



CAPE Business News

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Farewell Electroair

Hello Airstream!



8

Agro-processing's new realities

Innovation rises.



18

Larger power plants

Trend, says Zest WEG



29

Proposed water licensing regulations place tenuous food security at further risk

Agri SA raises concerns - "...proposed regulations seek to make BBBEE the sole consideration for granting licenses..."



Picture credit: Modern Farmer.

THE Department of Water and Sanitation (DWS) recently published draft revised Regulations regarding the Procedural Requirements for Water Use Licence Applications and Amendments for comment. According to the draft regulations, certain enterprises applying for water use licenses to take or store water; will in the future have to allocate shares of up to 75% to black South Africans in order for such water use licenses to be granted. The consequences for food security and the sustainability of the agricultural sector should these regulations be passed in the current form cannot be understated – they would have a devastating impact on the sector and its ability to provide the country with a secure supply of food. This is because focussing solely on ownership, to the exclusion of all other relevant factors, will mean the loss (or partial loss) of water resources for numerous currently viable commercial farming enterprises.

Similar requirements are also prescribed in the draft with respect to so-called "stream flow reduction activities" (essentially commercial forestry plantations). The regulations also make provision for hydraulic fracturing (which is a further risk and threat to food security).

The prescribed minimum black South African shareholding requirements of 25%, 50%, or 75%, required for a water use license to succeed depends on the volume of water abstracted or stored, or the area covered (in the case of commercial forest plantations).

The proposed regulations are seen as the DWS's most radical and sweeping effort to date toward changing the demographics with respect to water use in South Africa. The agricultural and forestry sectors appear to be the primary target of the proposed regulations. The agricultural sector accounts for approximately 60% of South Africa's total water use. It is worth noting that the proposed regulations exempt mining companies, the state and state-owned entities, as well as 100% black-owned entities.

"Agri SA is of the view that the proposed regulations will have a devastating effect on South Africa's commercial agricultural sector if adopted in their current form," says Janse Rabie, Legal and Policy Executive at Agri SA. "It is well known that the DWS envisages compulsory licensing of existing lawful water uses in the near future (a fact which is emphasised by regulation 13 of the proposed regulations). By far the



Janse Rabie.

greatest numbers of agricultural water uses are exercised in terms of historic existing lawful water uses."

Of concern, the draft regulations would seem to be attempting to replace the current suite of considerations which apply to granting water licenses with ownership demographics. In terms of section 27 of the National Water Act, the DWS must take all relevant factors into account when issuing a water use license. This already includes the need to redress the results of past racial and gender discrimination.

"Section 27 of the National Water Act however also contains at least 10 other considerations that the DWS (as being the responsible authority for granting water use licenses) needs to consider before granting any application for a water use license. What the proposed regulations seek to achieve is to make BBBEE the sole consideration for granting licenses," says Rabie.

The Supreme Court of Appeal dealt with this issue in 2012 in a matter supported at the time by Agri SA. "In the so-called Goede Wellington case, the SCA

Continued on P2

Afrimat acquire Lafarge SA



AFRIMAT have acquired Lafarge South Africa Holdings (Pty) Ltd ("LSA"), including all its subsidiaries ("LSA Group"), subject to the fulfilment of conditions precedent relating to the receipt of customary regulatory approvals.

LSA Group, a member of the Holcim Group, is a provider of construction materials in South Africa, offering an extensive range of products to the construction and infrastructure industry, including aggregates, concrete, cement, and fly-ash.

The acquisition will be housed in Afrimat's Construction Materials division, which together with its subsidiaries ("the Afrimat Group") supply a wide variety of aggregates and concrete-based products to the market, and the Afrimat Group, in response to customer demand, continues to focus on market and product development within this segment.

Speaking on the acquisition, Andries van Heerden, CEO of Afrimat said, "A key focus of Afrimat is our conscious operational efficiency initiatives, which are aimed at expanding volumes, reducing costs, and developing the required skill levels across all staffing categories. This exciting deal forms part of the Afrimat Group's ongoing diversification strategy and will increase Afrimat's offering in the construction industry, by expanding our quarry and ready-mix operations nationally and allowing for Afrimat to enter the cement value chain competitively."

Afrimat is highly cash-generative and effectively debt free, allowing this acquisition to be financed largely in

Continued on P2



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IN THIS ISSUE

12

PPE / Occupational Health & Safety

15

Boilers & Burners / Combustion Technology / Heating Control

17

Agri-Processing & Harvest Supply Chain

19

Breweries / Wineries / Distilleries

20

Pumps / Valves / Fluid Technology / Filtration

23

Water Engineering: Water Reuse, Water Storage / Grey Water Systems / Waste Water Treatment Solutions

26

Power Solutions / Energy Efficiency / Power Generation / Transmission & Distribution

30

Automation Systems / Instrumentation & Process Control

31

Warehousing: Storage / Distribution & Logistics

34

On the Contrary

Proposed water licensing regulations place tenuous food security at further risk

Continued from P1

specifically stated that all the relevant factors contained in section 27 of the National Water Act had to be considered together in deciding whether to grant an application for a water use license. These include factors such as efficient and beneficial use of water in the public interest, socio-economic impact, and investments already made by a water user in respect of the water use in question.”

These considerations remain important and are especially so when considering the foundational role played by the sector in terms of food security, employment as well as the very significant headwinds farmers are currently facing. Water is the most vital input for the sector and if farmers lose the lawful use of this input, the impact will be catastrophic.

edges that water belongs to all South Africa’s people and fully appreciates the importance of achieving an inclusive and fairly representative agricultural sector in our country. “The consequences that the draft regulations in their current form will have with respect to agriculture and food production in South Africa, will be fatal as it will essentially force the transfer of ownership of the ability to lawfully use water, commercial agriculture’s most crucial input factor” said Rabie.

These regulations are also unlikely to achieve the goal of further transformation in the sector. Achieving this will require creating an environment which is conducive to growth and investment in the sector, and which provides meaningful support for new entrants.

By contrast, Rabie stresses that this effort by government cannot have come at a worse time for the sector and the economy, which is already reeling from the impact of load shedding, rural crime and deteriorating public infrastructure.

The commentary period on the proposed Revision of Regulations regarding the Procedural Requirements for Water Use Licence Applications and Amendments will expire on 18 July 2023.

Agri SA acknowl-

Afrimat acquire Lafarge SA

Continued from P1

cash. “We are confident that this acquisition is a good use of our cash reserves, and following the purchase, the Afrimat Group’s balance sheet will remain healthy with debt levels well within our target range.”

The purchase price for the acquisition of the equity in the LSA Group is USD6 million, with an additional amount of R900 million towards repayment by or on behalf of LSA of an amount owing by LSA to the Holcim Group. The effective date of the acquisition is 10 business days after all the conditions precedent have been met.

Seven major road upgrades in Cape Town stopped by mafias



AT least seven major transport infrastructure projects in the City of Cape Town to the tune of R58.6 million, ranging from the construction of new public transport infrastructure to road and stormwater maintenance, are currently being held up or have completely stopped due to threats and intimidation by “mafia-style extortionists,” said the City’s mayoral committee member for Urban Mobility, Rob Quintas. Quintas said these groups are holding the City ransom with “threats, intimidation, and tragically, outright murder” of the contractors on site projects in an attempt to “siphon public capital into their own pockets.”

This comes at the expense of the citizens living in the areas, which primarily include

Cape Town’s “most vulnerable communities” such as Delft, Khayelitsha, and Mitchells Plain, he aid.

