prices down and quality up, the business partners with local manufacturers to ensure an accessible, affordable and continuously-growing product offering.

The business started simply, in the garage of founder Jessica Boonstra's home in 2018, and has since expanded to a 1 200 m² warehouse and 50 permanent and casual employees. The pandemic proved to be a catalyst for growth, driving the business forward to hundreds of daily orders from just a couple of hundred a month. While the service was initially available to just a few townships, it has since opened up delivery to all areas within 40km of Cape Town's central business district.

In a similar vein. online fashion etailer RunwaySale makes quality, high-end brands affordable to a broader South African market. The business offers premium designer labels at significantly lower prices than in-store, giving more consumers access to high quality fashion.

"We have seen a considerable jump in online shopping stats



pandemic. Our sales from residents in the townships has followed this trend and has doubled in the last year," says Runway-Sale Chief Operating

since the start of the Officer Rob Noble.

He adds that one of ing success in these areas is a strong focus on accessible technologies, especially mobile devices.



THE BEE IN MY BONNET COLUMN

Depravity knows no bounds when snouts are in the trough

We are so used to the disgusting behaviour - theft, corruption and fraud of our elected officials and public servants that another revelation hardly raises an eyebrow. Perhaps this desensitization is all part of the plot where people just shrug their shoulders and (worryingly) believe that it's par for the course in our banana republic. This piece from Leon Schreiber, DA Shadow Minister for Public Service and Administration, penned in Politicweb on 8 February 2021 turned my lethargy to anger. Ed.

Parasites on the Payroll: DA demands action against crooked cadres who stole R41 million from hungry families

LAST week, the Special Investigating Unit (SIU) revealed that no fewer than 6 140 government officials frauduclaimed over R41 million from the **Temporary** Employment Relief Scheme (TERS) managed by the Unemployment Insurance Fund (UIF). This revelation represents a shameful new low for the public service that should anger all honest and hard-working offi-

cials and taxpayers. The TERS fund was created to support the millions of employees in the private sector whose livelihoods were devastated by the lockdown crisis. At the same time that workers and employers in the tourism, hospitality, alcohol, construction and other sectors of the private economy lost everything they had, all public servants continued to receive their full

Not one public servant lost their job due to lockdown. In fact, as the DA revealed last year, over 84 000 state employees continued to receive their full salaries despite not doing any work or having their workloads reduced significantly during lockdown.

It is hard to overstate the depravity of the 6 140 cadres who – despite receiving their full pay

during lockdown while witnessing the profound suffering in the private sector - still decided to steal TERS money meant to put bread on the tables of hungry families.

The DA has studied the SIU's report, and we welcome the hard work done by the investigators and the 75 criminal cases already under investigation. (What about the other 6 065 thieves? Ed.) The SIU

team appears to have collected a significant amount of evidence against these greedy cadres, including their bank account details. There is thus no excuse whatsoever for the state to delay taking action. It is unconscionable to expect the honest taxpayers of South Africa to continue paying the salaries of over 6 000 officials who do not hesitate to steal from hungry families in the middle of

a global pandemic.

The DA will do everything in our power to ensure that these crooked cadres are disciplined, fired and criminally charged. We have already written to the chairperson of the portfolio committee public service and administration to request an urgent meeting with Minister Senzo Mchunu. As the custodian of the public service, the buck for this

theft ultimately stops with Mchunu. The DA wants to use the full powers of Parliament to find out exactly when Mchunu's department will remove these parasites from the payroll, before criminally charging every last one of them.

Anything less would amount to the state condoning and rewarding theft from workers and employers.

Second hand car buyers beware



This Ford Ranger for example was sold with a valid Code 2 licence disk. On inspection it had 35 serious faults. There is no way this vehicle could pass a roadworthy test with so many dangerously and poorly repaired items.

BUYING a second hand car can be an exciting purchase and a good economical decision provided there are no unexpected sur-

Cars that have been severely damaged and

which should have been written off as scrap as they are beyond repair, often end up being repaired and placed back on the road. To the untrained eye these cars may look acceptable, but hoist them up and

take a closer look and you would be shocked at the quality of the repair job and the severity of the previous damage incurred. Richard Green, National Director of the South African Motor Body Repairers' (SAM-Association BRA), an association of the Retail Motor Industry Organisation (RMI), says the problem in South Africa is that there is no way of checking if that car has been written off previously in an accident and this makes it difficult for consumers to access if the apparently showroom-condition car they bought, is exactly what it claims to be? "We have repeatedly appealed to the South African Insurance Association (SAIA) to make this information available for consumers and accredited and reputable dealers alike," says Green.

"If SAIA would just agree to making write off information available on a public register where the VIN number of the vehicle can be checked and the buyer can then be properly informed prior to making a used car purchase decision, these types of problems and the massive consequential damages they cause, could be avoided. The information is routinely forwarded to the South Insurance African Association (SAIA) from all insurance companies. SAIA then creates a Vehicle Salvage Data (VSD) system.

SAIA's argument is that if the database is made public, this would be unlawful and allow criminals to have access to the entire non-life insurance industry database of scrapped vehicle VINs leading to a dramatic increase in false financing and insurance of cloned vehicles.

"Our argument is that if the primary reason the VSD system database was created was to combat crime, how come this is still such a big problem?"

Green says the entire system, including the registration process, needs a shakeup so that consumers are not landed with poorly repaired and structurally unsafe second hand vehicles with Code 2 Registration licences.

Green provides buyers with the following

- If you are buying a second hand car online, ensure you get an accredited repairer or dealer to provide you with an independent assessment. A full list of accredited SAMBRA (South African Motor Body Repairers' Association) and NADA (National Automobile Dealers' Association) members can be found on the RMI website. If possible never buy a used car without seeing it and physically inspecting it.
- SAMBRA and NADA accredited members comply with strict standards and criteria to protect consumers.

- If you are buying a car privately, ensure you also get an independent assessor to check out the car.
- Another useful tip is to review comments on the company's website and see how people rate their service and quality of product.

"Until a solution can be found and this register is made available from SAIA, we strongly suggest you get your second hand car checked out first by an accredited SAM-BRA repair shop to avoid any future problems. Any reputable dealer would have no problem in allowing this," concludes Green.

Another SOE dud? - REBOSA takes EAAB to court

years of attempted collaboration with the Estate Agency Affairs Board (EAAB) to rectify the Board's ongoing service delivery issues, the Real Estate Business Owners of South Africa (REBOSA) has turned to court action against the regulator.

REBOSA, acting on behalf of hundreds of its members who have not been issued their

Fidelity Fund Certificates (FFCs) for 2021, claims the EAAB has not only failed to deliver on its mandate of regulating, maintaining and promoting the standard of conduct of estate agents, it has become an active hindrance to their ability to conduct business in accordance with the law.

"Having a current Fidelity Fund Certificate is an essential

estate agent," says Chairman of REBOSA and MD of the Rawson Property Group, Tony Clarke. "To practice without one is to commit a criminal offence and forfeit any right remuneration your work. By failing to meet its legal obligation to issue FFCs to qualified agents, the **EAAB** is forcing property practitioners to either refrain from operating, indefinitely, or break the law in order to feed their families. This is unacceptable."

requirement for a real

Failure to issue FFCs timeously has been a longstanding problem for the EAAB, with extensive backlogs plaguing their operations every year. Numerous

appeals to the Minister and Director General of the Department of Settlements have been fruitless, and 2020's lockdowns only exacerbated the situation.

REBOSA's attempts assist the EAAB in addressing its service delivery failures over the last seven years include investing over R1.5 million of its funds into additional staff to assist the regulatory body. Inadequate service delivery is exacerbated by a prevailing lack of suitable technology systems within the EAAB.

"The processes involved in renewing FFCs are now archaic," says Clarke. "Things like manual allocation of payments lead to huge delays and

countless errors. The extent of the problem has seen the number of queries lodged with the Board peak at 80 000 in an industry with only 46 000 agents."

The EAAB committed to upgrading its technology and systems in 2017. Action is only now being taken on this front. "This systemic

inertia has put the lives and livelihoods of thousands of real estate agents at risk over the years," says Clarke. "We no longer believe the issue can be resolved without court action. The current implementation - or lack thereof - of the Estate Agency Affairs Act by the EAAB constitutes an infringement of the constitutional rights

of real estate agents to choose and practice their profession freely. REBOSA will not hesitate at leveraging the full power of the law to see these rights restored to our members and all real estate professionals.

REBOSA's application will request a court order forcing the EAAB to issue all outstanding FFCs due to agents who have otherwise met all their professional obligations.

"We would like to address the wider service delivery issues at hand, including challenges around CPD training, but our members can't afford to wait for the deeper bureaucratic issues of the EAAB to be resolved before resuming operations,"

Clarke. "As such, our immediate goal is to enable these agents to keep working. From there, we can look to the broader problem at

While Clarke strongly condemns the EAAB'S Inability fulfil its mandate under the Estate Agency Affairs Act, he also confirms REBOSA's continued endorsement of the legislation itself.

"REBOSA fully supports the role of the Estate Agency Affairs Act in promoting better transparency, disclosure, accountability and governance in our industry," he says. "We simply need the legislation implemented effectively in order for it to have the desired effect."

We value your input

Only through your input can we continue to improve.

- Comments
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editor@cbn.co.za

SAPPMA signs Operation Clean Sweep OCS Pledge

THE Southern African Plastic Pipe Man-Associaufacturers tion (SAPPMA) has become the latest plastics industry association in South Africa to sign the Operation Clean Sweep® (OCS) pledge - an international stewardship programme designed to prevent the loss of plastic resin (pellets, flakes, and powders) and ensure that this material is kept out of the marine environment.

SAPPMA currently represents more than 80% of the plastic pipe manufacturers in South Africa. CEO Jan Venter signed the declaration on behalf of SAPPMA earlier this week, saying that it was important for the plastic industry to be committed to safe and responsible manufacturing processes. Other local signatories of the pledge include Polyoak Packaging, Berry Astrapak, Tufflex, Sasol, Safripol, as well as the various plastics Producer Responsibility Organisations, e.g. PETCO, Polyco, the Southern African Vinyls Association and

Catalytic converter recycling

A catalytic converter is a device used to convert toxic vehicle emissions to less harmful substances by way of catalysed, or accelerated, chemical reactions. Most presentday vehicles that run on petrol, including cars, trucks, buses, trains, motorcycles, and planes, have exhaust systems employing a catalytic converter.

After having done their service, catalytic converters become valuable recycling material. They contain precious metals such as platinum, palladium and rhodium. By analysing Pt, Pd and Rh, the value of spent catalytic converters can be determined.

than highly variable compositions and volatile prices of platinum (Pt), palladium (Pd), and rhodium (Rh) are important factors in the purchase and recycling of spent catalytic converters.

Portable Niton XRF Analysers can assist in detecting these valuable materials for recycling.

For more information contact: Spectrometer Technologies Tel: 021 905 0476 or visit www.us-tech.co.za

Polystyrene Association of SA.

"We will be encouraging our members to sign the OCS pledge in their own personal capacities, but from SAPPMA's side we wanted to go on record with our commitment to prevent pellet loss," Venter said.

He added that SAPPMA will be facilitating information sessions between Plastics SA (the official licensee of OCS in SA) and their members during the next few months. During these sessions, Plastics SA Sustainability Director Douw Steyn will be explaining the OCS implementation plan and the detailed toolkit that has been developed to assist companies to develop safe

and environmentally responsible manufacturing processes and daily operations.

Preventing resin loss not only makes sense from an environmental point of view, but it also makes financial sense and supports our drive to world-class quality management systems and adhering to international and local standards of

excellence," he added.

Welcoming SAPPMA as the latest industry body to come onboard, Douw Steyn, Sustainability Director at Plastics SA said: "It is encouraging to see yet another major player in our industry take such a bold step to help us prevent plastic leakage into our country's waterways, estuaries and eventually the ocean. These small

pieces of plastics can easily be mistaken for food by birds or marine animals. We look forward to engaging with the SAPPMA members and guiding them to the point of them signing the pledge for their own companies".

For more information, visit: www.sappma. co.za or www. plasticsinfo.co.za



Plastic flakes and resin.





Email: connie.jonker@safehousesa.co.za

Barry O'Leary: Tel: 011 396 8117

Email: barry.oleary@safehousesa.co.za

www.safehousesa.co.za

Legal tech startup to stop unfair legal billing

A new legal tech startup, Legal Lens, claim to protect companies, state entities, and individuals from inflated legal fees. The startup says it is able to reduce legal fees by as much as 60% but say that 10% is about average.

The founders, Catherine-Jane Paulse and Yusha Davidson, both admitted attorneys, recognised that legal

invoices often reflected billing practices and errors that resulted in unfair, high legal fees.

"The recent discussion paper by the South African Law Reform Commission regarding its investigation into legal fees also confirms that improper and unethical billing is a reality in South Africa," Paulse says.

Davidson explains, "We realised that it's

awkward and difficult reviewing legal invoices, as clients fear disrupting the close relationship they have with their lawyers and may not have the knowledge needed to dispute a legal invoice. It's time consuming. So, we developed a tech solution to review legal invoices and reduce legal fees."

All clients need do is send the legal invoices

to Legal Lens as well as any correspondence regarding fee arrangements and their letter of engagement with the lawyer.

Using experienced attorneys, optical character recognition and machine learning, Legal Lens digitally reviews the legal invoices to identify areas for potential savings. Legal Lens then engages with the cus-

tomer's lawyer regarding the fees in dispute.

All engagements are professionally handled to ensure that the relationship between the customer and the lawyer is maintained. After the legal invoice has been renegotiated and revised, Legal Lens obtains a new invoice from the legal firm that reflects the reduced amount to be paid.

Clients are charged 17.5% (including VAT) of the amount saved. If there are no savings, Legal Lens does not

charge.
Legal Lens has entered into discussions with the Law Society of South Africa (LSSA), for the LSSA to recommend the offering. The LSSA has stated that this innovative solution has the potential to protect the

interests of the public.

Legal Lens is currently in discussion with some of the major banks and insurance companies to offer its service, but offers its services to any company, state entity, or individual who would like their legal bills reviewed.

For more information visit www.legallens. co.za.



For more information contact Jason King at jason.king@touchwork.com

www.touchwork.com

Curro acquires PE school

CURRO Holdings, the JSE-listed independent education provider, has acquired St George's Preparatory school in Port Elizabeth.

The school, which was established in 1936 and provides high quality independent education to learners from grade 000 - grade 7, will form part of Curro's Select schools' model. This means that the heart and identity of the school will remain untouched, although learners and parents could over time see some changes in staff and infrastructure to align with future growth strategies.

Commenting the acquisition, Curro Holdings Chief Executive Officer, Andries Greyling notes, "this acquisition is aligned with our intention to expand Curro's geographical footprint and to extend our education offering in accordance with our vision of making independent education accessible to all South Africans. We are indeed looking forward to welcoming the St George's learners and staff to the Curro family." Curro Holdings now manages two schools in the Eastern

Alex Hall, Campus Head at St George's comments, George's mission is to prepare learners for life by equipping them to be socially res ponsible and compas sionate people in an ever-changing world. This aligns well with Curro's aim to provide an education space where learners can flourish into leaders, and we're excited to see St George's learners grow under the Curro banner."

"2021 needs to be a year of hope and kindness and we have no doubt that we will be even better equipped now to provide this to all our learner and parents," concludes Hall.

Release of forensic accounting standards and qualifying criteria

THE South African Chapter of the Association of Certified Fraud Examiners (ACFE SA) established a Forensic Accounting Forum in 2018 to implement a specialist stream for Certified Fraud Examiners and accounting practitioners who are practicing in investigative and forensic accounting. The Forensic Accounting Forum operates through a committee made up of members of the ACFE SA and representatives various accounting professional bodies who has a specialised interest in investigative and forensic accounting whose members are also involved in forensic accounting engagements. The forum was created, amongst others, for the following rea-

to create public confidence;

- to create public awareness;
- to provide member guidance;
- for better regulation of the specialised profession;
- to create awareness of Forensic Accounting as a profession:
- to provide practice notes once the standards have been finalised;
- to ensure better collaboration between the accounting and the fraud examination profession.

The mandate of the Forensic Accounting Forum includes development of the Standard Practices to improve the consistency and comparability of practice Certified amongst

Fraud Examiners per-

forming investigative and forensic accounting engagements as "Forensic Accountants". The Forum is independent from any 'accounting designation', and aims to promote and better regulate the discipline of forensic accounting.

Standard Practices for Investigative and Forensic Accounting Engagements as well as Forensic Accountant Qualifying Criteria, Professional Memberships and Experience are now open for public comments. Closing date for comments: 8 March 2021.

To submit a comment, send an email to Adv. Minette Niemann at minette@acfesa.co.za.

To view the standards, visit https://www.acfesa. co.za/page-18418

Understanding FRP vents

LIQUID storage tanks play a significant role as part of the plant in the chemical industry. The use of liquid storage tanks for the storage of flammable or combustible liquids is a common practice in the chemical industry. Liquid can be stored as a raw material, an intermediate product or a final product of the chemical process.