Interrupted projects

Large jobs on behalf of Cape Town’s mobility department that have recently been hamstrung or fully ground to a halt due to these nefarious actors include the following:

- Delft – Roads resealing and storm-water repairs project
- Bishop Lavis – Upgrading of

- various roads and associated works
- Khayelitsha – Walter Sisulu / Lindela roundabout with R600,000 at risk in unspent capital budget
- Kalksteenvontein – Roads rehabilitation project with R16.9 million at risk in unspent capital budget
- Delft – Rehabilitation of Delft Main Road, from Stellenbosch Arterial to Silversands Road with R13.5 million at risk in unspent

- capital budget
- Brooklyn – Installation of traffic calming measures and footways, including sidewalk and embayment construction with R195,000 at risk in unspent capital budget
- Khayelitsha and Mitchells Plain – Construction of new MyCiTi depots on the corner of Spine Road and Mew Way with R27.4 million at risk in unspent capital budget
- “We naturally have

targets for our capital expenditure, and it is disappointing to be forcibly prevented from meeting those targets, but we do not negotiate with extortionists and there is simply no Rand value for human life,” said Quintas. “It is utterly dismaying to see the rampant and relentless criminal interference with projects that are designed to improve and protect the lives of ordinary, honest residents.”

Reprinted from: www.topauto.co.za

Auditors beware!

THE Minister of Finance, Enoch Godongwana, gazetted the maximum monetary fines for auditor improper conduct on Thursday June 15, 2023, in terms of section 51(2) and 51B(3)(b) of the Auditing Profession Act 26 of 2005 (as amended in 2021) which empower the Minister to set maximum monetary sanctions.

Previously, the Act was linked to the Adjustment of Fines Act 101 of 1991 which limited the Independent Regulatory Board for Auditors (IRBA) to the imposition of maximum fines of R200 000 per charge of improper conduct.

The IRBA is empowered by the Act to investigate complaints of improper conduct where reg-

istered auditors are alleged to have acted contrary to the IRBA Code of Professional Conduct or failed to correctly apply auditing standards. The 2021 amendment to the Act was intended to introduce more effective monetary sanctions which are consummate with the improper conduct. This, in response to the public criticism: that monetary sanctions for improper conduct were too low to effectively deal with improper conduct.

The maximum fine that may be imposed by the Enforcement Committee to an individual auditor who concludes an admission of guilt process is now set at R5-million and in the case of an audit firm the maximum fine is set at R15-million.

Where the Enforcement Committee refers a matter to the Disciplinary Committee for hearing, the maximum fine the Disciplinary Committee may apply following a disciplinary hearing process is R10-million for an individual auditor or R25-million for an audit firm, where, on conclusion of the hearing process, the auditor or firm is found guilty.

These monetary sanctions are applicable to all improper conduct after the date of promulgation of the Act (as amended), therefore after April 26, 2021.

Says Imre Nagy, IRBA CEO: “While the IRBA welcomes the publication of the new maximum fines, it is important to note that these are maxi-

mum fine limits and not fixed. As in the past, the Enforcement Committee and the Disciplinary Committee continue to have, within their respective scopes, a variety of other sanctions which may be imposed for improper conduct, including non-monetary sanctions. The committees also continue to have the power to scale monetary sanctions in line with the seriousness of the charges; therefore not every charge of improper conduct will attract the maximum fine.

“In addition, the IRBA will now finalise the implementation framework, which will ensure that relevant considerations (including proportionality) are considered prior to determining an appropriate fine.”

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Load shedding constrains manufacturing - Q2 Absa survey

CONFIDENCE levels in the manufacturing sector remain near the low points reached during previous business cycles, as load shedding weighs on sentiment, the Q2 Absa Manufacturing Survey shows.

Although sentiment has improved significantly since the record low recorded during the pandemic (5 points), historical data show that confidence has only been at these levels a handful of times (see graph below). The Q2 confidence level was unchanged at 17 since the previous quarter – lower than the trough of 20 reached during the global financial crisis.

“Electricity supply disruptions not only directly weigh on production and capacity, and hurt profitability due to the costs associated with load shedding mitigation

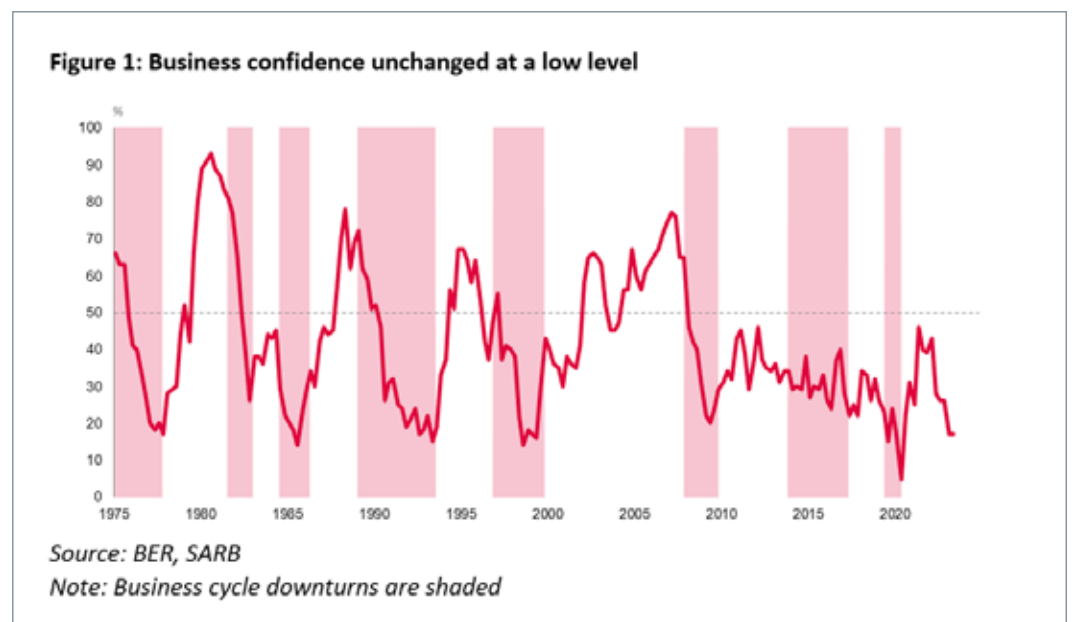
measures (such as diesel generators), but also negatively impact sentiment,” said Justin Schmidt, Head of Manufacturing Sector at Absa Relationship Banking. “With confidence levels remaining at the same very low levels seen in the first quarter, the effects of load shedding are visible across manufacturing subsectors.”

The quarterly survey, which covers approximately 700 businesspeople in the manufacturing sector, was conducted by the Bureau for Economic Research (BER) at Stellenbosch University between 10 and 30 May 2023. The confidence index ranges between zero and 100, with zero reflecting an extreme lack of confidence and 100 extreme confidence where all participants are satisfied with current business conditions.

As the tough eco-

nomie environment continues to constrain household disposable income, manufacturers are not only faced with a reduction in sales volumes but are also seeing a slowing of price inflation with regard to selling prices in both the local and international markets. Compared to the first quarter, domestic sales and the domestic selling price per production unit dropped by 22 and 19 points respectively, while export sales showed a 15-point decline and export selling price per production unit dropped 14 points. Further evidence of the impact of load shedding is visible on the lower levels of production and the increased level of capacity underutilisation.

“As the intensity of load shedding remains high, the cost of load shedding in the form



of both production downtime and diesel purchases for generators are causing margin pressure,” Schmidt said.

Unfortunately, forward-looking expectations also highlight significant pessimism – a record majority of manufacturers expect

that business conditions will deteriorate further over the next 12 months.

“In the short term, business conditions are likely to worsen as there is an expectation of increased load shedding during the winter season. However, the silver lining is that as

additional generation capacity comes online, business conditions will improve over the longer term,” Schmidt said.

“Manufacturing remains vital to the growth of the South African economy as evident by the growth recorded in the Q1

2023 GDP figures released by Stats SA. Given the current energy crisis faced by the country, manufacturers’ investments are focused on remaining in operation while investments into additions or expansions remain on hold,” Schmidt added.

2023 Bellville Business Expo unlocks great potential

THE local business community in Bellville was able to unlock new potential at the launch of the 2023 Bellville Business Expo, on 8 June 2023. The event was booked out by 300 businesses and industry leaders and hosted by the City of Cape Town together with the Greater Tygerberg Partnership (GTP). This initiative follows on from the City’s Atlantis Business Expo held in October. The expo featured a wide range of industries, from technology to finance, hospitality, transport, retail and healthcare.

Collaboration

The event was made possible through the collaboration between GTP and the City and focused on economic development efforts in one of Cape Town’s most important investment regions. Attendees connected with business development experts, gained valuable insights around operational growth, and explored new business opportunities. Other expo partners and sponsors that



Selection of business participants at the Bellville Business Expo.

made this event possible included Sanlam, TUF, Chart Your Path, Business Partners, Coca Cola Peninsula Beverages, Get Published and Seartec, Alderman James Vos, Mayoral Committee Member for Economic Growth, said “This is truly one of my favourite parts of my job, when I get to speak to the individuals who have been part

“It is gratifying to witness how people like the exhibitors take the opportunities given through this programme..”

of the projects and programmes, such as the Bellville Business Bootcamp. It is gratifying to witness how people like the exhibitors take the opportunities given through this pro-

gramme and use it to unlock their own professional potential.”

Bellville Business Boot Camp

Selected businesses were invited to participate in the 2023 Bellville Business Expo, where all their costs were sponsored. These businesses came through an elimination process, over the

four-weeks of the 2023 Bellville Business Bootcamp, where the top twenty-two qualifying businesses were chosen, from a near thirty participating businesses, selected out of 111 that had applied.

Warren Hewitt, Chief Executive Officer at the Greater Tygerberg Partnership, said “The response we have seen to the 2023 Bellville

Business Boot Camp and Expo exceeded our expectations, and the immense positive response only confirmed the need and readiness for such business programmes and events.

“We achieved our goal to bring together local SMME businesses that are ripe and ready for growth to connect, collaborate, and exhibit their products and services with the focus on development and access to new markets.”

2023 Bellville Business Expo Winners

Businesses walked away with business growth packages, business mentorship partnerships and business branding prizes to the value of R142 000. The winners were: Mia Healthcare, Seartec, Medyatech, Can Marketing, Dwarfs Chain Store.

Encouraging study

A recently completed Bellville CBD Business Retention and Expansion Study 2022, highlighted that 83% of businesses in

Bellville were stable in size (40%) or preparing for expansion (43%). In addition, over 80% of businesses in 2022 agreed that one of the main advantages of operating in Bellville was due to its strategic location, a 30% increase from the study completed in 2015. The full report is available to download here: <https://bit.ly/gtp-bre>.

Initiatives create jobs

Active programmes have started to cause a shift in Cape Town’s business environment. The Productivity Efficiency Programme assisted 18 businesses, resulting in the retention of 588 jobs. On a bigger scale, there were also 279 000 new jobs created in the last year in this metro. Resulting in 1.7 million Capetonians now getting up to go to work every day, this is the highest recording of employment in this metro since at least 2008.

Find more information on positive initiatives in Bellville visit www.gtp.org.za or email info@gtp.org.za.

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Accelerating financial solutions for sustainable manufacturing

IN an effort to drive Africa's industrial transformation and promote sustainable manufacturing practices, key stakeholders from the financial sector and manufacturing industry, are coming together to unpack and explore how to accelerate financial solutions tailored to the needs of sustainable manufacturing. Recognising the critical role of finance in enabling the transition to sustainable manufacturing, this important topic will be the focus of conference discussions at the upcoming Manufacturing Indaba taking place on the 24 – 26 October 2023 in Sandton, Johannesburg. The conference aims to unlock financial resources, foster innovation and facilitate the adoption of environmentally and socially responsible practices across Africa.

The pressing need for sustainable manufacturing solutions

Africa's manufacturing sector could be poised

for significant growth, presenting vast opportunities for economic development and job creation. However, this growth must be accompanied by a commitment to sustainable practices that mitigate environmental impact, enhance resource efficiency and ensure positive social outcomes. To achieve this, manufacturers require access to adequate financial resources and innovative financial instruments that support the transition to sustainable manufacturing models.

Key objectives of accelerating financial solutions for sustainable manufacturing

Mobilising capital: The conference seeks explore how to mobilise capital from public and private sources to support sustainable manufacturing projects across Africa. By fostering partnerships between financial institutions, development finance institutions (DFIs), impact investors and manufacturing enterprises, the confer-

ence looks to unlock investments that drive sustainable manufacturing practices. This includes investments in energy-efficient technologies, renewable energy integration, waste management solutions and sustainable supply chain practices.

Innovative financial instruments: To address financial challenges faced by manufacturers transitioning to sustainable practices, the need exists to develop innovative financial instruments. This includes green financing mechanisms, sustainability-linked loans, and impact investment models that provide favourable terms and incentives for manufacturers committed to sustainable manufacturing.

Capacity building and technical assistance: There is a need to enhance knowledge and capacity within the manufacturing sector. Discussions will focus on providing technical assistance and capacity-building programmes.

This includes how to access financial literacy training, sustainability advisory services and access to expertise in sustainable manufacturing practices. By empowering manufacturers with the necessary skills and knowledge, this will facilitate the integration of sustainability principles into their operations and decision-making processes.

Collaboration and knowledge sharing: Fostering collaboration and knowledge sharing among financial institutions, manufacturers, sustainability organisations and relevant stakeholders is key to developing African manufacturing. This includes establishing further platforms for dialogue, sharing best practices, and facilitating knowledge exchange. Through collaboration, stakeholders can collectively address challenges, identify opportunities, and develop strategies that promote sustainable manufacturing across Africa.

Monitoring and reporting: The importance of monitoring and reporting progress towards sustainable manufacturing goals seeks to develop standardized metrics and reporting frameworks to assess the environmental, social, and economic impacts of sustainable manufacturing practices. This enables stakeholders to track their progress, demonstrate transparency, and drive continuous improvement.

By accelerating financial solutions for sustainable manufacturing, Africa can unleash its manufacturing potential while ensuring a sustainable and inclusive future. The Manufacturing Indaba conference provides a platform to discuss and align financial resources, innovation and expertise towards fostering sustainable manufacturing practices across the continent.

For more information contact: Qondakuhle Dwangu, Email: q@siyenzaevents.co.za or call 011 463 9187

Licence card machine back in full production

THE National Department of Transport has updated members of the public that the driving licence card production machine is back in full production.

This follows the Department's statement in May 2023 informing members of the public that the machine was taken out of production for 3 weeks in order to replace a broken part identified during a routine maintenance.

The testing of the machine after the part replacement took another two weeks before it was certified to go back to full production. This will see an increase in production from the 60 000 cards produced over the past 3 weeks during the testing period to about 120 000 cards per week. The machine has printed an average 2 850 000 cards per annum in the past two financial years. Since its commissioning in 1998 it has printed over 60 million Driving

License cards. The backlog is currently at 350 000 cards for the past five weeks. Backlogs are dependent on the number of orders received. There is currently a catch-up plan to address the backlog, which will be cleared by end of August 2023. The Department is currently working on the process to introduce a new driving licence card as approved by Cabinet in August 2022. The new DL card will be launched before the end of the current financial year. It will also bring with it new card production machines to replace the current machine.

Simply extending the validity of driver's licences from the current five years to 10 years, would instantly solve the backlog and take pressure off the machines. But I doubt it will happen – they would prioritise loss of revenue over efficiency and the convenience of the citizen. Ed.

HYDAC on the move

SPECIALIST hydraulic component supplier, HYDAC Technology (Pty) Ltd, have moved their Cape Town branch into a larger premises in Paarden Eiland, including a 91m² storage facility which enables a larger parts stockholding to improve its service and parts availability to its customers. Situated at 16A Paarden Eiland Road, the new facility boasts improved facilities for an enlarged staff complement, warehousing and delivery access compared with its previous premises on Cape Town's Foreshore.

BUSINESS EXPANSION

"We simply outgrew our old location and needed a facility that was fit for purpose and could cater for our planned expansion" explained Craig Kemp, HYDAC's Cape Town branch manager. Since our purchase of Basic Hydraulics in 2017 it was only a matter of time before we would need to expand our facilities.