Sekwadi, Lavenda Process Engineer for Energas, says it is important to note that the different types of chemicals have different characteristics and behaviours when stored in these tanks. Therefore, breathing of liquid storage tanks is very significant as a safety measure against some of the common accidents - such as fire and explosions – associated with the storage of chemicals.

"Storage tanks have different sizes, liquids vaporising at different rates and liquid discharge rates and inflow rates. API 2000 standard is primarily

used for determination of the suitable sizes of the safety equipment (mainly pressure-vacuum vents and emergency vents)," says Sekwadi.

Compatibility materials

The compatibility of the tank safety equipment and the medium stored is of paramount importance as it affects the service life and the performance of the equipment. For hazardous vapours (for example, sulphuric acid), the typical materials such as carbon steel, aluminium, stainless are not compatible.

"Fibreglass forced Plastics (FRP) are employed in applications of hazardous vapours due to their ability to withstand corrosion - this is due to their highest level of resistance to chemically hostile environments, yet extremely rugged and durable in construction," says Sekwadi.



petroleum, petrochemical, pulp and paper, waste and food and beverage industries. FRP's eliminate the need for exotic metal construction. The vent body and internals are constructed of the same heavy-duty laminated resin, namely Derakane 470, Furan and Derakane 411

Sizes, pressure settings and connections

Protectoseal vents, supplied locally by Energas Technolo-

are available in pipe-away form (vapours directed to designation) and normal vents that vent directly to the atmosphere.

"The sizes range from 2" to 12" for pressure-vacuum vents, with emergency vents ranging from 16" to 24". The minimum pressure and vacuum setting is 0,215 kPa with maximum settings of 20 kPa and 7 kPa for pressure and vacuum settings, respectively. All vents mate with standard flanged Class 125 ANSI, API (20" or 24" only) or DIN PN 16." concludes Sekwadi.

Slow pace of manufacturing recovery 'a concern'

THE Steel and Engi-Industries neering Federation of Southern Africa (SEIFSA) is concerned about the slow pace of recovery in the manufacturing sector, as depicted by the lower manufacturing PMI index number of 50.9 in January, which is lower than the 2020 fourth-quarter average.

According to the Bureau for Economic Research, South Africa's Absa Manufacturing PMI rose slightly to 50.9 in January from 50.3 in December 2020. Despite the improvement, the latest reading is much lower than the average recorded in the final quarter

of 2020. Indeed, the business activity index declined for a fourth consecutive month, pointing to a further loss of momentum in recovery. Meanwhile, there were gains in the sub-indices tracking new sales orders and expected business conditions in six months'

manufacturing sector remains key to the growth and development of South Africa due to its multiplier effect into other sectors of the economy, such as the construction sector, especially through the Metals and Engineering (M&E) industry as a supplier

of crucial inputs such as steel. According to SEIFSA Chief Economist Chifipa Mhango, the signs of this slow pace in recovery show that the sector is in for a bumpy ride in 2021.

He said the price trends for intermediate products, which were discouraging new investment into the manufacturing sector, were also a concern.

"Prices are a key component of decisionmaking by businesses on how revenue will be generated, either taking the approach of growing price or volume. Within the manufacturing sector, historical patterns show

that on average, since January 2013, prices of goods have increased below 10% year on year. This is for both final manufactured goods and intermediate goods, of which most M&E products are part," Mr Mhango

Producer price index data suggests that in 2020 electricity prices increased at a much faster pace than that of intermediate manufactured goods. However, prices for mining products increased more than both electricity and intermemanufactured goods between January and December 2020.

Mr Mhango said this reflects the prevailing difficulty in the operating environment, characterised by rising intermediate inputs costs from the mining sector.

He said there is a prevailing discouraging trend of generally decreasing price patterns in both the intermediate and final manufactured goods PPI since 2016.

"It is important to keep electricity price increases under control in order to ensure business's sustainability, since their negative effect on turnover can lead to the shutting down of businesses and

"It is important to keep electricity price increases under control in order to ensure business's sustainability..."

more job losses in the short to medium term," Mr Mhango cautioned. He said the mas-

sive surge in prices of mining input products to 32.5% in 2020, according to Statistics South Africa, which is above prices increases of intermediate manufactured goods, was a concern for the survival of the M&E sector. Had said the high electricity prices had compounded the existing gap between the selling prices for M&E intermediate and production.

"This has discouraged production," Mr Mhango concluded.



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Next generation 35m flagship vessel launched

NAUTIC Africa, the Paarden Eiland based shipbuilder (a subsisary of Paramount Maritime Holdings) has launched its new flagship 35m Sentinel vessel, the second of the new enhanced class.

Following the successful completion of sea trials, the multipurpose vessel is destined for the Gulf of Guinea where it will be utilised for International Oil Com-(IOC)-related assignments as well as escourt patrols for larger vessels that have experienced an escalation of pirate attacks within 200 nm of the W African coastline.

Nautic Africa also announced that larger naval versions (40m and 47m) of the vessel have been been made available due to rising interest from navies, and will be offered globally to bolster military and fishing patrol operations across EEZ (Exclusive Economic Zone) waters.

The new flagship 35m Sentinel class maritime vessel, wholly designed with class leading features manufactured in Africa, sets a new benchmark in innovative protection.It is fully compliant to the standards of naval and oil and gas (O&G) industries and International Oil Companies (IOCs) operating in the waters of the African continent and



beyond.

Paramount Maritime Holdings Chief Executive Officer, James Fisher, stated: "The completion of our 35m flagship ves-

sels during the COVID crisis is an important achievement and milestone for the South African shipbuilding industry, ushering in a new era of capability,

excellence and performance.

This is a celebration of what can be achieved despite facing, what seemed like, insurmountable chalenges.

With insecurity throughout the Gulf of Guinea increasing - in large part due to the region's diverse natural resources; transnational piracy, oil bunkering and terrorism - continues to be a serious threat to the region's stability.

With passenger, crew comfort and security as top priorities in its design and manufacture, this vessel has been optimised for peak coastal operaperformance, mobility and protection. The 35m Sentinel offers outstanding speed, with a range of 1 150 nm cruising at 20 knots along with being capable of reaching a maximum speed of 28 knots, supported by three CAT C32 ACERT 1 100 kW engines and fixed pitch propellers.

Further distinguishing this vessel from any others in the market is its exceptional ballistic protection (Wheel-house STANAG KE Level II, Deck-house STANAG KE Level I), complete with a lifesaving 'Super Shield' composite wheelhouse structure and an internally clad main deck to a height of 2m. The highest levels of safety and ballistic support (for example, protection from typical assault rifle calibres) are thus ensured for the full crew, security personnel and passengers on board.

4.5 x more life on bakery oven fan

Case study

A leading UK bakexperiencing ery was regular, unexpected stoppages due to the premature failure of pillow-block ball-bearing mounted units fitted to the recirculation fan of a high-temperature oven. However, switching to NSK plummer blocks with high-capacity spherical roller bearings and labyrinth seals increased service life by a factor of 4.5, delivering annual cost savings of □34,907 (R643 000).

Failures of the pillowblock mounted bearing units were causing significant disruption to the bun production line at the bakery, leading to high downtime costs and spoilt product. With bearing failures occurring every six weeks, the management team invited NSK's team of experts to investigate the issue as part of its AIP Added Value Programme.

Upon completion of a full application review and failed bearing analysis, NSK engineers concluded that the bearings were seizing from excessive pre-loading and the use of incorrect lubricant. It was concluded that the existing bearings were inadequate for the operating conditions of the oven fan unit, which is belt-driven in a vertical orientation, and that improved reliability would result from more informed bearing selection/design. Fan reliability is vital as it recirculates air within the oven to ensure uniform temperature and evenly baked products.

NSK proposed the adoption of its SNN



A cutaway section showing NSK plummer blocks with high-capacity spherical roller bearings and labyrinth seals

series plummer blocks with high-performance standard (HPS) spherical roller bearings and labyrinth seals, and recommended the correct bearing location, radial internal clearance (RIC) and lubrication. This solution would give significantly higher axial and radial load support, aided by a 'floating' arrangement to accommodate thermal expansion of the shaft and tolerate any fan imbalance (dynamic misalign-

A trial was conducted and the solution resulted in an immediate improvement, with bearing life extended from six to 27 weeks, thus reducing both machine downtime and maintenance costs.

Modular SNN series plummer blocks have been developed for use in unfavourable application conditions. Maintenance is simple due the precision-engineered split housing that ensures easy bearing replacement. Relubrication is possible via two boreholes, while an escape hole means that

excessive grease accumulation is avoided.

Additional advantages of SNN series plummer blocks include high rigidity (to minimise deformation of the bearing seat) and good heat dissipation. Mounted units can be supplied for shaft diameters from 20 to 140 mm.

Supplied with a steel or brass cage, features of NSKHPS spherical roller bearings include optimum raceway design and surface finishing, as well as temperature stability up to 200°C. NSKHPS bearings also offer 25% higher dynamic load rating important in the oven fan application – and up to 20% higher limiting speed.

In combination with the SNN series plummer blocks, NSKHPS bearings enabled the bakery to make large cost savings via fewer bearing replacements, less breakdowns, reduced maintenance technician costs and less spoilt product, ultimately leading to improved production efficiency and better equipment reliability.

Local fundi wins Best Paper Award at US-based conference

XYLEM Africa, a subsidiary of Xylem LLC, congratulate Brendan van Wyk, its Treatment Project Manager, for receiving the Best Paper Award at the 2020 Pulping, Engineering, Environmental, Recycling and Sustainability (PEERS) Conference.

His winning paper, "Use of Ozone for Cooling Towers," was presented at the US-based conference by colleague Alexis Métais, where it sufficiently impressed the PEERS technical committee to award it best of the show, beating over 75 papers presented during the conference's 3-day period.

"I am very honoured to be able to receive such an award, and have to thank Harald Staple and Alexis Metais for their assistance in receiving for several of the secthis," said Van Wyk.

for several of the sectors TAPPI repre-

His was one of several papers presented to attendees from the worldwide pulp, paper, packaging, tissue and converting industries. PEERS is hosted by TAPPI, the leading global association of those industries. Through information exchange, events, trusted content and networking opportunities, TAPPI helps members elevate their performance by providing solutions that lead to better, faster and more cost-effective ways of doing business. It has provided management training and networking to the industry's leaders for more than 100 years.

Van Wyk's paper explored the possibilities of using ozone in cooling applications

tors TAPPI represents; supported by the extensive R&D contributes towards new ozonerelated innovations for a cleaner, greener and more sustainable world. His award is a demonstration not only of Xylem's leadership in innovation. It also underscores that Xylem Africa is home to fantastic talent and expertise, and is a world-class player in various sectors to provide sustainability through water as well as other areas, such as ozone. Van Wyk was due

to receive the award as part of a gala ceremony, but the COVID-19 pandemic changed those plans. Instead, TAPPI is having his award manufactured and presented locally.



Brendan van Wyk.

The win reinforces Xvlem's vision to create more sustainable and cost-effective solutions around cooling, sanitisation and sustainability, reducing reliance on chemicals. It is at the forefront in developing and deploying ozone treatments systems for water, wastewater and other uses, with products such as the Wedeco modular ozone system and industrial-scale PDOevo ozone system.

Blessing ceremony held for first IPV

THE South African Navy (SAN) recently held a blessing ceremony of the first of three Multi Mission Inshore Patrol Vessels (MMIPV) at Damen Shipyards Cape Town (DSCT).

Initially, the plan had been to hold a large launching ceremony, but due to the situation surrounding the coronavirus pandemic, SAN took the decision to do something on a smaller scale.

During the event, the vessel was blessed and a bottle of champagne was broken over the bow as is the custom. The South African flag was raised on the vessel and she was cheered by her crew.

The MMIPVs will contribute to South Africa's maritime security in augmenting the country's capability to respond

effectively, rapidly, and cost-efficiently to threats such as illegal trafficking and fishing.

The 62 x 11 metre naval vessel will be the first Damen Sea Axe vessel to operate in South Africa. The Sea Axe is a Damen patented design offering exceptional seakeeping behaviour. The straight-edged, axe shaped bow cuts through the water,

Covid-19 prevents traditional ceremony.

minimising slamming for improved safety and comfort on board and significantly reduced fuel consumption and emissions.

Pipe survey shows decline in infrastructure investment

SA pipe market shrinks by 15 %.

THE Southern Afri-Plastic Manufacturers Association (SAPPMA) has released the findings of a qualitative and quantitative survey into the plastic pipe market that was conducted last year by LHA Management Consultants.

This was the third quantitative survey they conducted for the plastic pipes standards body, following on previous studies in 2009, 2012 and 2017 to assess the size of the plastic pipes market vis-à-vis pipes made from alternative materials such as concrete or galvanised

According to Jan CEO Venter, SAPPMA, it was important for them gauge how the SAPPMA brand is perceived in the market place, as well as whether decision makers are aware of SAPPMA mission and activities. In order to do this, LHA conducted interviews with municipalities, contractors, consultants and other decision makers around South Africa.

"We wanted to hear from the industry if our training, communication and efforts to maintain standards are making an impact on the ground. We were also eager to find out from them if there any gaps exist and what we could do to offer more technical support or information to the decision-makers," Venter said.

80% of the respon-

dents indicated that they were very familiar with SAPPMA and its role in the plastic pipe industry, with 20 % stating they were only vaguely familiar. SAPPMA scored high for delivering technical support (84 %), professionalism (82 %), neutrality (80 %) and Quality Assurance (80 %). 54 % of the respondents indicated that they give preference to (or only use) suppliers that are accredited members of SAPPMA, carry the and/or SAPPMA logo, albeit with some exceptions. 33 % said confirmed that they use SAPPMA members exclusively.

Highlights of **Qualitative Survey** Results

Based on the latest available data, PVC pipes continue to enjoy the biggest share of the local market, with approximately 78 000 tons currently in use (72 % pressure and 28 % non-pressure). 48 000 tons of HDPE pipes are used in SA (84 % pressure, 4 % non-pressure and 12% telecoms), followed by 220 000 tons of concrete pipe (78 % stormwater and 22 % sewer).

What became clear from the research was that significantly fewer funds have been invested in infrastructure and building projects over the past six years – causing the pipe market to shrink by an alarming 15% since 2014. Although South Africa recorded average GDP growth of 0.8 % per annum during the same period, the amount of money that was invested in building and construction projects as a percentage of GDP had declined sharply.

"Reliable infrastructure is desperately needed in our country to ensure the supply of clean drinking water, uninterrupted sewage services and the provision of electricity, telecommunication and gas services to communities around South Africa. We are very concerned that the pipe infrastructure provision is declining on a per capita basis. This is a clear indication that the taxpayer's money is not being spent where it is supposed to go despite the promises made by politicians," Venter reported.

Looking ahead

Valuable and insightful feedback was received from the respondents, which SAPPMA will use to set its agenda and priorities for the next few years.

"It is clear that there is a need for ongoing training, communication and skills transfer in the industry. Our annual PIPES conferences, quality workshops and technical manual play an important role in this regard. We will continue educating engineers and other decision makers about pipe selection, pipes standards and pipeline design through these plat-

forms, but will also be offering roadshows to the various provinces once the COVID-19 pandemic is over and life has returned to normal," Venter said.

Recognising importance of educating future engineers with practical and relevant information about plastic pipe materials, SAPPMA has begun engaging with the Department of Civil Engineering of the University of Pretoria to include basic technical info into the curriculum for the third-year students.

Unfortunately, Venter said he was not too optimistic about the possibility of a quick recovery for his industry. "We know from experience that implementation and roll-out take long. Even if the decisions are taken and approved today to invest in new infrastructure or to upgrade the existing pipe networks, it will still take several months before we start seeing the impact and results. What is more concerning to us, is that we have also not yet calculated the full impact of the COVID-19 pandemic on the country's economy, infrastructure spend and therefore also on the pipe industry. Optimistic expectations are that South Africa's GDP will only cover to 2019 levels by 2023. Rapid recovery is therefore highly unlikely, and we are preparing ourselves for a bumpy ride," he

Graphene filter makes carbon capture more efficient and cheaper

Bv Ecole Polytechnique Federale de Lausanne (EPFL)

CHEMICAL neers at EPFL have developed a graphene filter for carbon capture that surpasses the efficiency of commercial capture technologies, and can reduce the cost carbon capture down to \$30 per ton of carbon dioxide.

One of the main culprits of global warming is the vast amount of carbon dioxide pumped out into the atmosphere mostly from burning fossil fuels and the production of steel and cement. In response, scientists have been trying out a process that can sequester waste carbon dioxide, transporting it into a storage site, and then depositing it at a place where it cannot enter

the atmosphere. The problem is that capturing carbon from power plants and industrial emissions isn't very cost-effective. The main reason is that waste carbon dioxide isn't emitted pure, but is mixed with nitrogen and other gases, and extracting it from industrial emissions requires extra

energy consumptionmeaning a pricier bill.