"The new premises is well located in Paarden Eiland both from a logistical perspective and in terms of staff access – some of whom have been with the company for more than 25 years with many years of irreplaceable product knowledge" he said.

"HYDAC has a global presence. The manufacture of dedicated hydraulic, electronic, control and fluid conditioning components such as hydraulic and diesel filters, valves, sensors, and accumulators is carried out by our German parent who are always available for technical backup, but our local experienced staff designed systems and circuits incorporates the latest technology from Germany.

FROM AGRICULTURE TO WIND TURBINES

"HYDAC Cape Town's main business operations serve all industries with a strong focus on supporting our customers with the most cost-effective solutions and or products for the application. Technical support is provided by experienced qualified staff that has decades of combined experience in the fluid power industry. In addition, the engineering and sales function is supported by a network of service partners who carry out on-site work for our customers providing maintenance, retrofitting and new systems based on our locally approved designs."

COMPLIMENTARY ACTIVITIES

HYDAC is also particularly strong in the marine sector with agencies like Hydro Armor – a French company specialising in marine propulsion and hydraulic thrusters, Weka and Fernstrum who manufacture box and keel coolers and Dynaset who manufacture various hydraulic driven equipment like generators, welders, water pumps, etc. which are used in a variety of industries with a strong emphasis on mobile applications.

"Despite intense competition mainly from the East, HYDAC Technology's market strategy is to provide industry with the most fit for purpose, quality manufactured products and systems, and that is why our many customers specify HYDAC components in their original designs" Kemp concluded.

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Refinery interchange – construction progressing

SINCE July 2021, well-established Cape contractor Haw & Inglis Construction has been proceeding apace on the upgrade of Cape Town's Refinery interchange, supported by construction materials from AfriSam. The project is due for completion in early 2024, delivering two new higher and wider bridges over the busy N7 highway – a new road-over-rail bridge alongside the existing bridge which receives rehabilitation works and the upgraded access ramps among the key achievements.

Leiton Chan, Construction Manager at Haw & Inglis Construction, highlights that due to capacity and height limitations of the existing bridge, the new bridges double the capacity and provide an additional 1,7 m clearance from the existing bridge for vehicles travelling on the N7. To accommodate existing traffic, the west-bound carriageway was constructed alongside the existing eastbound carriageway. Once completed, the traffic was diverted onto the new carriageway to complete the eastbound carriageway. The existing bridge was demolished in December 2022 to make space for the new bridge – currently under construction.

“Each bridge deck over the N7 was cast in two, consisting of a dual spine, post tensioned structure,” explains Chan. “The project is currently on schedule, with the estimated completion date for the East bound carriageway bridge over the N7 being August 2023.”

AfriSam is providing around 6,300 m3 of readymix concrete as well as material for layer works, according to Bradley Thomas, Territory Sales Manager at AfriSam. The company is also supplying some 15,000 t of aggregate to the project's asphalt supplier, Much Asphalt.

“An important application of our readymix was for the piling under the bridges, which required almost 1,500 m3 of high strength 40MPa concrete for this purpose,” says Thomas. “A priority here was to avoid any jointing in the piles, so it was essential that each pour – about 3,5 m3 per pile – was continuous.”

He notes that the decks on the two main bridges over the N7 also require continuous pours, amounting to substantial volumes of 500 m3 of W50 MPa concrete per deck. Placement is carried out using a high capacity 36 m boom placer. The

readymix is supplied from AfriSam's Contermanskloof plant in Durbanville, located 8 km from the site, with support from the company's other nearby plants at Woodstock and Bellville.

The spreading of supply sources allows for further mitigation of

project risk related to readymix deliveries, says Thomas. For instance, large continuous pours leave little room for error, and unforeseen events such as traffic congestion have to be factored into the resource planning.

“On the smaller scale aspects of the project's

readymix requirements, our flexibility also allows us to effectively supply the smaller sub-contractors on the project,” he adds. “We have therefore also been able to play a role in enterprise development, supplying the kerb mix to SMME contractors installing the precast kerbs.”



One other element of the project is the realignment of the interchange's five access ramps to suit them to the upgrade bridge structure.

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Safeguard assets and drivers with effective driver management

ON a monthly basis, the Ctrack Transport and Freight Index notes the ongoing decline of South Africa's rail network, with the road freight sector having to pick up the slack. While this growth is welcomed by the road freight sector, it naturally results in more trucks on the road, more strain on the road network and more dangerous roads. The result is that trans-

porting goods by road is becoming a much riskier undertaking, and businesses need to put extra measures in place to protect their goods and assets. The recent Easter holiday accident rate once again highlighted just how dangerous South African roads are, and criminal activity surrounding our road network is growing

at an alarming rate. A vehicle's safe and efficient use is directly related to how it is used by the driver making a bespoke fleet and driver management app critical for the running of fleets in today's environment. Ctrack's fleet management systems comprise well-developed hardware and software solutions that have been refined over

35 years of continuous research and development. **Keeping an eye on drivers** "Effective driver management is no longer a nice to have; it is now a critical factor in the running of any business that utilises vehicles. Systems that prioritise the safety of vehicle occupants and cargo are imperative

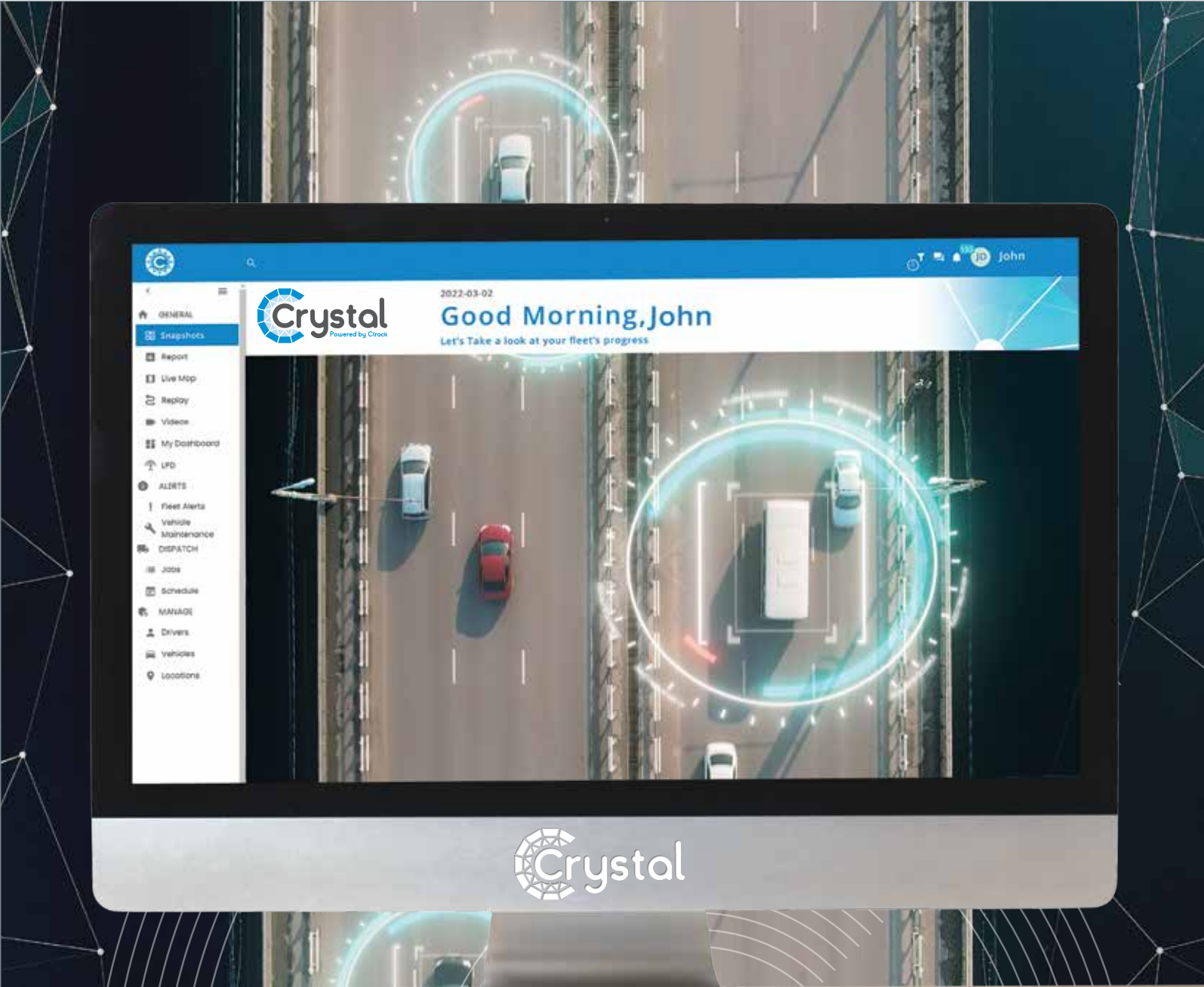
in running a transport operation profitably on South African roads," says Hein Jordt, Chief Executive Officer of Ctrack Africa. Ctrack allows for real-time tracking of vehicles from any device with an internet connection through "Crystal" the all encompassing fleet management platform. A powerful user experience with real-time visibility of

all movable assets via a digital dashboard is the most effective way for fleet managers to manage the daily movement of vehicles. Cloud-based functionality means reviewing footage is as simple as entering a date and time. Keeping an eye on drivers and vehicles in real-time allows fleet managers to react as soon as they notice some-

thing out of the ordinary and put preventative or reactive measures in place immediately. Ctrack offers a variety of camera systems that can monitor all areas of a vehicle, including the road ahead, the driver, the cabin and the load area. Overlaid with data harvested from the vehicle CAN bus system, as well as accurate tracking data, ensures a clear picture of how the vehicle is being used every second of the day and accessed from a single management platform "Crystal". In the event of an accident, it is easy to determine exactly what happened and use these learnings to prevent similar accidents from occurring in future.

App gives drivers full picture

Advanced analytics allow operators to clearly understand exactly how and where their vehicles are being utilised. Learnings from these accurate data streams can be used to streamline operations and put measures in place that increase safety and efficiency. The driver app gives managers, and drivers enhanced control of their daily activities via a single application that offers a myriad of functionality and allows for safe navigation and effective time management. Fleet managers can now assign jobs to drivers and provide them with details regarding the pickup or delivery via the driver app, which is particularly useful for reacting to changing requirements such as new orders or calls for collections to a driver in that particular geographical area and ensures more efficient use of resources. Scheduling allows for differentiation between planned and actual delivery and turnaround time, allowing fleet managers to continuously refine schedules due to unforeseen delays or traffic. "The ability to manage drivers in a way that considers traffic, changing load requirements and customer demand is a massive advantage and being able to do so from one platform, "Crystal" is the optimal way of ensuring safe and efficient use of assets and resources," says Jordt. Driver scoring assists drivers in making their own driving improvements, while usage and behaviour reports can be used for periodic coaching and addressing common shortcomings. "Ctrack takes the guesswork out of driver and fleet management and ensures that you can take decisions that impact the safety and security of assets and drivers efficiently," concludes Jordt.



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* Some product functions not immediately available in Africa. Image for illustration purposes only.



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Always Visible

SA's largest boat designer and manufacturer sold to European investment firm

PRIVATE equity manager Capitalworks has concluded the sale of Robertson and Caine, South Africa's preeminent boat builder, to Vox Ventures, a wholly owned subsidiary of PPF Group, an international investment company, with diverse interests in multiple countries.

This transaction, representing the largest foreign direct investment in the boat building sector in South Africa, is a significant endorsement of the world class skills, intellectual property and manufacturing capacity that the region has developed in the maritime sector.

Since investing in the business in 2015, Capitalworks has worked alongside founder, John Robertson, and the management team to realise the potential of Robertson and Caine



Founded by John Robertson and the late Jerry Caine 32 years ago, Robertson and Caine is a proudly South African business which manufactures vessels in Cape Town with a design and procurement team in Tampa, Florida, USA. Robertson and Caine manufactures the world's leading mid-size sailing and power catamarans under its globally renowned Leopard brand for sale to individuals and fleet operators mainly in the US market.

by investing in the development of new models, expanding manufacturing capacity and supporting multiple initiatives to grow the base of boat building skills and

support services in the industry. This investment coupled with the company's dedication to exceptional craftsmanship, innovation, and customer satisfaction has cemented

Robertson and Caine and its Leopard brand as global leaders in the design and manufacture of blue water cruising catamarans.

As part of the broader PPF Group,

Robertson and Caine will benefit from PPF's extensive resources and global network, providing access to new opportunities, technologies, and expertise, enabling the

company to further strengthen its leading global market position and drive innovation.

Darshan Daya, co-founder of Capitalworks commented:

"The transition of ownership to Vox Ventures offers exciting new opportunities for Robertson and Caine to leverage PPF's significant manufacturing and technical expertise to continue to grow and develop the Leopard brand."

Robertson and Caine is a significant employer in the Western Cape and the company will continue to look for new opportunities, contributing further to the growth of the local economy. The transaction also facilitates further significant investment and comprehensive training programmes and bursaries to enhance the skills and capabilities of Robertson and Caine's employees.

John Robertson, founder of Robertson and Caine said of the sale:

"After more than 40 years in the boat business and 32 years with Robertson and Caine, I am pleased to leave Robertson and Caine, our valued One R&C team members and our longstanding customer stakeholders, in the hands of a new shareholder of such stature.

Partnering with Capitalworks, who has been committed to and focused on building Robertson and Caine and the Leopard brand, has positioned the business to benefit from the next phase of growth that a strategic investor can offer the business.

Although it is a bittersweet moment, I feel confident that the legacy will continue to grow from strength to strength and that the business will be in the best hands."



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Farewell Electroair, hello Airstream!



Airstream's MD Leslie Davis.

Lester Davis, MD of Airstream Compressors advises customers of their exciting acquisition.

"We are writing today to share some exciting news that will shape the future of our company and, more importantly, benefit you, our valued customer.

"We are thrilled to announce that Airstream Compressors has recently undergone a strategic acquisition by acquiring ElectroAir Compressors, following

the retirement of its principle, JJ Strydom after 40 years in the business. This alliance marks a significant milestone in our journey and brings together two industry leaders committed to delivering exceptional products and services to our esteemed clientele. From the 1st August ElectroAir will be rebranded as Airstream, with all staff members retained in their current positions ensuring customers of the same personal attention and

relationships that made ElectroAir so successful.

"ElectroAir shares our passion for excellence, innovation, and customer satisfaction. Their expertise, resources, and geographic reach will enable us to expand our product offerings, improve operational efficiency, and provide an even higher level of service to you. We firmly believe that this partnership will enhance your overall experience and create new opportunities for growth and development.

"Customers can be assured that, despite this transition, our commitment remains unwavering and continue to enjoy the same high-quality products and services that have come to be expected from us. Our core values and dedication to customer satisfaction remain at the forefront of everything we do. Your satisfaction will always be our top priority. We pride ourselves in our extensive stock

holding which includes comprehensive spare parts for both our brand and others.

"We wish JJ our very best wishes in his well-earned retirement and he can rest assured that the personal relationships built up over four decades with his knowledgeable staff will not only be maintained but extended under the Airstream banner".

"We are genuinely excited about this new chapter and the opportunities it brings. The synergy between our companies will undoubtedly lead to even more innovative solutions and value for our customers. We appreciate your continued loyalty and support, which has played an instrumental role in our growth thus far.

"Thank you for being a part of our journey, and we look forward to serving you with enhanced products and services in the years to come. Together, we will create an even brighter future!"