Scientists have been trying to develop an energy-efficient carbon dioxide-filter. Referred to as a "membrane," this technology can extract carbon dioxide out of the gas mix, which can then be either stored or converted into useful chemicals. "However, the performance of current carbon dioxide filters has been limited by the fundamental properties of currently available materials," explains Professor Kumar Varoon Agrawal at EPFL's School of Basic Sciences (EPFL Valais Wallis).

Now, Agrawal has led a team of chemical engineers to develop the world's thinnest filter from graphene, the world-famous "wonder material" that won the Physics Nobel in 2010. But the graphene filter isn't just the thinnest in the world, it can also separate carbon dioxide from a mix of gases such as those coming out of industrial emissions and do so with an efficiency and speed that surpasses most current filters. The work is published in Science Advances.

"Our approach was simple," says Agrawal. "We made

in graphene, which allowed carbon dioxide to flow through while blocking other gases such as nitrogen, which are larger than carbon dioxide." The result is a record-high carbon dioxide-capture performance.

For comparison, current filters are required to exceed 1 000 gas permeation units (GPUs), while their carbon-capturing specificity, referred to as their "carbon dioxide/nitrogen separation factor" must be above 20. The membranes that the EPFL scientists developed show more than tenfold higher carbon dioxide permeance at 11 800 GPUs, while their separation factor stands at 22.5.

"We estimate that this technology will drop the cost of carbon capture close to \$30 per ton of carbon dioxide, in contrast to commercial processes where the cost is twoto-four time higher," says Agrawal. His team is now working on scaling up the process by developing a pilot plant demonstrator to capture 10 kg carbon dioxide per day, in a project funded by the Swiss government and Swiss

Reefer train to ease congestion at the Cape Town **Container Terminal**

IN a bid to improve ef-Town Container Terminal, Transnet has successfully piloted an inland operation that will see the haulage of reefer containers from Belcon Inland Terminal in Bellville, to the

The collaboration Port Terminals and Freight Rail - supports the company's strategy for a modal shift from road to rail, and introduces much-needed improvements in the entire supply chain.

ficiencies at the Cape between two Transnet about much-needed which carries one operating divisions - relief on the roads, reefer container per Through the pilot

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moves goods more efficiently to the ports, and reduces the cost of doing business.

project with one of Transnet's customers, 20 containers were hauled on Friday, 5 February 2021, with the aim to gradually increase this, with more uptake from reefer container customers and cargo owners.

The Belcon Inland Terminal, where reefer containers will be loaded and hauled to the terminal, is located about 20km from Cape

The initiative brings Town. Unlike a truck, trip, one train has the capacity to carry up to 36 containers at a time.

The inland operation is one of the projects that was earmarked for implementation as a response to both community and customer concerns over traffic in the vicinity.

Transnet will continue to work with customers and other stakeholders in improving efficiencies in the system, and supporting the reliable delivery of freight.

(Some light at the end of the tunnel? Ed.)

Shifting from small to medium plastic bottles could reduce **PET** waste

A 20% shift in beverage sales from small medium-sized plastic bottles could reduce the production of polyethylene terephthalate (PET) waste in the USA by over 9 000 tons annually, study in Scientific Reports suggests.

PET is the dominant material used in plastic bottles containing non-alcoholic beverages. Rafael Becerril-Arreola and Randolph Bucklin weighed 187 differently sized PET bottles sold by the best-selling beverage brands in Minnesota, USA, to identify which bottles sizes were the most efficient at delivering the highest volume of beverage for the lowest packaging weight. To validate their findings,

the researchers combined data on sales of different sized PET bottles and the weight of PET waste in Minnesota from 2009 to 2013. These data were used to estimate the effect that changes in sales of certain PET bottle sizes could have on PET waste.

The authors found that medium-sized bottles delivered the highest volume of beverage for the lowest packaging weight, compared to small and largesized bottles. The most efficient bottle capacity was approximately 2,265 millilitres. When the proportion of midsize PET bottles sold was relatively high, the weight of PET waste was lower. By simulating the effects of a 20% shift of sales

from small to mediumsized PET bottles, the author's estimate that the amount of PET used could be reduced by 1% each year, leading to a potential reduction of 9 052 tons of PET waste across tne USA per year.

The findings indicate that encouragconsumers to ing switch from small to medium-capacity beverages could help reduce plastic waste by over nine thousand tonnes per year in the USA, according to the authors. Bottling companies could print a scale that depicts volume on medium-sized bottles to help consumers regulate their portion sizes of beverages without relying on small bottles, they suggest.

Women in science

INTERNATIONAL Day of Women and Girls in Science was celebrated on 11 February, in recognition of the vital role that women and girls play in the science, engineering and medical spheres. Two such South Afripowerhouses. can Sibongile Mongadi and Kathryn Malherbe share how they have broken down barriers and added tremendous value to the scientific community with innovations from their respective companies - Uku'hamba and Invisio AI.

An innovation for people with lifealtering amputations

Sibongile Mongadi, is an entrepreneur currently incubated at The Innovation Hubs' eKasiLabs Soweto programme (eKasiLabs provides business deve lopment support to start-ups in various Gauting townships). Uku'hamba focuses on improving the conditions of amputees by providing lightweight, durable, water-resiscustom-made and low-cost prosthetics. Her invention ultimately serves to improve the living conditions of those who have had life-altering amputations.

Mongadi drew inspiration from her interactions with an amputee at a health facility in Johannesburg, who had been on the waiting list for more than



Kathryn Malherbe.

four years, struggling to get access to a prosthetic limb.

With currently three million amputees in South Africa, only 30% have access to prosthetic care.

"That provoked me to make a positive impact and to start producing low-cost prosthetic limbs to improve amputees' quality life of by giving them back their independence," says Mongadi. Mongadi

with

an educational background in Marketing, Entrepreneurship, Innovation Management and 3D printing - uses advanced technologies (3D scanner, designing software, 3D printer, a CNC milling machine and a laser engraver) along with resourceful and recyclable materials to make mobility accessible to lower- and middle-income groups, with a faster turnaround time than general prosthetics.

Breast cancer identification made easier

Another woman pushing the limits of science is Kathryn Malherbe. MedAI Sol Pty Ltd. is working on the development of Deep Machine Learning (DML) and Artificial Intelligence (AI) software for breast cancer identification and segmentation for breast ultrasound in the diagnostic imaging sector.



custom-made and low-cost prosthetics innovation.

Having worked in clinical practice for the past 15 years, she was inspired to understand why breast cancers are at times missed during ultrasound imaging.

"In order to do give cancer a 'name', you require on-site infrastructure to do a biopsy to send to the pathologists who have to evaluate the breast tissue under the microscope to identify what type of cancer it is. Most clinics don't have the facilities needed, and having thorough biopsies done can take up to six months for a patient to get the answer they need, delaying their standard care of practice," says Malherbe. "Our innovation

can make a real change in the high mortality rate currently associated with breast cancer in South Africa," she adds.

Malherbe has always been a problem solver and started her journey in science 15 years ago when she did her undergraduate studies in Neuroanatomy and then went on to complete her Master's degree in Radiography and Mammography.

For more information on The Innovation Hub and its business incubators, contact Linah Nematandani at lnematandani@ theinnovationhub.com: 012 8440030 / 07371673 9964 or visit www.theinnovationhub.com

Stop AARTO now, says the

By Gavin Kelly - Chief **Executive Officer:** The Road Freight Association

THE Road Freight Association (RFA) is shocked and deeply concerned about the suspension of the Road Traffic Infringement Agency's Chief Executive Officer, Japh Chuwe, amidst allegations of "serious maladministration" by the Auditor-General. This has a severe impact on the implementation of the highly controversial Administrative Adjudication of Road Traffic Offences Act (AARTO), which is scheduled to be implemented in July this

Whilst we welcome the uncovering of corruption, it would be irresponsible and reckless for Government to proceed with the implementation of AARTO. The RFA has over the years expressed concern and uneasiness about AARTO and its susceptibility to fraud, corruption, and money laundering. The RTIA's latest announcement is confirmation of our worst

Once AARTO is implemented, RTIA will be handling Billions of Rand. How can we now trust the entity - especially when the dishonesty and corruption is allegedly at the highest level in the Agency? We already face huge corruption, extortion and intimidation at the hands of traffic police on a daily basis and this latest development has highlighted how rampant dishonesty is in the public service - especially in the traffic law enforcement and management structures. These allegations have undermined what little If the system is imple mented, we envisage theft on a grand scale.

The RFA once again proposes that AARTO be shelved. The continuously amended system is all about

generating revenue and not at all about road safety, which was what the system was originally about. Huge administrative resources will be required to implement and sustain an antiquated and cumbersome system, putting additional burdens on already-overburdened government authorities and the private sector.

The Road Traffic Management Corporation (RTMC) - another Agency of the Department of Transport already costs motorists hundreds of millions of Rand per annum through the levy imposed on all eNatis transactions. This was supposed to be a temporary measure to get the RTMC on its feet. Like all other levies, this has become permanent with no added value to citizens. The RTMC needs to step up and do its job, that is, to manage road traffic according to proper traffic management strategies with effective centralised road safety interventions and operational management.

The RFA believes that proper traffic management strategies which focus resources to address hazardous locations and other aspects of unsafe road behaviour would be far more effective in improving road safety - rather than the current cumbersome AARTO system being proposed.

(There is clearly no political will to either stamp out massive corruption and fraud, or do anything about the country's shocking accident and road death toll. South Africa has about 12 million vehicles on our roads and annual deaths of +/-15 000. By comparison, the UK has 31 million vehicles on faith we had in RTIA. the road and an annual death toll of approximately 1 500. I wonder if our unlicensed drivers and vehicles - each more than 50% - lax enforcement of drinking and driving - has anything to do with it? Ed.)

Sasol walks the talk

IN keeping with its priority Sustainable Development (SDG) of responsible production and consumption, Sasol and management waste company GrnCat, have developed a solution to recover wax from spent catalysts.

Since the GrnCat plant was commissioned in 2018, Sasol has recovered and reused more than 6 000 tons of clean wax.

thereby reducing waste volumes by as much as 50 percent. The creation of 30 new jobs associated with the process has added a social benefit to the environmental and economic advantages.

"We are gaining environmental and benefits economic from the reduction in landfill volumes and recovery of saleable product," said Steve Radley, Sasol Vice

President: Wax and Solvents, Energy Operations.

"We are also supporting the development of small and medium-sized enterprises (SMEs) through established government funding institutions, which aim to promote economic growth and industrial development in the surrounding community."

Founder of Grn-Cat Holdings, Dr.

Reynhardt, added: "Since the startup of our wax recovery plant three years ago, we have been constantly optimising our processes. We have been able to increase our capacity by 60 per cent to 400 tons per month of clean wax.

Radley said Sasol has prioritised four relevant SDGs, includ-SDG12 which is responsible production and consumption, to ensure that the business is environmentally, socially and economically sustain-

"The collaboration with GrnCat is a pleasing success story for Sasol, GrnCat, the surrounding community and the environment. It also demonstrates our commitment to continuous improvement and to making sustainability a reality," he added.

DHL invests R126.5 m in new facility

DHL Global Forwarding is to invest R126.5 million into a new facility in Johannesburg. The new 13 000 m2 facility will be located within the bonded zone at Skyparks Business Estate - adjacent to O.R. Tambo International Airport.

Clement

Managing Director, DHL Global Forwarding, South Africa said, "While it's too early to fully grasp the economic impact of the current pandemic, our confidence in investing ahead of the curve is abetted by our diverse service portfolio and long-established foothold in Africa. As the

world's largest free trade area moves toward economic integration, our five-year strategy to sharpen our core business offerings and accelerate digitalization will further our growth in the region and specifically, in South Africa."

Twice the size of its current set-up, this

new facility will consist of a 10 000 m2 warehouse that enables the forwarder to consolidate all its customers' warehousing requirements. There will be an exclusive and specialized cold chain facility that consists of three adjustable temperature controlled refrigerators geared to handle

the life science and healthcare products in and out of South Africa.

The warehouse will also support other value added services including cross-docking, storage for air, ocean and road freight services, and a platform for breakbulk What do you call panic-buying of sausage and cheese in Germany? The Wurst Kase scenario.

Africa LNG Report: Mozambique in the spotlight

AFRICA Oil & Power (AOP) has launched its Africa Energy Series: Africa LNG Special Report 2021, dedicated exclusively to Liquefied Natural Gas (LNG) developments and investment across the continent.

discoveries New and progressive gasfocused policies, Africa's LNG consumption and production is set to become one of the fastest growing sub-sectors globally through 2040 with Mozambique targets global gas exports to begin by 2023,

With African natural gas consumption expected to grow at an average of 3.3% per year - to reach approximately 195 billion cubic meters (bcm) in 2025 and up to 380 bcm in 2050 - the downloadable report identifies new and emerging gas markets, provides insight into several large- and small-scale projects across the continent and delineates key success factors of project financing and

In addition to rendering an in-depth analysis of production and export potential through a global gas forecast, the report details the role of LNG in advancing Africa's energy transition; facilitating local

capacity building and knowledge transfer; and meeting outstanding power generation needs across the continent via gas-to-power potential.

Mozambique garnered significant international attention due to significant offshore gas discoveries, equating to approximately 100 trillion cubic feet and corresponding to large-scale LNG developments, including Total's Mozambique LNG and ExxonMobil's Rovuma

For more information visit: www.AfricaOilAndPower.com.

Time for wealthy taxpayers to look offshore?

'WE owe a lot of people a lot of money.' That blunt, ominous statement by Finance Minister Tito Mboweni in his 2021 budget speech shows the deep financial hole the South African economy is really in – and warning lights are starting to flicker for South Africa's wealthy taxpayers.

A key takeaway from the Budget was the staggering R213 billion under-collection of tax in 2021 compared to 2020. This is the largest collection shortfall on record, and comes against a backdrop of a debt burden of R5.2 trillion by 2023/2024. As a result, there is a renewed focus on the wealthier taxpayer base, who are being singled out for scrutiny amidst calls for a 'wealth tax' on high nett worth and ultrahigh nett worth individuals, says Tim Mertens, chairman of Sovereign Trust SA.

compliance, "Tax proper professional and planning appropriate use of annual allowances are key to navigate any aggressive changes in tax legislation that may be necessary sooner rather than later," said Mertens.

Going forward, this could lead to a greater number of taxpayers looking beyond South Africa's borders for retirement and tax planning purposes. SAbased retirement annuities (RAs) are limited in many respects, with the biggest disadvantage being the preinvestment limitations contained in regulation 28 under the Pension Funds Act.

"Our message to

people looking at RAs is that there are potentially better offshore options out there, such as using their annual discretionary ance to set up an international retirement plan (IRP). IRPs are excellent alternatives for those wanting to invest beyond traditional onshore retirement plans, and have some key benefits that simply cannot be ignored," said Mertens.

The SA Revenue Service and the Reserve Bank allow South African investors to invest up to R11 million per taxpayer per year, as a combination of their annual Foreign Investment Allowance (FIA) and annual Discretionary Allowance. This far exceeds the taxfree investment limits contained in an RA and tax-free savings account.

These allowances have already been taxed, there is no further tax deduction allowed when investing into an IRP - but the ongoing advantages of the IRP far outweigh retirement onshore products, says Sovereign Trust consultant Leah Mannie.

- No regulation 28. IRPs can invest in literally thousands of global funds. There are no prescribed limits to the equity exposure nor are you constrained by geographic location of the investments. Additionally, the IRP is typically based in hard currency (such as the Pound, USD or Euro) as opposed to the Rand which can be volatile.
- Earlier retirement



age with an IRP can be anywhere between 50 and 75. In retirement, the IRP member can elect to collapse the Plan, partly retire, or draw down ad-hoc amounts that suit their specific needs. This provides incredible flexibility and planning options. There are also no limits around the amount of cash that can be withdrawn nor is there any need to purchase an annuity. This means that one's retirement funds can remain in equity investments even when the member is

· Full portability. If a taxpayer emigrates, the IRP is completely portable, whereas South African Retirement Annuity or Pension Funds are not. "As of 1 March 2021, a financial immigrated individual will need to prove that they have been non-tax resident in South Africa for 3 full years before they will be able to move their SA pensions or Retirement Annuities out

in drawdown.

With an IRP, there is no lock-in period to consider," said Mannie.

Benefits in retirement. A member of an IRP is able to elect a distribution of benefit from the contributed capital element of the Plan. Any drawback of the capital amount (namely the funding from one's prior discretionary allowances) can be distributed back to the SA member tax free. It is only when the member draws back from the capital gains account that the distribution be subject to the South African capital gains tax regime. Being able to segment ones IRP provides more flexibility and ultimately the ability to delay a tax event.

Any South African interested in diversifying their retirement planning in the global sphere is encouraged to look at the wider offering, consult their Financial Advisor or ask for more information, says

Damen donates



Aghmat Mohammed (L), Groote Schuur's Head of Nursing receives the donated care packages from Damen Shipyards Eva Maloi.

Shipyards has delivered 4 000 care packages to the nursing staff at Groote Schuur Hospital in Cape Town. These packages are a small gesture of thanks to the healthcare workers in local hospitals who have been on the frontlines in the fight against the COVID-19 pandemic.

According to Agh-Monammed, Groote Schuur's Head of Nursing, the hospital has seen the most COVID-19 cases in the Western Cape. "Our ICUs are still full, and we are currently very much a COVID hospital." However, he has noted that the hospital has a strong culture of caring, especially in the face of this pandemic.

"At Groote Schuur Hospital, we quickly realised during the pandemic that 'the more you care, the stronger you can be'. There is an exceptional culture of caring for

our colleagues and our patients."

"We have been able overcome every challenge that we during experienced the pandemic because we care so much about everyone around us."

"Through this generous donation, every member of this valuable team will be provided with a care package that will assist with renewing our strength for the journey ahead as we continue to fight the pandemic."

Join the Cape Business Community on www.cbn.co.za Call 021 250 0400 To discuss your digital marketing needs

Re-naming towns and cities is nothing new

NO, a Ggeberha is not a citizen of a province in Canada. Gqeberha is the new name for Port Elizabeth, or Ibayi in the vernacular which means 'The Bay".

Port Elizabeth had to be changed because it was used to commemorate the death of a colonial governor's beloved wife who died there in the early 1800s. And, of course, Ibayi had to go too presumably because Jeff Bezos named his

internet business, eBay.

Giving this old colonial settlement established by English pioneers an isiXhosa name when the nearest speakers of the language lived kilometres away, is just another one of the ironies of history.

Re-naming towns and cities is not a new thing in Africa. Name-changing always comes in the wake of victorious anticolonialism. North of us the capital city of Zimbabwe was swiftly changed

to Harare after independence, and for good measure, a major road in its central business district was renamed Karl Marx Avenue. It scared off many a prospective investor of course, but there you are.

Gqeberha will not have a similar effect, we all hope. The only downside apart from pronouncing Gqeberha properly is changing all business stationery, outdoor signage sometimes, and the local airport too, maybe. Signwriters and printers will be pleased, of course.

On the bright side, local IsiXhosa speakers will have many a belly laugh listening to English speakers trying to pronounce the new name:

Gqeberha nounced phonetically is Gqe-ber-ha.

Gqe - a tongue click, ber is pronounced as bear and there is a guttural "g" before the ha. Good luck!

Extensive range of tiles and sanitaryware

manufacturer of tiles, sanitaryware and baths, Ceramic Industries have embarked on a number of programmes to minimise the raw materials used in its products, and thereby increase the eco-friendly nature of its products. The company's range of EcoTec products have been designed and

introduced to supply the market with products that meet global standards. Production improvements include water recycling, investment in solar power, invested in heat exchangers, improved the cycle times on kilns and a reduction in the amount of product packaging.

Extensions to the range of Eco friendly

products will be rolled out at both its red and white body porcelain tile factories before the end of June 2021, with further innovation happening across other manufacturing facilities throughout the year.

The local manufacturing footprint consists of the following factories:

Betta Sanitaryware

and Betta Baths, manufacturing vitreous china sanitaryware and a broad spectrum of products including vacuum formed Perspex baths, one piece free standing baths, jetted baths and fashionable skirted baths.

Gryphon Tiles, manufacturing white body porcelain tiles in a variety of large format sizes and finishes. The factory is fitted with a rectification line to enable the tiles to be rectified as well as produce wood look planks in a variety of lengths, widths, designs and finishes.

Pegasus Tiles, manufacturing monocottura glazed ceramic tile factory and fitted with digital printing technologies, enabling production of around 18 000 000m² per

nnum.

Vitro Tiles, manufacturing red body porcelain factory and one of the few punched tile factories left in the world, produces rustic, hard wearing slate, stone and rock look alike products with latest designs and technology from around the world.

Samca Wall Tiles, the exclusive wall tile factory in the group, produces monoporosa ceramic dust pressed tiles. The wide range of sizes and finishes produced for a diversified market, has required significant investment into a number of innovative technologies, allowing us to produce various profiles with geometric 3D shapes, glitters, lustres, metallic glazes and oxides.

Construction challenges at MeerKAT



IN partnership with OptiPower, Concor has been awarded the R202-million infrastructure project that will allow the addition of 24 dishes to the 64 dish MeerKAT radio telescope. Located in a remote area of the Northern Cape, Meer-KAT was launched in 2018 and is a precursor facility to the next-generation radio telescope, the Square

Kilometre Array (SKA).

According to Concor's contracts director Joe Nell, the scope of Concor's work will include a construction camp for about 250 people, 40 km of gravel access roads to the dish positions where the antenna platforms will be constructed, and the structural concrete foundations for the 24 telescope dishes. The

camp will include facilities for wastewater and sewage treatment, settling ponds, water storage and security fencing.

Concor will also be building four guardhouses, which will be powered by solar energy. OptiPower will carry out the electrification of the works and the provision of fibre connectivity to the new installation with approximately 60 km of trenching, electrical power cables, fibre ducting and fibre cables required. The Concor-OptiPower venture (COP) will also design a further 109 satellite foundations, with the associated roads, power and fibre installation.

fibre installation.

"A key constraint of this current project is the need to limit any radio frequency interference (RFI) in the vicinity of the Meer-KAT telescope array," says Nell. "This is due to the highly sensitive nature of the radio telescope equipment, which is designed to detect extremely weak radio signals from astrophysical sources."

He highlights that RFI from manmade radio signals emanating from commonly used equipment like cellular phones, vehicle electronics, microwave ovens and many more can easily distort or corrupt weaker signals, and even damage the telescopes themselves.

"This means that we have set up our office in the town of Carnarvon, some 100 km from the site," he says. "We are in the design stage of the project, and will begin work on site in June this year."

Nearer the time of site establishment, a specialised RFI container will be established on site from which the team can communicate and operate certain electronic equipment. The container will be insulated to prevent any signal reaching the telescopes. Dealing with the RFI means

"A key constraint of this current project is the need to limit any radio frequency interference..."

that every vehicle and item of equipment required on site will need to be tested and certified, says Concor site agent Roy van Leeve.

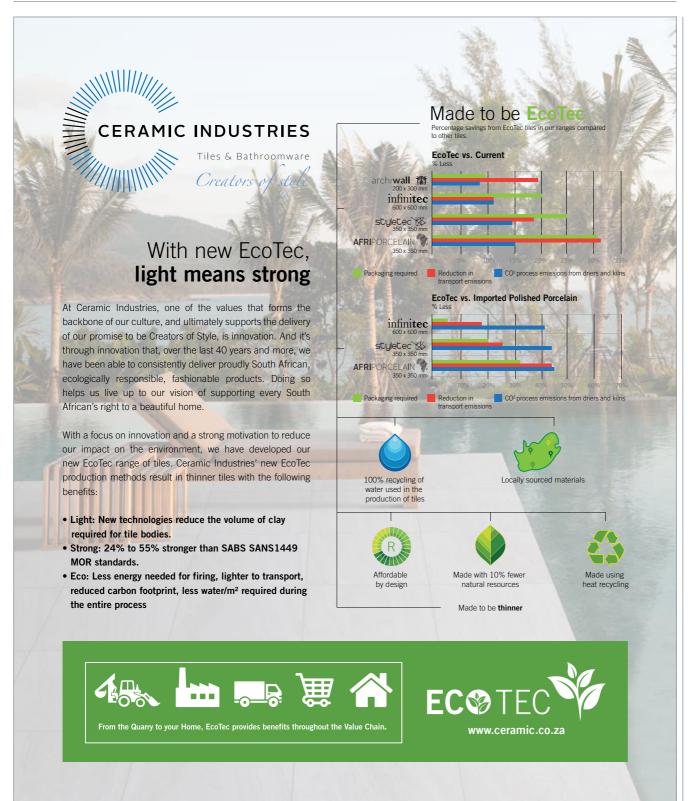
For the roadwork, Concor will be operating in a geological environment of mainly sandstone and calcrete, overlying mudstone and shale, where 20 ton hydraulic excavators will be put to work.

For the radio telescopes' concrete foundations, Concor will be using two methods depending on conditions. Where bedrock founding conditions are deeper than three to four metres, eight piles will be cast for foundation's each seven metre diameter cap; most of the foundations will be done this way. In those cases where bedrock is shallower, a pad foundation will be cast with an 11 metre cap.

The limited number of foundations has meant that Concor's common practice of establishing its own on-site batch plant is not feasible. Instead, the concrete will be sourced commercially – presenting another logistical challenge.

"We will require about 5,000 t of concrete aggregates, which will have to be delivered some distance in trucks with capacity of 34 t each," says Van Leeve. "Added to this, the trucks will need to undergo RFI testing well in advance, so that they have the necessary RFI permit to enter the site and discharge their load."

Concor will also be making use of SMME suppliers from the local Kareeberg municipal area, which includes the towns of Carnarvon, Brandvlei, Williston, Loxton and Vanwyksvlei.



Correct product specification and application



IMAGINE installing bathroom mirrors in a multimillion rand hotel, only to have to replace them due to sub-standard adhesives damaging the silver

backing on the mirrors. Consider the cost of replacing the mirrors, plus the travel, time and labour. It is critical to use the correct product for the specific job on hand to avoid a disastrous and expensive outcome.

Den Braven's unique Mirrorfix-MS is a specially formulated mirror adhesive and will not erode the silver backing of a mirror. Based on hybrid technology the cured adhesive forms a durable elastic rubber between the mirror and substrate to ensure the long term successful bonding of any mirror onto most backgrounds. The elastic rubber formation of the adhesive ensures that the bond will not be broken due to differential movement that takes place between the mirror and the background onto which it is bonded.

It is important to know how to apply Mirrorfix-MS correctly

Mirrorfix-MS applied using a professional applicator gun held at a 90° angle to

the mirror.
The "V" of the nozzle (special shaped nozzle on the cartridge) must face upwards to maximise the area of contact.

Extrusion of the adhesive is started 10 mm away from the edge of the mirror and applied in vertical strips (not blobs) 100 mm apart. The vertical adhesive strip application allows for circulation of air behind the mirror to ensure the

Lift the mirror into place and push firmly against the mirror surface to ensure adequate bonding of the adhesive and the substrate. Mirrorfix-MS has high strength and instant tack.

Application tip:

Blobs of adhesive applied to any substrate are not recommended as the blob cures from the outside inwards and in the event insufficient air passage is prevented, the blob may never cure fully in the centre. Horizontal adhesive stripes are also not recommended due

adhesive obtains full to moisture and dust settlement, which, over time damages the mirror and could erode the adhesive bond away.

Mirrorfix-MS is suitable for use on wood. stone, concrete, plasterboard, tiles, steel, aluminium and good paintwork. Mirrorfix-MS is free of isocyanates, solvents and silicones, environmentally friendly and conforms to Green Building Council of South Africa standards.

Contact Den Braven SA for technical information and application assistance: 021 552 9675 or sales@ denbraven.co.za www.denbraven.com/

Finishing products enhance building aesthetics



Mentis Angle Bead is designed for internal and external plaster use.

ATTENTION to detail ensures the ultimate aeshetic appeal on any building project from selecting the right lighting design right down to the finishing products used for walls, ceilings, windows and doors.

Mentis Africa, specialist in providing durable flooring and handrailing solutions, offers a range of supplementary building products to ensure ultimate finished quality.

Manufactured from galvanised quality steel sheet which is expanded into mesh, Mentis Angle Beads are designed for internal and exterior plaster use. Expanded metal flange wings

anchor securely in the full depth of plaster on either side of the arras.

This product provides exterior corner protection and a reliably straight edge for screeding and for forming an arris in plasterwork which resists chipping or cracking. It is ideal for use on all plastered or rendered corners and protects and reinforces plaster where it is most vulnerable.

The metal corner bead is particularly suitable for forming straight edges and exterior corners when plastering for columns.

Mentis Africa Riblath has a number of uses including a plaster backing on ceilings, walls and stud partitions as well as a permanent shuttering for concrete and for refurbishing damaged or aged masonry walls when a key for rendering is not guaranteed due to disintegration or softening of the wall face.

Serving as a guide

for plastering and as reinforcement at the corner of a wall before plastering, Mentis Africa Plaster Stop also provides a straight edge and finish for plaster at all openings and abutments.

This product is recommended wherever plastered walls finish against tiles, face bricks, skirting, exposed steelwork, and woodwork and it protects and reinforces the plaster whilst providing a neat

Heritage building facelift under way



CONSTRUCTION contractor Icon Group conducting bulk earthworks and demolitions in the Johannesburg central business district as part of a construction project aimed at developing a new Title Deeds Office for the City of Johan-

The project, a partnership between the city and the Department of Public Works and Infrastructure (DPWI), is aimed at revitalising the city's Title Deeds Office so that it can cope better with its administrative load and is better equipped for future growth in the property development and infrastructure sector.

The project value for

Icon Group's scope of work amounts to about R20-million.

Work started in October, with Icon Group MD Wayne Neary expecting the company's scope of work to be completed by June this year.

The overall project is expected to continue for about three years, with two other contractors responsible for the lateral support infrastructure and the construction of the new building respectively.

The project is centred on a 120-year-old heritage building, which needs to be preserved, thereby increasing the complexity of the work. The heritage building will require renovation

and rejuvenation so that it can be integrated into the new multi-storey building, which will be constructed directly behind it.

Neary explains that heritage buildhas structurally unsound walls and deteriorating brick-Consequently, the refurbishment of these walls required careful hand demolition so that about 25 000 original bricks could be preserved, cleaned and reused in the building's reconstruction.

For the safe hand demolition of the ageing brick walls, Icon Group brought a number of cherry pickers to site so that the workers could demolish the walls from the top down, thereby avoiding any potential collapse.

In addition to the heritage building, three old, dilapidated houses at the back of the site had to be cleaned out first and demolished to make way for the excavation of a 15-m-deep, five-storey basement.

These houses were demolished using traditional heavy demolition machinery, including grabbers, heavy duty saw blades, hammers, track machines and pulverisers.

"It is a major challenge to dig a 15 m basement right next to the heritage building. Although the building has been stabilised, the ground conditions are somewhat unknown and we have to improvise and think on our feet," Neary says.

He adds that the rainy season has added another dimension to the challenge, causing the flooding of pits, muddy conditions and potential ground instability. Various measures have been put in place to mitigate the impact of rain on the site.

"The speed at which

we can excavate the basement is governed by how quickly the lateral support contractor can complete the lateral support. This will include applying gunite on the walls to support the excavation," he explains.

All demolished material and removed earth are trucked off site to Icon Group's materials processing lot, where it is recycled into aggregate and used at other

The excavations for the basement started this month, with about 40 Icon Group personnel on site at the project's peak, along with a 40 t and a 50 t excavator, a tractor loader backhoe and about 20 haulage trucks.

With so many trucks entering and exiting the site daily, Neary says managing traffic in such a busy part of the city is a challenge; however, the company has plans in place, in cooperation with the City of Johannesburg, to mitigate these challenges.

Meanwhile, Neary says the decision to centre the project around the dilapidated heritage building was a "smart move", since the DPWI already owned the property, thereby allowing for simultaneous urban revitalisation and herpreservation itage while minimising costs.

The project is also aimed at achieving a Green Star rating, which is an independent verification of the project's sustainability through the Green Building Council South Africa (GBCSA).

The certification process is managed by the GBCSA internally using a case manager and externally using appointed assessors and moderators. Each certification is subject to these independent third-party individuals who provide transparent feedback for the case manager and project team or accredited professional.

Neary says this project signals a good start to the year, which he believes will deliver more development, as projects that were postponed last year, owing to Covid-19, now come on stream.



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The original, reversible, hollow core retaining block



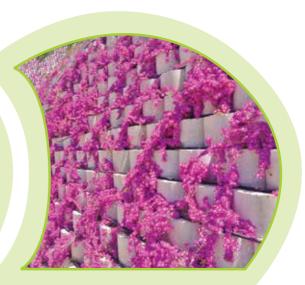
TERRAFORCE has been providing the construction industry with sustainable earth-retaining solutions for more than 40 years.



Beautifully curved near vertical Terraforce rock face wall, hospital, Spain.



Terracrete permeable paver storm water management, Western Cape.



Plants in full bloom, Terraforce round face wall, Turkey.

TERRAFORCE Concrete Retaining Blocks (CRB) are factory made

hollow units of uniform strength and dimensions. They have been substantially tested and analysed under field and laboratory conditions locally and overseas and are manufactured under license by reputable manufacturers on five continents. They are extremely versatile, offering a horizontal and optional vertical interlock, allowing for seamless variations of wall inclination between 50 – 90 degrees, while their convex and concave corners and curves of unrestricted radius permit complex designs to suit any site conditions. The blocks are designed to allow you a choice between round face, (plant supportive) or flush face (smooth or split version) finishes. The company also developed a permeable paver, Terracrete, an erosion control block, Terrafix and a step and seating block, 4x4 Step block over the years.