Business using a generator? Save up to 35% in running costs - claimed

SA businesses are spending a fortune on generators. Vodacom recently revealed that since 2020, more than R4 billion has been spent on backup power solutions such as batteries and generators, with a further R300 million on additional costs for diesel, security and maintenance. Major food retailers are spending R1 million - R3 million per day on diesel just to keep trading. Whilst smaller businesses spend less than this, generators are a significant expense adding to inflation in many industries as costs are passed on to consumers. As load-shedding is unlikely to abate any time soon, businesses are desperate to find ways to save money on backup power generation.

Maintenance

Local engineering services and asset maintenance specialist, Pragma, says that the less obvious costs related to generating alternative power are also significant. Based on current forecasts for 2023, Pragma estimates that the average generator will run for more than 1 500 hours this year and will need at least six maintenance services.

Morné Steenkamp, Pragma's Asset Health

Service divisional manager, adds, "Generators should last 25 - 30 years, but without proper maintenance, their lifespans are significantly shortened by the current load-shedding. Businesses are struggling to keep up with refuelling requirements and neglect more frequent generator services. The good news is that there are opportunities to save costs with appropriate software, business processes and contractor networks."

As a specialist engineering company, Pragma has developed a calculator to quantify potential savings for businesses which use online monitoring and generator management.

"Many companies have multiple generators, but even those with only one need to have a sense of what they can expect from their asset. With proper generator monitoring and asset management, businesses are realising savings of 30 - 35%," claims Steenkamp.

How it works

The calculator works out a tailored business case based on your circumstances and generator fleet. It considers aspects like loss avoidance by ensuring that the generator remains healthy, fuel op-

timisation, increased generator lifespan due to improved, proactive maintenance, optimal refuelling and reduced call outs and after-hours work.

Hardware and monitoring

Often businesses have a wide variety of generator makes and models with varying specifications. As a result of compatibility issues, it is difficult to implement a standard monitoring solution.

Rhynard Prins, Pragma's Asset Health Management business development manager, explains, "Pragma's monitoring system is compatible with the most common generators found in South Africa. We see that many clients buy monitoring hardware but are not clear about how the data from the monitoring solution will be used. Businesses struggle to prioritise the work required on these machines and ensure the work is executed. Pragma's monitoring solution is underpinned by a sophisticated maintenance management system that automatically keeps track of maintenance, refuelling, contractor management and service level agreements through mobile applications" he concluded.



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Transnet's board vacancies - failures

FUTUREGROWTH Asset Management recently raised concerns about the inordinate time it is taking to fill six vacant positions on the Transnet board. These point to governance issues that should be seriously considered by all boards, says Parmi Natesan, CEO, Institute of Directors in South Africa (IoDSA).

"Futuregrowth's analysis shows that the failure to fill six vacancies in a 12-person board has made it less able to tackle the serious challenges the company faces—a matter of considerable concern given its pivotal role in our economy," she points out. "In the best of times, a board needs the right mix of skills to steer the organisation well, but

in a tricky economic climate and facing significant challenges, the lack of board skills is existential."

Transnet's sparsely populated board table means that important board committees like the audit committee, social and ethics committee, and risk committee could be missing critical skills. These committees fulfil vital roles in the governance of the organisation, and particularly in relation to its ability to rise to the challenges it faces.

"Organisations and board chairs must pay particular attention to the need for the board to have, in the words of King IV, 'the appropriate balance of knowledge, skills, experience, diversity and independence for it to discharge its

governance role and responsibilities objectively and effectively' (Principle 7)," Natesan says.

A related issue is the fact that the terms of office of the six remaining non-executive directors will expire in May 2024. While the principle of rotating board members in a staggered fashion to ensure that skills are renewed and diversity improved is a good one, it is clearly counterproductive for so many board members to leave at once.

"We see this kind of mass reshuffling of boards particularly in the public sector. The motivation behind rotation is good, but it needs to be handled intelligently to ensure that invaluable institutional memory is not lost," she says.

THE BEE IN MY BONNET COLUMN

Fred Karno's Circus?

FRED Karno was the stage name of Frederick John Westcott (b 1866 – d 1941) – a theatre impresario and developer of sketch comedy without dialogue to circumvent stage censorship in the UK in the late 1890's.

When Westcott joined a touring circus, he was required to work with other acts, including clowns and is largely credited with originating the custard-pie-in-the-face routine. His cheeky, authority defying skits on stage was hugely popular, and his fame and name became associated with any

chaotic situation including the disorganised volunteer soldiers of the Great War – 1914 – 1918 which were labelled 'Fred Karno's Army'.

If the cap fits...

It is then an entirely appropriate moniker to ascribe the label to our current Government, Fred Karno's Circus – disorganised, chaotic and almost funny if it weren't so serious.

The state of our collapsing economy, yes, collapsing, is entirely man-made (person-made?) and readers probably don't need

reminding of the insolvent SOE's, such as the Post Office, SAA, Road Accident Fund, Denel, and of course, the elephant in the room – Eskom. The list is exhaustive and complimented by the disastrous state of Health, Education, Water & Sanitation and Municipalities, amongst others.

Expropriation without Compensation, crime, corruption, cronyism and the NHI hang over our heads like the Sword of Damocles.

It's the consequences – the knock-on effects that our ministers

don't seem to grasp or discuss between themselves, that leads one to the logical conclusion; that of incompetence – 'if it looks like a duck, quacks like a duck, then in all likelihood, it's a duck'.

The Agro economy

Various players in the agro sector have expressed concerns to the future of food security and the damaging effects of incomprehensible Government policy on the sector. These include in no order of priority:

- The serious decline

of the Rand/Dollar/Euro/Pound exchange rates – effecting amongst other things, the price of diesel and imported capital equipment required by farmers.

- The long term effect of the Government's 75% BBBEE policies with respect to water licencing.
- The effect of load-shedding on production processes, supply chains and food prices.
- The collapsing state of Transnet – its inability to main-

tain an efficient rail service in order to get goods to market, and inefficient ports to handle vital exports.

- The threat of the USA rescinding the AGOA Act, and knock-on effect of the EU following suit on our agricultural exports, because of our tacit support of Russia in the Ukraine conflict.

Fiddling while Rome burns

All these issues are within our control.

They are a consequence of continuing to pursue flawed ideology, supported by a failed administration in the hope of a different outcome. Einstein is often credited with that scenario as being the definition of insanity.

All the above continues to support a World Bank/IMF prediction of a 0,3% annual growth rate, which is no growth rate at all for a developing economy. How long must the fire burn before consuming the fiddler?

Eish.

How to dispose of old appliances – and contain the e-waste explosion

E-WASTE from electrical and electronic appliances and devices is becoming a major problem for South Africa.

According to Gauteng's government website, the country produces around 360 000 tons of e-waste every year, with the province accounting for 55% of that volume.

"Consumers need to be better educated on how to properly dispose of their appliances if we are to avoid an environmental catastrophe," says Patricia Schröder, spokesperson for the official producer responsibility organisation (PRO) Circular Energy.

New Extended Producer Responsibility (EPR) legislation puts the onus on importers and/or manufacturers of these products to ensure environmentally sound management of their products which could include recycling of their products. However, the initiative could be severely hampered if consumers don't know what to do with their old appliances.

What is e-waste?

e-waste comprises most electrical and electronic appliances or devices found in the typical South African household or business. These include domestic

appliances, power tools, digital devices and computers, electricity generation and storage devices, lighting, reusable and disposable batteries, cables and the like.

Such appliances and accessories should never be disposed of in normal refuse bins, dumping grounds or landfills. They are likely to contain materials that are potentially explosive, poisonous or otherwise hazardous to humans and animals, and will contaminate surrounding areas as they break down. Additionally, be wary of companies that encourage you the consumer to take your appliance to a "smashing centre" to smash the appliance with a bat for fun or for you to release frustration, this is an unhealthy and unsafe practice and is not legal in accordance with the National Environmental Management Waste Act of 2008, and it could result in fines.

"Therefore, they require specialised handling, recycling and treatment by suitably qualified persons within safely isolated environments," says Schröder.

In addition, e-waste lost to landfill means that scarce resources which could have been harvested and recycled must now be mined afresh.