All Terraforce products are plant supportive and permeable.



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Night-time lighting at 4x4 Step block seating, Qatar.







Grassed Terracrete parking, hospital, Western Cape.

School seating and step with the 4x4 Step block, Western Cape.

Decoratively planted round face Terraforce wall, Eswatini.

PPC empowering SMME as a social and economic driver of growth



ocused on keeping our ear to the ground, PPC has spent the last ■ 128 years empowering the community to experience a better quality of life. Through PPC's Enterprise Supplier Development (ESD) program, we have seen SMME's across South Africa grow and make a positive contribution towards the economy. Each of our SMME partners is an example of why partnership and empowerment drive South Africa's construction sector.

The thriving brick maker in Cape Town Thomas Khumalo, founder of Zonke Bonke Hardware and Steel is one of these examples. With customers willing to pay for quality building material from the hardware store, his vision and efforts to provide the community with improved access to building supplies were well received. The community was looking for a trusted supplier in the area and a partner on their home development journey. For this reason, the 7-year partnership between PPC and Thomas Khumalo continues to be an example of how PPC customers offer a collective building solution to the community that has provided visible employment prospects. This knowledge drives PPC's SMME development as South Africans have more confidence in the competence of our 100% local 100% quality products that drive the economy and the construction sector forward.

Empowerment at PPC is our daily living because we strive for excellence in all we do. We remain a trusted partner in business and community



Making bricks



Thomas infront of Zonke Bonke store

activities because we understand the challenges and needs for local entrepreneurship. We remain committed to the development and growth of the country as we celebrate all of our SMME partners who afford us the opportunity to do so. This is why we upskill each partner that comes through our ESD program to provide them with the critical education, skills and technical knowledge required to support, grow and manage their businesses effectively thereby changing their community's socio-economic status. We remain committed to the development and growth of the country as we celebrate all of our SMME partners who afford us the opportunity to do so. \blacksquare

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CEMENT & CONCRETE SA ESTABLISHED TO DRIVE THE INDUSTRY TO NEW HEIGHTS

Cement & Concrete SA (CCSA) has today announced that the new consolidated industry body is open for business and is set to take the lead on all matters relating to cement and concrete in South Africa.

The single non-profit entity, CCSA, was established through an extensive and thorough process of engagement with various stakeholders to consolidate The Concrete Institute (TCI), Concrete Society of Southern Africa (CSSA) and the Association of Cementitious Material Producers (ACMP).

The body will create long-term shared value and industry growth in South Africa through driving collaboration, skills development, innovation, and the highest standards in sustainable cement and concrete materials and products.

Bryan Perrie, CEO of Cement & Concrete SA, states that CCSA has been mandated to promote and support the industry, to drive growth and deliver shared value through a unified platform for cement and concrete.

> "At a time where many conflicting and ambiguous messages are shared readily on various platforms, and with the proliferation of substandard products and services, the need for authoritative engagement with all stakeholders is critical," Perrie adds.

> > A new and inclusive membership model will make the portfolio of services offered by CCSA available to individuals or corporates, either for free or at members' discounted rates. These services include courses presented by the School of Concrete Technology, access to the Information Centre, attendance at technical events and webinars, publications, and hyperlinked listings on various electronic sources, to name a few.

CCSA, through its members, will create the opportunity to build a healthier future through a network of influencers. Working with industry role players to develop the value propositions of cement and concrete is one of the identified objectives of CCSA. Other goals include: to promote the value creation story of the cement and concrete industry in South Africa, supporting research as a means of increasing the ongoing expertise base, and the promotion of industry standards and audit compliance amongst members and industry role players.

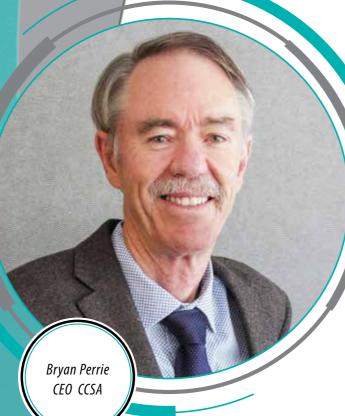
On a more practical level, CCSA will grow industry expertise and build capacity by developing and offering courses, seminars, and training materials. The provision of information, research, advisory and on-site technical consulting services will be another service offering available to members.

CCSA's dedicated focus on committees will ensure that all relevant areas are addressed with expertise through consultation. The committee structures will empower members to guide and shape many of the services. The branch committees of the erstwhile Concrete Society of SA will be retained to ensure that CCSA will have concrete ambassadors in various regions.

"We are excited about the future of the cement and concrete industry in SA. The staff of CCSA are ready to discuss membership options and benefits. We are poised to add value and unlock opportunities for all members, and the industry at large," Perrie concludes.

Contact: **Hanlie Turner** (082) 779-0368 hanlie.turner@cemcon-sa.org.za





Phase 2 of SPU precinct to be completed in mid-2022

FROM the initial involvement in 2014, consultants AECOM expect Phase 2 of the R800 Million Sol Plaatje University (SPU) precinct in Kimberley in the Northern Cape to be completed by mid-2022 although AECOM has been awarded a further contract extension, reveals Toit Scheepers, AECOM Team Lead and Programme Manager.

Billed as the largest tertiary education development in post-apartheid South AECOM's Africa, role as the principal agent for the client means that they are overseeing 30 projects at present, from refurbishments to newbuild infrastructure, all managed by the AECOM 18-strong team.

"The designated SPU Library C004 was the overall winner in the 'Buildings Greater than Three Storeys' category for Architectural Concrete at the 2017 Fulton Awards."

The works divided into three categories, namely large-, medium- and small-scale projects. The major projects are assigned to two different teams of architects, engineers and contractors, while the rest of the projects also have individual professional teams. There are six separate teams working in tandem on the SPU precinct and all managed by AECOM.

The project consists of three campuses in proximity, namely: North Campus, which houses the administrative functions, South Campus, catering for the student residences and sports facilities and Central Campus, for all the academic functions, including the award-wining university library.

The designated SPU Library C004 was the overall winner in the 'Buildings Greater than Three Storeys' category for Architectural Concrete at the 2017 Fulton Awards. The judges' citation lauded this "bold and original project that pushes the boundaries of architectural and engineering design" for deploying concrete as both a structural and aesthetic material.

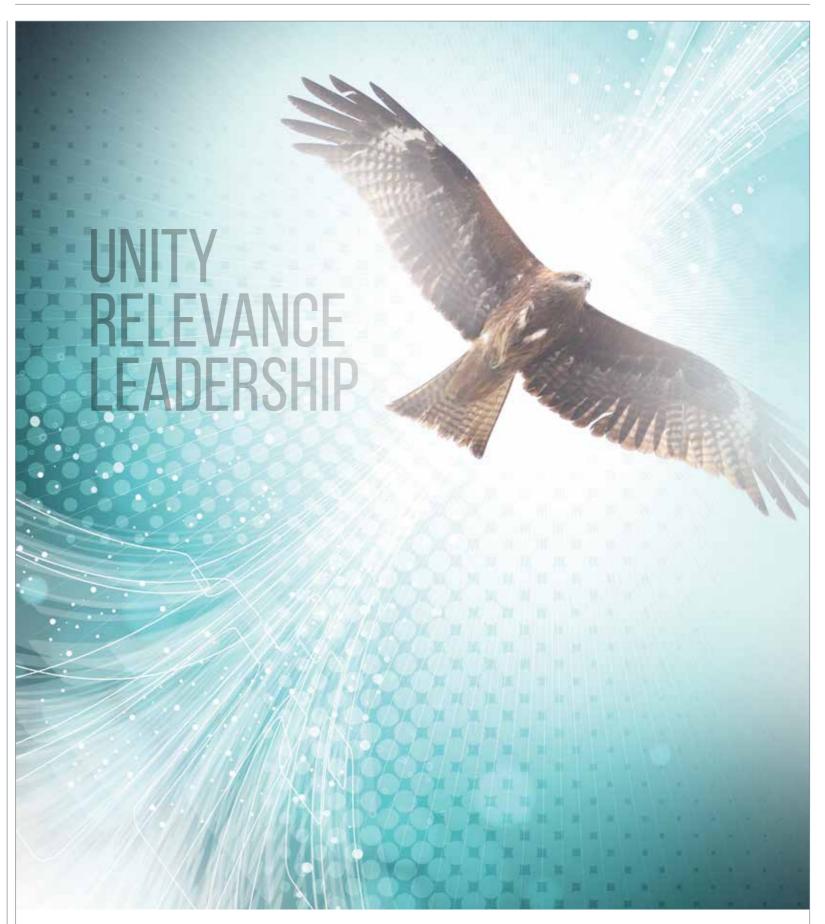
Kimberley officially designated as a semi-arid area, AECOM has been diligent in incorporating the latest sustainability features at the project. These range from synthetic surfaces for the sports fields to water-saving measures such as artificial landscaping materials

for the landscaping, making the SPU precinct one of the most advanced of its kind in Africa.

Apart from providing employment for around 1 000 residents, a specific focus of the project has been community involvement. Specific targets for local participation, empowerment and skills development have been set in conjunction with the Department of Higher Education.

A video of the Sol Plaatje University precinct project is available at: https://www.youtube. com/watch?v=dbyyEQZ-bw4





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Why everyone's talking about hydrogen

Almost any stock with a decent hydrogen angle performed well in 2020. So, what is all the excitement about, and are these stocks in a bubble?

Asks Simon Webber, Lead Portfolio Manager at Schroders.

WHAT is all the excitement about?

Renewable energy can and will decarbonise power generation. Renewable energy and batteries can and will decarbonise the automotive sector.

But these technologies will not be as viable for aviation, shipping, commercial vehicles, steel or fertiliser manufacturing. In all of these vital industries it looks as though hydrogen will be needed, or at least that hydrogen will be one of the most viable solutions, for decarbonisation.

Hydrogen can be burnt in a combustion engine or boiler for transportation heating; used to power a fuel cell for transportation or heating; or used as a reduction agent for iron to make

It can also be used as an energy storage agent by using excess solar energy in the summer to produce hydrogen, which can then be stored and converted back to electricity for use in All of the winter. these processes have zero or much lower CO2 emissions than current alternatives.

How much hydrogen will we need?

Hydrogen is already used in a few large scale industrial processes, such as oil refining ammonia and nitrogen fertiliser production. However, if hydrogen fulfils its potential in these new end markets of heating, industrial, transportation energy storage, the production and consumption of hydrogen volumes would need to expand 7-10x from current levels.

Chart 1 was produced by the Hydrogen Council, a consortium of industry and energy groups to highlight the potential market growth if all of the above use cases for hydrogen materialise.

Doesn't hydrogen production create its own emissions?

Yes. 95% of existing

hydrogen production is exceptionally polluting, being produced from natural gas (10kg CO2 per 1kg of hydrogen produced) or coal gasification (20kg of CO2 per 1kg of hydrogen produced). However, hydrogen can be produced CO2-free by electrolysis of water. If renewable energy is used to produce the electricity, the hydrogen can essentially be made CO2-free.

What are the respective costs of these different production methods?

Today, renewable hydrogen is a lot more expensive than fossil fuel hydrogen. However, this is expected to change, and by 2030 renewable hydrogen should cross over and become the cheapest method of production, at which point there is really no need to persist with alternative production methods. The situation is very similar to where electric vehicles (EVs) and renewable energy itself were 5-10 years ago.

Chart 2 compares the costs of 'blue' hydrogen (made from natural gas) at different gas prices to renewable hydrogen. While very cheap gas with carbon capture and storage might still be slightly cheaper than solar produced hydrogen in 2030, the difference will be fairly small. There are also others who forecast renewable hydrogen costs to fall faster than this.

How big could the market for green hydrogen be?

This really depends on whether policy makers can be convinced by the natural gas industry that carbon capture and storage is a viable solution. In theory, making hydrogen from natural gas and then storing the

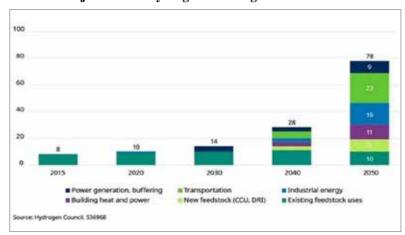
CO2 underground could remain cost competitive with renewable produced hydrogen. However, currently no-one is really doing this at scale, and there are all sorts of legal and environmental problems with storing tens of billions of tons of

CO2 underground. The costs of renewable derived hydrogen are going to fall dramatically as shown above, driven by economies of scale and the ever falling costs of renewables, and this makes it quite likely, in our view, that green hydrogen will fossil-deoverwhelm rived hydrogen in 10 years' time. Given that green hydrogen is only 1% of the hydrogen market today, the potential is huge. In a blue sky scenario, taking 100% share of a market that will be 8x larger means that green hydrogen production would be 800x larger than it is today in

What regulatory support is there for this transition?

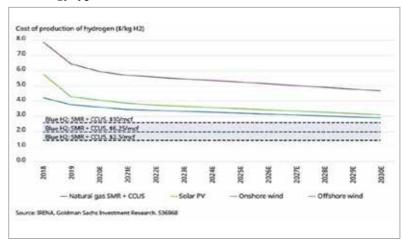
The European Union (EU) is the furthest along in its planning for the transition to a zero emission economy, and it has recognised the need to develop a strong hydrogen industry to enable decarbonisation in industry, transport and heating. In July 2020, the EU

Chart 1: Projections for hydrogen market growth



Global energy demand supplied with hydrogen, EJ

Chart 2: Hydrogen production cost forecasts, next 10 years, by technology type



LCOH (\$/kg H2) implied in the cost of production for hydrogen

announced its hydrogen strategy, targeting at least 40GW of renewable hydrogen electrolysers and the production of 10mt of renewable hydrogen by 2030. The analysis anticipates the need for EUR 24-42 billion of capital investment for electrolyser capacity up to 2030.

What will be the investment consequences of this transition?

There will, of course, be many investment consequences. There will be opportunities for energy companies and industrial engineering companies to build and operate all the

green hydrogen facilities. There will also need to be hundreds of gigawatts of new renewable energy capacity to supply electricity to the electrolysers, and these new renewable energy volumes are not yet built into market forecasts for the wind and solar industry suppliers.

However, perhaps the simplest business and investment opportunity will be the growth that comes to the companies that can capture the equipment market for all the new electrolysers that will be deployed.

Electrolyser ment sales are a truly tiny market today, at only approximately revenues in 2020.

Building out the required scale of green hydrogen to decarbonise all these industries globally would require an annual electrolyser market of closer to \$25 billion in the peak years of construction. In that context, the fact that there are only a handful of leading electrolyser players today makes this a very interesting industry, as while there could be some new entrants, the technology is not simple and the established players are rapidly forming alliances and customer relationships with developers and energy groups. This will give them economies of scale and help them drive down costs.

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RENEWABLE solutions continue to grow in popularity due to the continued threat of power interruption.

South Africa is an energy hungry country, to meet the constantly increasing demands for power, alternative sources of generation need to be considered. The move to cleaner, sustainable power has gained traction in South Africa and glob-

ally due to the need for reduction in emissions and sustainable power. Renewable energy is often only considered as solar, however other forms of renewable energy are as important. The renewable energy basket includes wind power, biomass. wave power and hydro power to name a few. This growing market segments brings along new technologies and requirements. Helukabel is constantly evolving with new cables, wires and accessories being created as demands on renewable projects change. Specialists within this sector are available to assist with information, data sheets and offers.

Contact sales@ helukabel.co.za Tel 011 462 8752

Water reuse can improve food security



THE impact of the COVID-19 pandemic on poor households has been particularly bad. In a survey conducted between May and June 2020, 47% of adults said that, by April, they had no more money to buy food. A fifth said someone in their household went hungry in the past week, and 15% said that a child went without food in the same period.

Food security is a big concern for South Africa and a bit of a paradox. The country is often flush with food and not considered a place where famine occurs. We have elaborate and sophisticated agriculture and food processing sectors that serve both domestic and international markets. The country's recent droughts may have been crippling, but the sectors could rebound convincingly when the rains returned.

Water and food security

But those same rainfall patterns also impact food security, raising costs and straining operations, say Chetan Mistry, Strategy and Marketing Manager for Xylem Africa:

"South Africa's water security is tricky to measure. If you rate us by annual rainfall, we

fit somewhere in the middle of the global pack. But if you look at how that rain is dispersed, it's obvious that large parts of the country are arid and water is scarce. We are a very dry country where most of the water needs to be moved to areas that need it. Johannesburg is the best example of this. The city's area does not capture enough water to sustain it and instead supplies are pumped from Lesotho into the Vaal dam system. Very few major cities in the world are in that situation "

Most of the country's 470mm rainfall occurs in a five month period, compounding matters. To borrow the oft-used phrase, a South African makes a plan to overcome these factors. Yet we often overlook a crucial element around water management and its impact on food security: water reuse.

Reclaiming a valuable resource

Agriculture and food processing uses a lot of water. Irrigated agriculture consumes between 51% and 63% of total available water, and the agri-processing sector uses around 130 million m3/year. Roughly 55% of that goes towards food and beverages. In most cases, those in the

sector rely on rain or municipal water and do little wastewater recy-

cling on their premises. This is not tenable, says Mistry, "We have an example of a US customer, a raisin producer, that would spend around \$50 000 [R740 000] each month moving water to a local municipal processing centre for recycling. They use the water to irrigate their crops, but need to clean it from sugar, dust and other contaminants that give the water a high biological oxygen demand. They also wanted to stop spending so much on treating the water. "

Many South African food and beverage producers are in the same boat, and many focus on treating raw water sources. But, as mentioned above, that's a very unsuitable approach for the country's water profile. If we address water scarcity through recycling wastewater, we can directly impact the cost of production and, subsequently, good food security.

Recycling water on-site

Modern wastewater treatment systems are modular and compact, and their smaller scale means you don't need a massive treatment site to recycle water. It's very convenient and economical for individual processors and farms to initial their own treatment systems.

have benefitted richly

systems

Treatment

from advances made in the industrial and mining sectors. Today, water equipment technologies can be deployed in compact and focused sites so that farming and food processing operations can internally recycle their wastewater. Systems such as reverse osmosis, ozone treatment, UV treatment, and advanced oxidation can strip all types of contaminants out of water, often at lower costs than treating raw water. They can apply to new sites or be added to existing water systems, using containers or skids for the most appropriate deployment.

Several municipal sites around South Africa have started using such systems to improve their costs performance. Now, individual companies can gain the same advantage, scale to fit their operations and budgets. Doing so doesn't only make economic sense. It will also be a significant win for overall food security.

In South Africa, we must make every drop count. Between the country's uneven rainfall, growing population and shifting weather patterns, every opportunity should be taken to ensure more water and food security. On-site water treatment is one of those opportunities. If we can make water treatment viable for farms and food processors. South Africa will become a much more food secure nation.

No contamination chain solution

BMG's extensive range of Tsubaki chain products encompasses the Lambda lubrication-free roller chain series, which has been designed for industries where clean working environments are required and where product contamination cannot be tolerated.

Typical applications for this chain are in packaging machines used in food processing, pharmaceuticals and electronics manufacturing, as well as in environments where abrasive contamination is prominent, like wood processing and the paper and packaging sectors.

"Tsubaki's ronmentally-friendly Lambda lube-free chain series has been designed with a sintered oil-impregnated bush, where the chain is internally lubricated to avoid premature wear. This feature extends the operating life of the chain, without the need for additional maintenance or messy external lubrication," explains says Carlo Beukes, Business Unit Manager, Power Transmission division, BMG. "Because Tsubaki's Lambda lubefree chain requires no lubrication, working conditions are cleaner and safer.

"Difficulties encountered with conventional chain for case packaging and secondary packaging equipment include contamination of cardboard surfaces and products, caused by lubricants and paper dust. This gives rise to high maintenance costs and costly production halts for the necessary cleaning cycles of equipment. Added to this, uneven wear and elongation cause problems with chain alignment, resulting in unsynchronised



Tsubaki Lambda lubrication-free chain - four key features: 1. Sintered oil-impregnated bush, 2. Specially coated pins, 3. Centre sink rivets and 4. Ring coin.

product transport.

"BMG's Tsubaki Lambda chain is supplied with a specially developed food grade lubricant as standard and this increases chain wear life by 30%, with no compromise on chain strength. Because there is no need for external lubrication, the chain is kept cleaner, making it easier to specify and install, especially in areas with strict hygiene regulations.

microscopic "The pores in the seamless sintered bush of Lambda chain are vacuum filled with a high-performance NSF-H1 food-grade lubricant. While most of the lubricant is held in place, where it is needed most, a small amount will inevitably migrate to the surface of the chain. For this reason, it is critical that the lubricant is deemed suitable for use in the food industry."

Tsubaki BMG's Lambda lube-free chain meets all NSF-H1 requirements and can be safely used in environments where there is the possibility of incidental contact with food. H2 lubricants are suitable for locations where there is no possibility of contact with food and H3 lubricants, which are typically edible oils, are used where there is likely to be contact with foodstuffs.

Many industries, including food and beverage production, use processes involving heating and cooling. Lambda chain, which has been shot-peened for higher fatigue strength, operates efficiently and safely in a wide ambient temperature range between -10°C and +150°C. BMG supplies a special heat resistant series which is suitable for use in environments with elevated temperatures up to +230°C.

The standard Lambda series includes BS/DIN and ANSI drive and conveyor chain with attachments, double and hollow pitch conveyor chain, as well as double plus and accumulator chain with centre rollers.

BMG's national branch network offers a technical advisory service on correct chain selection - a critical factor in any power transmission system. For specific applications, chains with special materials, coatings and lubrications are available nationally, and to meet exact requirements, chains are accessible in any lengths.



Electronic engineers help wine growers to vintage success

Behind the rise and rise of English wine, British engineers and technologists are busy developing new systems and aids for the vine growing industry.

ENGLISH wine is taking off, with more and more people recognising its award winning quality and production growing by the year. A generation ago it was wise to steer clear of 'British wine', blends of cheap wine from generally unnamed sources. But since then, a warming climate and improvements in viniculture has seen a whole new industry blossom. Commercial vines are now grown throughout the UK, predominantly in the south of England about also in Wales and even Scotland. Viniculturalists all over the world know that without treatment, large portions of any vine crop will routinely be lost to fungi, bacteria, and – the

blight of the industry - mildew. The English growers also realise that like all developing industries, as production grows so the need for

efficiency increases. Oxfordshire's Heli-Lift Services has been pioneering the use of helicopters for spray treating grapevines, technologies developed by neighbours Sensor Technology - represented in SA by INSTROTECH. Starting in the historical vineyards of Douro Valley, Portugal, where with little room for tractors, Heli-Lift soon realised that aerial spraying was very much more efficient and cost effective than traditional manual methods. It is now promoting

its capabilities to English vine growers, who are all keen to innovate and advance their industry further onto the world stage.

Heli-Lift Services' spraying rig is designed so that its nozzles release perfectly weighted droplets evenly and swiftly over the crop. The company has also developed a hydraulically stabilised Heli-Deck for easy refilling on rough or sloping ground. To ensure even spray coverage, the pilots use a sophisticated GPS mapping device called HeliNav LoadMaster coupled with an intelligent LoadSense weight sensor that monitors spray usage to plot and record progress in precision detail.

Both HeliNav and LoadSense were developed by Sensor Technology Ltd. Load-Sense is based on the company's wireless torque sensor which the industrial world is very fond of. Helicopter operators took to it because, being wireless, there is no need to drill cable holes through the aircrafts' body panels - which would mean getting recertified for airworthiness.

The pilots asked if Technology Sensor could link the load information with accurate GPS positioning, to automated flight planning for optimised spray patterns, and HeliNav LoadMaster was born. The load

sensing and position monitoring technology developed by Sensor Technology is essentially simple, yet is accurate to very fine tolerances. LoadSense combines Sensor Technology's wireless signalling with a strain gauge Load Sensor. It has the capability of wirelessly transmitting its data to a readout where it both displays live readings and records them to build up an exact profile of each operation. Its inbuilt 32MBit memory can hold up to 280 hours of data which can then be downloaded to

a PC via its USB cable. The load sensor transmits using the worldwide license free frequency of 2.4GHz

using two built in antennae. The cockpit mounted readouts provide the pilot with precise real time information in an easy to understand graphical format. The sensor can also send signals direct to handheld readouts so that assistants on the ground have the same live information.

HeliNav LoadMaster provides position information through an on-board GPS (global positioning system), inclinometer and accelerometer and helps pilots plot and follow flight paths, monitor flight times, fuel requirements, etc. As such it makes even the most complex spraying jobs simple and efficient. It also logs the weight of the load and the distance travelled, so that the helicopter operating company can provide the client with accurate work reports and precise billing as well as schedule timely maintenance.

Sensor Technology and other British companies lead the world in advancing electronic sensing and data handling systems and it works hand-inhand with the English wine industry, which is equally innovative and successful.

INSTROTECH, instrumentation & process control specialists represent Sensor Technology locally. For more information: 010 595 1831, sales@instrotech.co.za

Avoiding shrink wrap labels boosts recycling

CONSUMERS seeking to make purchasing environment should avoid products packaged with shrink labels.

Similarly, producers and retailers of groceries and beverages wanting to boost their recycling credentials should consider alternatives to

what are called 'shrink sleeves' in the trade.

That's the message from Extrupet joint managing director, Chandru Wadhwani, in response to the common misconception that using shrink sleeves benefit the recycling process.

"Unfortunately, that's just not true. Shrink sleeve labels, especially those manufactured from PVC and PET, pose significant challenges to the recycling process for post-consumer bottles," he said.

As a PET bottle-tobottle recycler, Extrupet, along with the guidance of PETCO, has fought hard to change the mentality and raise awareness of how shrink sleeve packaging in South Africa is detrimental to the greater recycling industry.

"The simple fact is that bottles can't be 'desleeved easily for recycling', as many providers of the technology claim. In addition, the associated costs are often prohibitive and, as a result, many shrink sleeved PET bottles are never collected for recycling and end up in landfills or oceans. Furthermore, there is no end-of-life use for these PVC and PET shrink sleeve labels. This renders them all to the waste stream," he stipulated.

Wadhwani encouraged all brand owners, converters and machinery manufacturers to be more attentive to the packaging design of products they are putting to market.

"The effects 'design for recycling' on sustainability and the circular economy play a big role and one that the



Charlotte Metcalf.

whole value chain needs to be a part of. However, we can only do so if we are aware and educated about the issues the recycling industry faces," he said.

Misconceptions and disinformablatant tion about recycling are among the biggest challenges faced by the bottled water industry and the recycling sector in South Africa, according to South African National Bottled Water Association Charlotte Metcalf.

"Instead of following international trends blindly, producers, consumers and legislators must do what's best for South Africa. And they can do that by critically examining the new technologies mooted to determine if they are applicable to the South African situation or if they would disrupt the very successful recycling streams that we have," she said.

"For example, many are punting biodegradable bottles. South Africa's recycling ecosystem, however, can't accommodate these at present. And, if they are by mistake – recycled with PET, the PET is contaminated and rendered worthless.

"Another example is the 'box' or 'carton'. There are very few recycling plants in South Africa that can separate the cardboard from the 'sleeve' that ensures it doesn't leak. As a result, they can't be recycled and yet people believe boxed water is an alternative to PET."

The best option, according to Metcalf, is to opt for a PET bottle and to recycle it. The PET recycling stream in South Africa is robust and well-managed, and supports close to 66 000 South Africans.

As a country, 62% of PET bottles are recycled and, in 2019, 95 879 tons of post-consumer PET bottles collected, which would otherwise have occupied 594 448 cubic metres of landfill space and produced 144 000 tons of carbon emissions.

Aside from these environmental benefits, PET recycling also generated 65 900 income-earning opportunities among informal reclaimers and SMMEs, with R1.1 billion injected into the downstream economy via the manufacturing, distribution and sale of products made from recycled PET (rPET).



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Choosing the right pump for smooth vinification

Darryl Macdougall, **Managing Director, Verder Pumps South** Africa

THE local winemaking industry is not only a source of national pride, but a key economic contributor. Over the last 25+ years the industry has grown significantly; and by 2019 approximately 300 000 people were employed directly and indirectly within the wine industry, with exports reaching 320 million litres, representing approximately 50% of locally produced wines.

However, winemaking, like many industries, faced a gruelling year in 2020 - not least of all due to the impacts of the COVID-19 pandemic on lockdowns, bans and subsequent restrictions on the sale of alcohol locally, reduced export trade volumes and ongoing supply chain disruptions. Such widespread market disruption in the wake of the pandemic has led many winemakers to rethink and restructure their plans from even 24-months ago, where maintaining business continuity and sustainability have become more the order of the day.

From mass to microand artisanal winemakers this has placed a lean, flexible vinification process as the engine of a successful operation. Processes need to be reliable and repeatable to accommodate; perishable ingredients, storage, short-lead times for retail clients and, of course, maintain impeccable standards of hygiene throughout vinification processes to guarantee product quality and the signature taste of each product.

To produce highquality products consistently, and reduce waste throughout the production process, requires machines and equipment that are 100% fit-for-purpose, while allowing for optimum production formance. And, while understanding the technical details and implications of selecting the right pumping solutions for specific use applications can be challenging, it is an important purchase decision as continued and sustainable optimum production performance of a winery is dependent on the longevity of the equipment.

With this in mind, the pumping solution should be selected based on specifications such as:

- losses due to leaks or product damage because of how well the pumps seals
- Cleanability and the solutions ability to perform optimally while still handling the products with
- care and meeting today's clean in place (CIP) and sterilisation in place (SIP) hygiene standards
- Cost effectiveness through proven operational efficiency, and
- Lower total cost of ownership (TCO),
- due to longer lifecycle of the pump and flexibility to replace ancillary equipment such as parts or pipes, for example
- Ease of disassembly and reassembly for access for maintenance, as required

To be assured of the quality of equipment, winemakers should look to a trusted and reputable brand that can offer a wide range of longlasting, cost-effective advanced and integratefit-for-purpose able pumping solutions.











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New education center for measurement instrumentation

The center provides faceto-face and virtual training for customers in the Middle East and Africa to upskill process automation engineering and maintenance workforce

EMERSON launched its first Middle East and Africa (MEA) Education Center for measurement instrumentation, located in its Dubai headquarters. The center enables Emerson to provide customers with an immersive, hands-on learning environment in field instrumentation, analyser, and metering technologies.

The center provides solutions that help customers upskill their automation process engineering and mainworkforce through an innovative training approach based on their specific needs. It has the capability to offer both conventional

face-to-face and virtual training, enabling Emerson to continue supporting its customers during these unconventional times of limited mobility and social distancing.

"The facility will strengthen Emerson's virtual capabilities by connecting to customers' production sites, facilitating remote collaboration and training," said Mounir Taleb, MEA vice president of Emerson's measurement solutions business. "The education center enables Emerson to aid customers in enhancing the skills of their current workforce and adapting to the latest measurement and flow technologies.'

The education center includes a modern, facility offering a collaborative environment that nurtures learning among participants, by

providing full access to software and control systems from any location. It also provides virtual, instructor-led courses that resemble a live classroom experience with the convenience of remote accessibility.

Emerson Educational Services has been approved as an authorized provider by the International Association for Continuing Education and Training (IACET). As a result of their authorized provider membership status, Emerson's Educational Services is authorized to offer **IACET** continuing education units for its programs that qualify under the ANSI/ IACET Standards.

For more information about Emerson's MEA education centres, visit www.Emerson.com/ MF.Aeducation

First in SA berm monitoring system

SAFETY berms are critical for the safe movement of heavy machinery in open pit Continoperations. ued berm integrity is therefore also critical, as is ongoing monitoring to ensure berm integrity. SICK Automation has developed the SICK Advanced Object Detection LiDAR System (AOS LiDAR) which offers high reliability for outdoor applications. Using an outdoor scanner, safety controls and an intelligent system, AOS LiDAR is the ideal solution for berm monitoring, automating the previous timeconsuming and sometimes imprecise manual vision inspections.

SICK's berm monitoring solution provides a truck-mounted. perception-based solution that scans berms in real time. It consists of an onboard embedded processing system, a global navigation satellite system (GNSS) localisation and the AOS LiDAR scanner. It provides reliable long-distance detection in any environmental conditions and incorporates defined alarm outputs for predetermined

objects to reduce false alarms. The system's modular construction offers flexible extension options, made simpler with its easy integration into machine control.

"One example of AOS LiDAR's effectivity is the reduction in both downtime and costs associated with berm-related dents," points out Grant Joyce, Head of Process Automation Sales and Marketing, SICK Automation. The data from scanned berms is transmitted through a central server and reporting system 24/7. "This allows operational personnel to identify of any section of any berm that requires investigation, as well as the fault criticality, and take immediate action."

Proof of Concept for South African mine

A Mpumalanga based South African coal mine ordered a proof of concept (POC) berm monitoring solution. After several modifications, feedback from the mine proves they are more than satisfied with the outcome. "The implementation



for different mines will vary according to their geographic location and local factors that influence their berm requirements," Joyce points out. "However, customising our solution to fit our customers' precise requirements forms part of our solution offering.

The scope of work technical included vehicle inspection, ensuring software compatibility for the solutions' management system, product installation, integration and commissioning. Physical installation was two days per vehicle, although numerous modifications were subsequently made for the system to better suit the mine's unique requirements.

"Many of our product features suited their exact needs," Joyce "In instances says. where they did not, the operators suggested system modifications which we were able to incorporate. The result is an easy-to-use berm monitoring system tailored to that mine's exact application needs, and one that is sufficiently flexible to accommodate future adaptations should they be required."

"Key to this offering was the ease of implementation into the mine's daily operations," Joyce concludes, "and you can already see the difference.