How to dispose of appliances

Sure, it is easier to throw an old appliance in the municipal bin or skip.

Yet, with a little research, consumers will discover alternatives that are far safer and more environmentally responsible. Circular Energy offers a dedicated collection service for your used or waste electric or electronic equipment, lighting or lighting equipment, and batteries. You can visit the Circular Energy website (<https://circular-energy.org/request-collection/>) and navigate to the "click to collect" button to arrange for the collection of your e-waste.

Making appliance disposal intuitive

As EPR becomes entrenched in South African industry and retail, consumer education and involvement will be key to controlling e-waste.

It is also imperative that a two-way supply chain is established to ensure that disposal of e-waste is as natural, intuitive and easy as buying an appliance in the first place.

"There's still a lot of work to be done towards that end but consumers can contribute now by making full use of the avenues already available to them," says Schröder.

Pico Technology's 1 GHz mixed-signal scope with active probes

PICO Technology, represented locally by COMTEST, has announced a further development of its PicoScope 6000E Series mixed-signal oscilloscopes (MSOs) with the launch of four new 4-channel models, each of which can be configured with 16 optional digital channels.

With bandwidths of 750 MHz or 1 GHz, 8-bit or 8/10/12-bit Flexible Resolution and up to 4 GS deep capture memory, these products enhance the existing PicoScope 6000E portfolio, adding to the 350 MHz and 500 MHz models that were introduced in 2020.

The award-winning PicoScope 6000E Series compact oscilloscopes deliver a cost-effective test and debugging solution for engineers, developers and scientists working on high-performance digital and mixed-signal designs.

The optional A3000 Series high-impedance active probes are designed for use with the PicoScope 6000E intelligent probe interface.

This interface provides power to the probe and enables the oscilloscope to sense when an A3000 probe is connected, automatically switching the oscilloscope input impedance to 50 Ω and setting the correct attenuation and scaling.

With an input capac-



PicoTech's PicoScope 6000E Series mixed-signal oscilloscopes bench testing.

itance of just 0.9 pF in parallel with 1 M Ω resistance, these ergonomic active probes deliver the full 750 MHz or 1 GHz scope bandwidth to the probe tip.

"Extension of the PicoScope 6000E Series is an exciting development as it addresses high-performance debugging and design verification requirements faced by engineers developing advanced electronic systems."

"The PicoScope 6000E Series, coupled with the popular and proven PicoScope 6

application software, provides advanced debugging tools to accelerate the development of high-end embedded systems, signal processing, power electronics, motor drives, and automotive designs," said Trevor Smith, Business Development Manager at Pico Technology. "The PicoScope 6000E Series incorporates many unique features

as standard, such as a four Giga sample capture buffer, 21 serial protocol decoder/analysers, spectrum analysis capability, a 50 MHz arbitrary waveform generator, and user-defined math and alarm functions for in-depth analysis and long-term unattended testing. With very reasonable starting prices for 1 GHz bandwidth, these products are affordable, fully capable waveform analysis solutions that Pico's world-class technical support experts support."

A free-of-charge Software Development Kit, PicoSDK, is available to download, enabling users to write their applications around the PicoScope 6000E hardware. The SDK includes instrument drivers for Windows, macOS and Linux, and C, C#, C++ and Python code examples. Drivers are also provided to interface with popular third-party soft-

ware packages such as Microsoft Excel, NI LabVIEW and MathWorks MATLAB. Pico is an approved MathWorks Connections Program Partner with extensive in-house MATLAB developer experience.

The full capabilities of the PicoScope 6000E hardware are exposed to the programmer by the SDK, which enables the development of virtually unlimited custom and OEM applications in scientific, research, industrial, automotive and power applications.

The total cost of ownership (TCO) of PicoScope PC-based instruments compares favourably with conventional benchtop instruments through software updates provided free of charge throughout the lifetime of the products.

Contact COMTEST for more information on 010 595 1821 or sales@comtest.co.za

Unlocking job opportunities for SA's youth with quality college education

By Eloise Nolte, MD of Optimi College

WORSENING load shedding, record unemployment and a sluggish economy are all understandably dragging down the job prospects for the youth of our country right now.

Thanks to advances in education and technology, learners can obtain accredited or industry-endorsed qualifications without having to go to a university as quality providers such as Optimi College have opened the doors to affordable and accessible alternatives. Moreover, these learners can carry out their studies from anywhere in the country. Listed below are five examples of the kinds of qualifications and jobs that one can pursue without going to university.

Business Management

A solid knowledge of business management can help you thrive as an entrepreneur or intrapreneur within a bigger company. Consider pursuing a National Certificate in Small Business Financial Management, which is ICB-accredited. This course covers effective record-keeping, financial management for small businesses, key financial tasks, communication, and accuracy. Upon completion, you'll have an NQF Level 4 qualification. You can further your studies



Eloise Nolte.

with an ICB Higher Certificate in Office Administration and ultimately a National Diploma in Financial Accounting.

IT Engineering and Network Engineering

Network engineering and IT engineering are among the most sought-after skills in this industry, and they can help you earn a decent income. Through Optimi College's IT Academy, you can pursue a Network engineering or IT engineering course that equips you with a combination of CompTIA, Cisco, and Microsoft certifications.

Technical Courses

South Africa has a severe shortage of artisans. This makes trade courses in essential

career paths such as boiler making, welding, fitting and turning, electrical and motor trade critical.

Entry-level qualifications such as N1-N3 Engineering Studies address this need as learners can start on an N1 level with just a Grade 9. From there, academic progression enables learners to further their education up to diploma level.

Human Resources

The field of human resources is becoming more critical in a world where talent and skills drive companies' growth. Studying towards a career in human resources is now more accessible than ever through Optimi College. You can study towards a National Diploma in Human Resource

Management (NQF Level 5), which is accredited by the SABPP. This course covers aspects such as the legislation that governs HR practices, talent acquisition, and skills development. Alternatively, if you have Grade 10 or its equivalent, you qualify for the SABPP-accredited Certificate: Human Resource Administration which is at NQF Level 4.

Occupational Health and Safety

Another field that is requiring more workers than ever before is the occupational health and safety space. From ensuring that a working environment is operationally safe to putting in place measures that protect company staff's health, this field has a growing demand for experts. Through a provider like Optimi College, you can study towards an International General Certificate in Occupational Health and Safety (IGC). The syllabus has been developed by the National Examination Board in Occupational Safety and Health (NEBOSH) following extensive consultation with key stakeholders in the industry.

Looking at all these options, there's little doubt that many fields are opening up to South Africans via more accessible learning channels.

The power is in our hands to invest in our youth's education and the future.

Technology answers the call of solar panel theft

By Rodney Taylor, Managing Director, Guardian Eye



MANY financial institutions have come up with innovative ways to fund solar installations, and the net result has been a massive increase in solar. However, this is South Africa, and all the innovation and goodwill have not gone unnoticed, and criminals have cottoned onto the value of solar panels. Modern installations are designed so they can be put together very quickly, but this means they can also be dismantled very quickly, leading to a massive spike in the theft of solar panels from roofs.

At a home or a business, if there is a dip in power generation during the day, it could lead to an investigation which may stop the theft. But at night, when people are sleeping, this won't be noticed as any power requirements will be met by the backup batteries. So what can homes, businesses,

security companies, banks and insurers do?

The answer lies in the form of the Internet of Things (IoT). Technology enables, and so we have been working to design a way to enable and optimise the security of solar panels. Smart sensors that detect movement and vibrations - and don't mistake birds for thieves - and tiny self-sustaining cameras that are solar-powered with battery backup, provide a compelling solution to the problem. A solution like this, which is connected to our nerve centre, provides insurers, banks, installers and security companies with options: the alerts can be directed to owners, facility managers or security response teams, or all of them at the same time. The sheer scale of the problem means that technology is the only way to fight it.

Beyond that, if one considers how many installations are out there, there needs to be a way to scale a solution such as this to rapidly reach as many panels as possible. This is where partnerships up and down the supply chain become crucial.