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INSTROTECH can **KOBOLD** supply REG flow restrictors to maintain constant quantities of liquids in pipework systems. The REG rate regulators are ideally suited for the simple restriction to a preset value of throughputs of water, or of liquids similar to water. The flow restrictors ensure equilibrium, particularly in systems with many users and resulting pressure fluctuadom flow conditions. This ensures that the desired throughput is not exceeded. Constant flow is achieved by two stainless steel diaphragms that are cross-mounted and riveted together. The gap between the springloaded stainless steel plate and seal face is continuously varied as the differential pressure changes. As the differential pressure decreases the gap widens, and it closes as the pressure increases, thus maintaining a

constant flow volume through the device.

Optimized water distribution is one example of application possibilities for REG, and specifically the regulated supply of fresh water to remote settlements. Initially, core settlements consume too much water, so that bottlenecks can occur at the remote end of the pipeline. Direct installation of REG completely eliminates the problem. The advantages such as, tamper-proof application, maintenance-free for life, and it's a lowcost unit, requiring no auxiliary power.

Pump Protection is another application of REG, wherever a constant flow rate is needed despite pressure fluctuations, for example, switching on or off water consumers. In cooling circuits REG offers lifelong protection against overheating at idle, water hammering and cavitation.

Industrial areas are another area in which REG finds good application, as virtually every industry needs water at its inlet and outlet points. REG's high-quality stainless steel design is completely maintenance free, and independent from auxiliary power and totally tampering-proof, making it optimally suitable for most diverse of industrial requirements, such as district heating systems, cooling circuits, filtration processes, spray moisture application, dosing applications, agricultural irrigation, fire fighting and fire protection services, emergency shower systems (hazardous water treatment.

Technical specifications

- Pressure Max. 200 bar; Temperature Max +300 °C
- Connections: screw thread G1/2, G3/4, G1½, G2, G2¼, $G2\frac{1}{2}$ and $\frac{3}{4}$ "NPT



Highlights

- Energy saving No auxiliary power required
- Compact design easy to fit/assemble
- Durable and reliable - No wearing parts

Video Link: https:// www.kobold.com/ uploads/files/REG-Operating-DemoVid.mp4 Contact INSTRO-TECH for more information on 010 595 1831 or sales@instrotech. co.za

Absolute Profibus through hollow bore



INSTROTECH offering SCANCON's SCH88BEX, Model: **ATEX** absolute encoder with Profibus Interface. It's a strong, compact (89mm footprint), cost-effective, through hollow bore encoder. Engineered for rugged conditions, it's reliable for extra harsh environments, and is the encoder of choice for Zone 1 & 2 applications.

SCH88BEX The encoder has hybrid sensing technology and features optical technology for the single turn encoder, and magnetic for the multi-turn encoder. There are no gear wheels that can wear out. The unit can be mounted directly onto the shaft and the

innovative, removable end-cap allows for ease of mounting cables. It can also be mounted directly into the application without the need for any barrier, isolator or special cable.

The SCH88BEX is certified for world wide application ATEX, IECEx and North American Class I Div. 1 certifications, and has the following features and advantages:

- · Hollow Shaft Encoder – ø 89 mm
- Through Hollow Bore: ø 25 mm to ø 30 mm
- IP 66/67/68 (~Nema 6) Environmental Protec-
- Aluminium (Chromital TCP surface treatment)

Material option Stainless Steel (AISI 316)

Applications for the Scancon SCH88BEX absolute encoder are found primarily in the industrial oil and gas fields, heavy industry, agriculture, marine and shipping, as well as for cranes. A Fibre Optic Ex-Proof version is available for ATEX Zone 1 applications that eliminate signal degradation due to electrical noise issues, while providing the same superior qualities found in the standard model.

Contact INSTRO-TECH for more information Tel: 010 595 1831 or sales@ instrotech.co.za

High-level pressure sensors for complete systems

KELLER's standard product catalog covers most applications for pressure measurement technology. However, there are often great benefits to optimising pressure sensors specifically for use and integration into higher-level complete sys-

KELLER's modular product design offers great flexibility and allows customer-specific adaptations to be made without causing soaring costs - even for small production runs.

Sharing expertise to create the perfect sensor solutions

KELLER has 50 years experience in countless challenging projects in the field of piezo-resistive pressure measurement technology. Applications that at first glance may seem trivial, can actually

prove to be highly complex on closer analysis. By taking the actual usage conditions of the sensor into consideration right from the outset, Keller has achieved major improvements in effectiveness and durability. Keller has found that a mutual exchange of expertise with customers has been central to their success, and sharing that knowledge is what has enabled Keller to find the best sensor solutions.

The stages of creating a tailored customer-specific solution

- Define basic sensor specifications in order to select the appropriate component
- Assess the environmental conditions to determine the appropriate design for the intended



KELLER Custom Solutions optimize pressure sensors in higher-level complete systems.

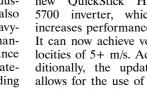
location

- Design the requested customer-specific solution taking all standards and laws into account
- Assemble the electronic modules, taking into account application-specific customer requests
- Configure electrical interfaces and connections
- Custom product labelling with laser engraving or labels

Contact INSTRO-TECH for more information on 010 595 1831 or sales@instrotech. co.za

New inverter enhances conveyor system performance

THE QuickStick HT intelligent conveyor system from Rockwell Automation is designed to transport large loads with the intelligence of independent cart technology. The most common applications for the technology are in the automotive industry. However, it is also well-suited for heavyload material handling, ride conveyance and hazardous material handling, including glovebox applications.



The system has a



new QuickStick HT 5700 inverter, which increases performance. It can now achieve velocities of 5+ m/s. Additionally, the update allows for the use of a smaller Kinetix 5700 power supply, reducing the control cabinet size and saving space on the plant floor. The updated system also includes integrated functional safety. It has hardwired Safe Torque Off and Safe Stop 1 timed, SIL3/PLe.

OGD with plastic front lens and distance measurement

For added safety

- High process reliability thanks to shatterproof plasticfront lens
- 2 in 1: simultaneous output of distance value and reflectivity
- Identification and sorting of objects based on reflectivity
- Process values shown on 2-colour display and sent via 10-Link



Everything under control thanks to OGD Reflectivity with plastic lens

The OGD Reflectivity features a switching output for the reflectivity value in addition to providing distance information. This increases the reliability of process control: For example, it not only detects whether toppings have been added to a deep-frozen product, but also determines whether the correct topping has been used based on its reflectivity.

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Appointment



TECTRA Automation has a new General Manager effective 1 February 2021.

Chris Riley, with a track record of leading engineering companies in South Africa and abroad, succeeds Kevin Lombard who leaves the company after 20 years of service.

Riley, who holds a National Higher Diploma and BSc Degree in Mechanical Engineering, as well as a Master of Business Administration Degree, also has significant business transformation experience.

Shoprite expands solar PV project and continues its commitment to more climate friendly operations

THE Shoprite Group now generates enough electricity to power over 1 100 households - 12 300 MWh of electricity - a year from solar energy, following the installation of rooftop PV (photovoltaic) panels at 19 sites in South Africa and Namibia.

The Group has also fitted 649 solar panels to the roofs of its refrigerated trucks, which generate 760 annually MWh enough power to run 1 040 refrigerators for a full year. These allow drivers to switch off truck ignitions at delivery locations, reducing noise and exhaust pollution, while keeping the cold chain intact.

There are now 18 throughout stores South Africa and Namibia in the Group that harness the power of the sun for their operations. These include Checkers Plettenberg Bay Mall, Sitari, Gordons Bay, Constantia, Hermanus and Whale Coast Mall and Shoprite Strand (Western Cape), Shoprite and Checkers Parys as well as Checkers Woodlands (Free State), Shoprite Rustenburg (North West), Shoprite Devland (Gauteng), Shoprite Kimberley and Kathu (Northern Cape)



Solar panels at Shoprite's Basson distribution centre.

and Shoprite Oshakati, Otjiwarongo, Ongwediva and Tsumeb (Namibia).

Group's And the largest installation, at its Basson distribution centre in Brackenfell, is a remarkable move to reduce the company's impact on the environment. There are now enough solar panels at this distribution centre to cover an entire soccer field, and the 7 706 m² of panels have a generating capacity of

"Apart from these solar panel installations, we have also signed an agreement which will see the Group procure 000 MWh of renewable energy per year for the next seven years. We are the first

retailer to close such a deal, which is arguably the first of its kind in Africa," says Sanjeev Raghubir, Sustainability Manager for the Shoprite Group.

In a bid to find innovative ways to reduce electricity usage, the Group has also replaced flourescent lamps with energy-efficient LED lamps. The process cost R98.3 million, and in the four years since its inception has saved 83.8 million kWh of energy.

recently Shoprite scored an A- for its climate change and water disclosures security on the globally recognised CDP platform, which further underlines the retailer's commitment to environmental sustainability.

Optyma[™] control panel proves effective at Facebook HQ in Dubai

THE Danfos Cooling IDS team MENA Region, has concluded a project for an effective turnkey solution for Facebook Dubai by enhancing their cold performance, assuring optimum protection for perishables kept inside their cold room.

It recently commissioned its Optyma™ Control Panels (CP) installed in the cold rooms for Facebook who recently opened a new 1 860 m2 flagship office in Dubai. This office space accommodates sixty employees, at its new home in Dubai Knowledge

village.

The project execution was done through Naser al Sayer & Co LLC (NASCO), one of Danfos' premium partners for Refrigeration Accessories & Controls for the region. By running successful test runs at diversified tropical conditions after bundling Optyma™ CPs with the refrigeration units, convinced NASCO that Optyma™ control panels could offer their customers a comprehensive, price effective and unified solution for its commercial refrigeration requirements.

The newly upgraded



Optyma™ Control panel offers a trouble-free installation, when combined with other Danfoss condensing units and components, whilst serving as a user-friendly remote monitoring

when connected to the ProsaLink app. The energy savings solution brings with its smart defrost and night-set mode, makes it the desired solution for future refrigeration applications.

Proactive approach for an unbroken cold chain

By Eckart Zollner, Sales and Marketing **Executive at Ikhaya Automation Systems**



THERE is no doubt that the transportation and logistics around perishables and certain pharmaceutical goods such as vaccinations require an effective and unbroken cold chain. Any instance where the temperature of goods falls outside the required range, whether in transit or storage or at the final point of sale, could render the products unusable. This not only negatively impacts profitability, but it also can impact reputation and creates unnecessary wastage. Smart connected and automated temperature

monitoring at every point of the cold chain helps logistics companies proactively ensure their cold chain is never broken and their goods arrive in prime condition for use and sale.

A complex chain with many links

Transporting perishable goods such as food, as well as pharmaceutical products that need to be maintained at a specific temperature, is a complex process. The cold chain has many links: various storage facilities, and different transport environments between the manufacturer and the final point of sale. This includes the initial warehouse, long haul transport which may be via truck, rail or air, and regional or last-mile transporters, as well as storage locations in between.

In order to ensure foods and medications are not spoiled, the temperature of products needs to remain constant within the required tolerance limits. This, in turn, varies depend-

ing on the product being transported – for example, fresh fruit may need to remain under 10 degrees Celsius, but specific vaccinations may need to be maintained at below freezing. This chain is only as strong as its weakest link. If at any point in the logistics process, the temperature falls outside of the recommended range, then food may spoil. However, in the case pharmaceuticals, it could have a severe adverse reaction if the cold chain is broken and the medication is administered to a patient.

Connected technology is the answer

Leveraging the growing backbone of the Internet of Things (IoT), devices can be connected via GSM or Wi-Fi to provide continuous, real-time temperature monitoring across all areas of storage and transportation. These devices take readings at regular intervals and automatically compare them to the set threshold. If the threshold is breached, alerts are sent to relevant parties for remedy. This helps to identify issues with faulty equipment or power supply, for example and ensures that they can be rectified proactively to protect stock before issues can harm the cold chain.

Data is key to unlocking value

An integrated and connected system across the cold chain can unlock tremendous value. All communications are uploaded to a cloud-based system that can be accessed from anywhere, which empowers logistics providers to proactively minimise both downtime and stock wastage. Data analysis also enables organisations to identify trends and patterns to remedy any latent problems within the cold chain.

In addition, real-

time connected data logging provides an auditable record of temperature pliance that can be graphed and visualised and provided to inspection authorities. Data analytics also provides insights that can help to finetune operational and handling processes. Remote device management and location mapping and analysis also help logistics providers to understand exactly where and when problems occur. This can be used not only to address equipment failures but also human behaviours that may be compromising the cold chain.

When it comes to ensuring cold chain integrity, the reliability of the equipment is key. It needs to be rugged, robust and fit for purpose, and offer 100% uptime with battery backup and dual network connectivity. Solutions should also conform to global standards and provide unrestricted, real-time access to data from anywhere at any time. With connected, automated monitoring solutions that incorporate data analytics, logistics providers can develop a proactive, auditable approach to ensuring their cold chain remains unbroken.



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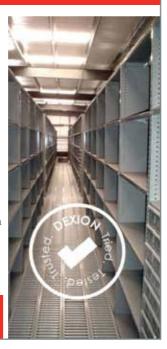


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Aquatecture, new rain harvesting panels at the **V&A Waterfront**

THE V&A Waterfront will be among the first companies in South Africa to test a highly innovative new design in rainwater harvesting technology.

The Aquatecture rain harvesting panel collects water diverting raindrops flowing over the perforations on the surface to the inside of the system. From there the water trickles down into a collection tank where it can either be stored for later use, or can be pumped back into a building's grey water system.

"Aquatecture is the brainchild of South African born designer Shaakira Jassat."

The panel is also currently being developed to harvest moisture from the atmosphere.

Aquatecture is the brainchild of South African born designer Shaakira Jassat. Although she lives in the Netherlands now, Jassat witnessed Cape Town's devastating drought when she attended the Cape Town Design Indaba as a speaker in 2018. She was determined to design a rain harvester that was compact and aesthetically suited to the urban environment, which is now the Aquatecture panel.

Manufactured from aluminium, the panels are resistant to corrosion and can be installed on the exterior of buildings or they can be used as freestanding units in areas with more open space. They will be tested at the Granger Bay parking garage over the next two years, and all water collected will be used at the Oraniezicht City Farm Market. This test facility is made possible in collaboration with Arup, Geustyn & Horak, JoJo Tanks, Baloo Plumbing and Longspan Gutters.

Rainfall data specific to the area will be collected during the testing period and measured against weather variables, for example, the direction of rain, wind, and the amount of rain that fell during each period. The panels will also be tested for efficiency and impact on the surrounding environment. V&A Waterfront CEO David Green said, "Saving water is now an integral part of every development and of our overall sustainability programme. In addition to rainwater harvesting, the Aqua-

tecture panels are also compact and visually appealing so they will integrate well into most urban architectures."





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Abrasive Flow Solutions (AFS) is launched

Solutions Group (ESG) part of Invicta Holding Limited, has established a new company - Abrasive Flow Solutions (AFS) - that specialises in the design and manufacture of slurry related valves.

"ESG's strategy to further expand its fluid technology services, through the launch of an in-house manufacturing facility, strengthens the Group's position in the valves sector on the African continent. establishment of AFS also expands specialist valves services to a broader customer base and provides new market and application opportunities," says Willie Lamprecht, Business Unit Manager, Low Fluid Pressure, Technology division, BMG. "The AFS team has extensive experience in slurry related valves, including Klep diaphragm and wedge gate valves. Our spe-

ENGINEERING cialists have set their first challenge: to improve the quality of diaphragm valves, by extending service life and reducing the maintenance requirements of this range. This will be achieved through the implementation of the latest developments in design technologies, materials and coatings.

"At the helm of AFS is managing director, Donald Morrison, who has many years' experience in the severe slurry service valve market, for which BMG is an official distributor."

The AFS manufacturing plant in Benoni, which is equipped with the latest equipment, complies with stringent quality and safety standards. This facility is supported by technical specialists who offer dependable technical support to ensure optimum safety, efficiency and extended service life of every system, even for those used in corrosive envi-



AFS Klep valves.

ronments and arduous conditions. The team is able to specify the correct valves needed for every application and also assists customers in solving the problems of difficult installations and applications.

Through BMG's broad branch and distributor network, industry has easy access to a comprehensive portfolio of locally manufactured imported valves. This range includes AFS Klep diaphragm valves and wedge gate valves, AFS FPV non-return valves, pinch valves and knife gate valves, plus

many other valves.

This range is parwell-suited ticularly for use in harsh conditions in diverse industries, including mining, chemical and petrochemical, water and wastewater, energy production and agrifood industries.

For further information contact: Willie Lamprecht, Business Unit Manager, Low Pressure, Fluid Technology division, BMG, Engineering Solutions Group (ESG) part of Invicta Holding Limited Email: williaml@bmgworld.net

Pumphouses on the move

PUMPING slurry to tailings facilities requires a solution that can move as the dam expands to make room for additional tailings, making Weir Minerals Africa's mobile pumphouse ideal for the purpose.

"A mobile pumphouse completely avoids the cost of any civil engineering for permanent on-site buildings," pump says Weir Minerals Africa Pumps Product Manager Marnus Koorts. "Instead, it is designed to be moved as required across the site, using its own specifically engineered, skid and jack-and-roll elements."

Koorts says the offering is part of Weir Minerals Africa's engineered-to-order (ETO) solutions, which also reduces the long term total cost of ownership. The threepoint Warman® Multiflo® pump mounting system allows the base and skid to act independently. This mini-

mises the risk of misalignment between the pump and motor shaft during operation and relocation. The unit incorporates an integral gland water supply system and a separate electronic house (E-house) for power control and remote communication.

Koorts highlights that as a mine's process plant matures the tailings line grows with new tailings dams being created, often using Linatex hoses and Isogate valves. It is a significant advantage to be able to move the pumphouse, and to add pumps to the tailings line if the increased distance requires more pressure. It is also an important contributor to reducing initial capex costs.

The design of the mobile pumphouse, he emphasises, sets a new standard for tailings management applications, providing the customer with the tools and equipment to rapidly reconfigure their "...it is designed to be moved as required across the site, using its own specifically engineered, skid and jack-and-roll elements."

pumping network, with the ability to move it to other sections of the tailings pond.

Weir Minerals continually dedicates significant investment towards product improvement, aligning with an industry shift from fixed products to more mobile equipment options and solutions.

The company's solutions include Multiflo® pump barges and floating pon-toons mounted with Warman® SHW submersible slurry pumps for extracting the fluid tailings. Its Warman® slurry pumps are ideal for boosting recovered tails from the pond, to drive the new tailings treatment process

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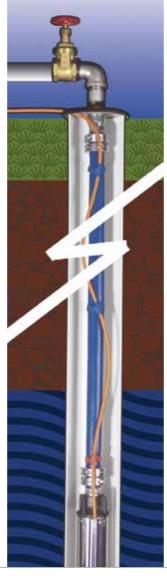


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OPINION

All bureaucracies are bad, even tiny ones

Continued from back page

There are lessons to be learned by ratepayers from this little story:

- Do not expect anything to be done swiftly or efficiently by your local council. This is because it will have to hold a meeting to discuss the job and will postpone doing anything to the next meeting at least - if then - and blame Covid for any delay. This is true of the Cape Town City Council,
- the sub-councils, and the new additions to the financial burden of Cape Town ratepayers - the SRAs.
- If there is something the Council, a sub-council or an SRA plans to do, it is a sure bet that with a telephone and access to the Internet, you as an ordinary householder can do it quicker and cheaper.
- Do not sign up as member of an
- SRA. It will cost you money. You will help create a mini- bureaucracy; it will move at the pace of a snail; it will be taken over by people who love sitting on committees.
- When it comes to preventing the noise, smell and mess that drug addicts and their suppliers make in your neighbourhood – YOU ARE ON YOU OWN.

What is it about Nuclear Energy that its opponents don't want you to know?

Asks Des Muller - Spokesperson for the SA Nuclear Build Platform.



Koeberg, operating without a major (nuclear) incident for more than 36 years. Image source: Wikipedia.org

THE recent spate of anti-nuclear media coverage coincides with national energy regulator, NERSA's, public consultation process on the procurement of 2 500 MW of nuclear energy to rescue our dire energy situation over the long-term, while short to medium-term measures are being considered and implemented.

It is logical to assume that the biggest economy in Africa should be powered by a balanced and sustainable energy portfolio that ultimately delivers a) access by all to affordable electricity, b) environmental sustainability, c) sustainable employment and, most importantly, d) energy security, which mitigates load shedding.

Nuclear energy is the only power generation technology we have available today, that delivers exceptionally well on all of the above objectives.

Therefore, it is illogical when knowledgeable and seasoned economists, energy experts, and now politicians, try to squash the value proposition that nuclear energy has for our country, in favour of imported and evidently unreliable energy sources.

As one of the pioneers of renewable energies and independent power producers in South Africa, I am disheartened to see that, after spending R250 billion on renewables, our economy remains constrained by energy security challenges. Whereas the same investment in nuclear energy would have given us more than double the electricity produced on a reliable and dispatchable basis, and it is "green".

Koeberg is a living example of this having generated the cleanest, most reliable and cheapest electricity for the past two decades and will continue doing this for at least another two decades. It is therefore foolish to even try and undermine the value this has provided and continues to provide for our economy, especially for the Western Cape.

To ensure that nuclear energy retains its status as the safest power generation source in the world, it has recently improved its safety and quality standards with the release of third-generation large scale nuclear power plants. The emergence of Small Modular Reactors (SMRs) promises to improve on these

safety standards and shorten the construction lead times.

The new generation power plants have emerged from their prototype projects, where construction lead times and costs were understandably overrun, similar to what we saw with the early wind farms. Today's large-scale nuclear power plants are being consistently built by highly experienced and competent Engineering, Procurement & Construction (EPC) teams within the budgeted schedule and cost parameters. These are the proven power plants and construction methodologies that South Africa will pursue to reduce these known risks, while cutting out corruption and increasing local content. We are now well positioned to reap the benefits of many reference nuclear power plants built and operating successfully in the world.

Although the overall delivery of a nuclear power plant, from conception to commercial operation, is typically ten years, a significant part of that is in the planning, procuring, licensing and site preparation during the initial stages, which provides many sustainable and high-paying jobs right from the start. With the high levels of unemployment in our engineering, manufacturing, material supply and construction sectors, instead of criticizing, we should be welcoming long-term construction projects that provide a century of employment from conceptualisation to decommissioning. Clearly the jobs created will be a significant benefit for our country in addition to the valuable energy it produces over the long term.

While renewable energy suppliers claim to provide the cheapest installed costs and tariffs for new power plants, this is taken out of context erroneously by not considering the additional system costs to balance the intermittency in supply. This places the overall renewable/ IPP tariffs at about double Eskom's selling tariff, which effectively puts our electricity costs into orbit as we expand the renewable portfolio. Batteries will exasperate these costs even further.

Although the installed costs of nuclear power plants are about three times higher than renewables and take longer to build and commission, they operate three to four times longer, produce three to four times the amount of electricity per year and provide even greater multiples of jobs per GW installed and TWh produced. They are easy to finance with sub 5% Export Credit funding (ECF) from their countries of origin and again, will provide the cheapest electricity on the Grid after the capital costs have been paid back during the first quarter of its operating life. The cost of decommissioning and spent fuel management is included in the tariff as a statutory requirement. However little is known about the piles of renewable toxic waste being generated, the ecological impact and the decommissioning of these plants and how this is being managed.

To add to the illogical stance from the anti-nuclear groups, modern nuclear power plants also provide flexible energy to follow fluctuations in load demand and balance the intermittency of renewables. Nuclear energy also has the capacity to provide an abundance of cost-effective and clean energy for high volumes of reliable process heat, desalination and hydrogen production, while the world sleeps at night.

Of great importance for South Africa, are the investment and employment opportunities that a nuclear build programme brings to our energy sector. The industry-based South African Nuclear Build Platform (SANBP) is dedicated to optimising local industry participation in a nuclear build programme. South Africa has a very capable and experienced nuclear industry, which is currently engaged in Koeberg's life extension in preparation for the new build.

As Michael Shellenberger aptly said, "The real reason they hate nuclear is because it means we don't need renewables". (https://www.forbes.com/sites/michaelshellenberger/2019/02/14/the-real-reason-theyhate-nuclear-is-because-it-means-we-dontneed-renewables/?sh=6b86ce9f128f)

There is, however, enough room for all energy sources in South Africa's balanced and sustainable energy mix. Let us commit ourselves to solving our country's current and future energy needs instead of pursuing vested interests.

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Cape Business News is always on the lookout for stories of companies that are shaping the Cape business landscape. If your company has a story to share, in these, or any other business sector, send your story to editor@cbn.co.za for consideration.

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The truth about beaches and Cele

IVEN the lockdown demise of the Local Pub & Grill (long will it be remembered), the company of curious conversationalists were practising their good cheer in the shade of a giant Wit Stinkhout at the local Grill & Garden (cold beer on tap). As usual, Luke the Dude was disturbing the peace.

But to interrupt (Luke won't go away), I am aware, thanks to Steph the Beard who drinks beer and knows things, that *Celtis africana* is the White Stinkwood in English. Nevertheless, my feeling is that, if enjoying the shade of the Withaak is good enough for Oom Schalk Lourens, the Wit Stinkhout is good enough for me. We also have leopards here, and ours don't change their spots.

"Never mind being minister of police, that Cele the Coci needs to be locked up," said Luke the Dude on cue.

"I do not agree," protested Big Ben by habit. "What has he done this time?"

"This time Boyo?" sniggered Colin the Golfer. "He's done enough at all other times, hasn't he? Maybe he is evolving from arresting surfers to threatening rugby players?"

"That's the job of the minister of sport," informed Stevie the Poet, "arresting the Western Province management is a better idea." Most of the company are aggrieved Province supporters. We have ignored the noisy local Sharks since the Currie Cup semi-final.

"Never in the history of sport have such brilliant players been betrayed by such inept managers," Churchillised Miss Lily.

"Useless!" confirmed Jon the Joker.

"Moi?" opined Jean-Jay, "I say lock them all up, throw away the keys for that one with the Nat minister's hat."

"Hah!" sneered Big Ben, "on what charges, nogal?"

All eyes turned to Stevie the Poet. "I may be able to make a suggestion," he responded modestly, "once Luke the Dude has made his case. I'm sure his considered opinion to lock Cele up is based on something."

"Of course," said Luke, swallowing a draught from his lager to clear his head, "remember the malice in Cele's persecution of beach-goers? Arresting surfers and protestors, chasing peaceful people away, single-handedly destroying millions in foreign funds attracted by our film industry, violently harassing parents for the felony of retrieving a straying toddler from the sand?"

"Yes, I do," nodded Irene the Queen. "As if those cops had no real crimes to fight. We saw the results when the crime statistics were released. Total failure for Cele ..."

"Useless!" underlined Jon The Joker, "to make sure that nobody went near any beach on all of the Western Cape coast during prime season in the summer holidays, he called in the army to guard the sandy patches of the Garden Route. Self-aggrandized general acting like a corporal on brandy and Coke."

"Hmmm," pondered The Prof, nursing his pipe. "I was intrigued by the legal shenanigans. After the Pretoria High Court sensibly found that we all know what a beach is, the paranoid persecutors of the Command Council had a special definition for 'beach' drawn up – setting South Africa apart as the joke of the free world.

"As reported by *Business Insider SA*, beach now meant everything within a hundred metres above the high-water mark, excluding private property and constructed surfaces. Estuaries were included for a full kilometre inland."

"Useless ..." laughed Jon the Joker.

"I do not agree!" expectorated Big Ben. "Aren't you forgetting something? The National Command Council was appointed for a reason: to deal with a deadly threat..."

"Yes," interrupted Luke the Dude, "the generals thought they had to defend the country against chemical warfare..."

Big Ben charged forth: "Have you forgotten about Covid-19? It is the government's job to stop infections. You make it sound like a mad gang of conquerors vanquishing the conquered! The ANC is looking out for us!"

"Well yes," breathed Luke the Dude after another deep draught. "Thanks for bringing us back to the Covid pandemic. We need to judge the government's actions on the basis of the facts. Am I right, Steve?"

"Continue, my learned friend," smiled Stevie the Poet.

"And the facts show," obliged Luke, "that we have every right to be outraged at the mismanagement of the lockdown and Cele's thuggish misconduct."

"What do you mean!" Big Ben spluttered in his beer. "Are you saying crowded beaches are NOT super spreaders!"

"That is exactly what I am saying," confirmed Luke the Dude sternly. "Britain's experts found that during their summer the crowded beaches caused no Covid out-

breaks. Zero. What's more, they say this outcome is fully in line with known scientific evidence.

"Prof Mark Woolhouse, an epidemiologist and government adviser, is quoted by *The Guardian* as saying the chances of a super-spreader event among beach-goers is 'minimal in theory – and non-existent in practice'.

"Listen to this, I wrote it down. He adds, 'There's never been a Covid-19 outbreak linked to a beach, ever, anywhere in the world ...' How is that for a reality check?"

"I do not agree. That's just his opinion," persisted Big Ben.

"You haven't been listening," reprimanded Luke, "Dr Muege Cevik, an expert in infectious diseases, says it is a known fact that only about one in ten Covid infections happens outside – and even then some of the 10% were in and out at the time of infection.

"Prof Lucy Yardley, a member of their Scientific Advisory Group for Emergencies, says government must learn from the summer debacle – she refers to Britain, but the debacle was much worse here – and the lesson is that people banned from being outside, go inside.

"The message is loud and clear: the danger is lurking inside, not outside – and out-

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side includes the high-water and low-water marks and as far as you like in the fresh, open air on both sides."

"So how was Minister Cele to know that?" Big Ben still did not get it.

"The same way Premier Alan Winde knew," explained Luke the Dude nicely. "To paraphrase, he said the 'nonsensical' beach ban must be scrapped."

"We charge Cele with arrogant and malicious incompetence," announced Stevie the Poet.

"Guilty!" ruled the jury.

"There is no such charge!" stormed Big Ben.

"We do not agree!" overruled the jury.

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All bureaucracies are bad, even tiny ones

NE of the inevitable things that happens when people grow old is the steady evaporation of whatever patience and tolerance they once had for suffering the stupidity of other, younger (but not always) members of the bi-pedal apes we call humans.

Those fortunate to have made it to pensionable age feel this dwindling tolerance more acutely than most as the monthly rates and taxes they pay to the local council take an ever greater chunk of their income.

Lately, in Cape Town, in part reaction to the inability to get this gigantic welfare state to carry out its duties swiftly and efficiently, a new institution has arisen. It is called a Special Rates Area (SRA).

In other words it is an add-on to the City Council and relieves the existing workers of doing things like cleaning the streets. In Cape Town there are now some 27 000 people enjoying these Council sinecures.

One thing in their favour (or should be) is that SRAs are voluntary. The cost of membership is added to your normal rates account so the Cape Town City Council gets to benefit – it can now pass the buck even more effectively than by making it impossible to telephone anyone in authority. It can even dodge having to repair pavements (in my small corner at least).

I live in Kalk Bay, a so-called area of historical interest. My house is in front of the Fishermen's Flats – a mostly quiet multiracial community housing the descendants of people who have for 150 years plied their trade as sea-going fishermen.

In 36 years of living here I have only had two break-ins to the house and two radios pinched from my car that has to be parked in the road. Pretty average crime rate I

However, in the last couple of years a steady rise in drug –selling and drug-using has upset the equilibrium. Lifting the ban on Dagga use in your own home has led to a stretching of the rule even further. Selling not only Dagga but Mandrax now takes place in public right in front of my house – often as late as 11pm and even in broad daylight. The stench and the mess these addicts make and leave is one thing. The blatant ignoring of the law is another more serious affair.

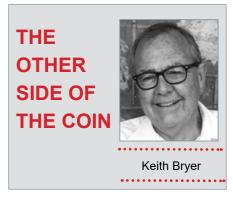
Our local supplier of the drug of choice at street level is well known. He is local. He goes to sea occasionally but probably finds the easy money of selling drugs a handy source of extra money. And he is approaching pensionable age. He too has a fine line in abusive language coupled with the arrogance of a bully covering for his own innate fears.

All the above brings me back to the local SRA.

Since its inception, it has gathered enough members to create a handsome income. With this it has employed a team of security guards who patrol Kalk Bay and St James, dutifully plugging into check-points to prove their presence, but otherwise failing to do anything to prevent the drug selling. There is an office staff. Of course.

The SRA also employs a social worker that connects street people in Kalk Bay with the families they have run away from. The fact that there is a Night Shelter in Kalk Bay does not find favour with many, possibly because of the discipline it insists upon (no drug taking and out by sunrise, being two of its rules).

A couple of months ago the SRA sent all its members a newsletter announcing that it was now installing cameras at various points linked to the police station, and ask-



ing for donations and suggestions of where they should be put.

Nothing has happened to my swift offer to help with the situation described above. The excuse for the delay (I was assured it had popped up on the meetings of the SRA) was, of course, Covid-19. When I dug a little deeper I was told that it was because the company the SRA had employed to install cameras was a national one, not local, and new suppliers were being considered.

Gee whiz. Such efficiency. Such speed of decision making.

Meanwhile, I decided to go ahead myself. It took me precisely two days to get three quotes from Cape Town suppliers of security cameras. It took another day to consider the quotes and decide to go local and hire a Fish Hoek company. They arrived the following week and installed the system in one day beginning at 8.30 am and ending the job at 5.30pm:

- Five (5) colour cameras with about 150 metres of cabling, the latter carefully planned in consultation with me and the agreed routes scrupulously followed
- One colour monitor attached to its own computer with a power converter to change the 250V A/C to 12V DC.
- Tuition of my wife and me on how to navigate and record using the system.
- The cost was less than R8 000.

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