Various providers in the supply chain can all extend the reach. For example, the service could easily be built into a rental or installation contract, or be added to a finance or insurance arrangement for a small monthly

subscription fee.

Security companies can upsell to existing customers with valuable panels on their roofs. This addresses the problem of theft for the home or business owner, or solar rental company, while simultaneously providing an additional revenue opportunity for a host of players in an increasingly competitive space.

For example, if an insurance company is contracted to insure solar panels, then adding this service onto the contract and requiring it to be linked to a security reaction company, ticks a number of boxes for everyone involved. The homeowner or solar rental company keeps the panels, which due to supply chain pressure are becoming near impossible to replace within reasonable time frames, the insurer averts a massive claim, and the security company now has eyes on the roof and can service its customers better.

The world is well into the fourth industrial revolution, and the days of separating the physical world from the digital realm are well and truly over. This means that services such as security IoT devices that are connected to a nerve centre, can transform a very real problem in the physical world into a viable and compelling solution.

Pay As You Earn Administrative Penalties Update

DURING the month of June 2021, SARS introduced the PAYE Admin Penalty solution. The implemented interim solution provided SARS with the ability to impose PAYE administrative penalties, which meant charging admin penalties for the failure to submit EMP501 reconciliations on time.

PAYE admin penalty was divided into 3 phases with the first 2 phases having already being implemented as follows.

- Phase 1 was implemented in June 2021; and
- Phase 2 was implemented in April 2022

SARS is currently in the process of implementing phase 3, on 23 June 2023, which aims to incorporate the legal changes that were

effected on the 19th June 2022.

The PAYE Admin Penalty Phase 3 will include:

- Admin Penalty Imposition - "Para 14(7) If the total amount of employees' tax deducted or withheld, or which should have been deducted or withheld for the period described in subparagraph (3), is unknown, the Commissioner may estimate the total amount based on information readily available and impose the penalty under subparagraph (6) on the amount so estimated";
- Admin Penalty Adjustment - "Para 14(8) Where, upon determining the actual employees' tax of the person in respect of whom the penalty was imposed under subpara-

graph (7), it appears that the total amount of employees' tax was incorrectly estimated under subparagraph (7), the penalty must be adjusted in accordance with the correct amount of employees' tax with effect from the date of the imposition of the penalty under subparagraph (6) read"

It is important to note that the effective date of the enhancement to the admin penalty process (imposition and adjustment) will only be from the date of promulgation (19 January 2022). The legal changes to the admin penalty imposition and adjustment rules may not be applicable to any recon period prior to 19 January 2022, which means that this takes effect for recon period 202202 and onwards.

UNOC's CEO to speak at AEW 2023

THE African Energy Chamber (AEC) (<http://www.EnergyChamber.org>), the voice of Africa's energy sector, is has announced that Proscovia Nabbanja, an esteemed industry expert and CEO of the Uganda National Oil Company (UNOC), will be leading a delegation from UNOC and speaking at African Energy Week (AEW) in Cape Town on 16-20 October 2023. Uganda represents one of the few remaining oil frontiers on the continent – estimated to hold up to 6.5 billion barrels of oil reserves – and is home

to a competitive fiscal regime and strong government support that has made it an increasingly attractive destination for foreign investment.

Under Nabbanja's leadership, UNOC plays a crucial role in Uganda's emerging oil and gas industry, managing state participation in production licenses and holding a 15% participating interest in petroleum licenses for discovered oil and gas fields. UNOC currently oversees nine production licenses encompassing 13 oil and gas fields, which are set to

be developed through the country's highly anticipated Lake Albert Development.

This flagship development comprises the Tilenga and Kingfisher upstream oil projects, operated by TotalEnergies and China National Oil Corporation (CNOOC), respectively, alongside the construction of the East African Crude Oil Pipeline (EACOP) that will transport oil from Uganda's fields to Tanzania's Port of Tanga. Together, these projects are projected to reach a total production capacity of

230,000 barrels per day (bpd).

UNOC's contributions to the ongoing construction of the EACOP have been instrumental. Jointly owned by TotalEnergies (62%), CNOOC (8%), UNOC (15%), and the Tanzanian Petroleum Development Corporation (15%), the crude oil pipeline will span approximately 1 443 km and carries an estimated investment cost of \$3.5 billion.

For more information about AEW 2023, please visit <https://AECWeek.com/>.

SMMEs must apply for waste service provider accreditation



THE City of Cape Town's Urban Waste Management Directorate recently held an event at the Prince George Drive drop-off facility to encourage small, medium and micro enterprises (SMMEs) that handle waste to register for accreditation as waste service providers.

Businesses involved in the handling and transporting of waste must obtain accreditation from the City to operate legally in Cape Town and to qualify to bid on waste management tenders for the City. The waste service provider accreditation process involves ensuring that the business has viable plans for cleaning/treating, separating, storing, transporting and disposing of/beneficiating materials they handle.

Similarly, residents are legally required to only make use of accredited waste management companies to remove recyclables and any building and demolition waste, garage waste and garden waste from their properties. Household waste is then removed by the City. If residents can ensure a

company is accredited before asking them to remove their waste, it helps ensure this waste is not simply dumped on near-by open land.

Representatives from the City's Enterprise and Investment Department's Business Hub also attended to showcase the opportunities that exist for accredited waste service providers to do business with the City. In addition, there was an exhibition of household waste items that can be repurposed and distribution of educational material related to recycling.

"There is a thriving recycling sector in Cape Town that is doing good work diverting waste from landfill, but there are also a lot of opportunistic people who dump waste they are paid to dispose of legally. This is why it is important to raise awareness about accreditation for both residents and SMMEs. It is a tool to help residents identify those who have viable and environmentally-conscious plans for managing the waste we pay them to manage," said Mayoral Committee Member for Urban

Waste Management, Alderman Grant Twigg.

What to know about the accreditation and its process:

- Sign up online: <http://web1.capetown.gov.za/web1/swma/>
- View the checklist of information that is needed for your application.
- Once your application is submitted, you will be notified when it is being reviewed and the date of inspection to follow.
- It takes between three to four months to complete as each step in the accreditation process must be followed.
- There is no cost to register.
- Accreditation is valid for 24 months.

For more assistance on completing the waste management plans for accreditation applications, SMMEs can contact Alfonso Noble (021 400 2478) and Yolokazi Bikwana (021 4001 760).

African SAP customer journeys discussed at SAPHILA 2023

THE African SAP User Group (AFSUG) have announced that a number of local SAP customers will be sharing their invaluable insights and success stories at the highly anticipated upcoming SAPHILA 2023 conference. Set to take place from 09 to 11 July 2023 at the Sun City Resort in South Africa's North West province, the event will feature speakers from a number of leading organisations representing several sectors across the continent, including automotive, retail, pharmaceutical, financial services, oil and gas.

AFSUG general manager, Amanda Gibbs

comments: "SAPHILA offers an excellent opportunity for African customers to give practical insights and real-world, actionable advice to their peers, discussing challenges faced, strategies implemented and positive outcomes achieved."

Speakers at SAPHILA 2023 will include Sasha Perhat, senior manager: HR systems at Toyota; Hanlie van der Berg, SAP architect at BMW; Robert Heneke, executive head: cloud, SAP development and technology and Anja Leonard, enterprise solution architect both from Pick 'n Pay; Orsilla Haggard, group

executive: finance business support and Bushy Thebehali, application services manager from Aspen Pharmacare; Ronel Pfotenhauer, business owner, SuccessFactors and People Analytics and Prinushlee Govender, data scientist, People Analytics at SANLAM; Innocent M. Dlamini, COO and sponsor of the SAP transformation project at Sincephethelo Motor Vehicles Fund; Aveena Mothilall, CIO at Engen Petroleum; Rob Coombe, group IT manager, Royal Eswatini Sugar Corporation; and Werner Carstens, SAP solutions architect, Capitec Bank.

SEW-EURODRIVE launches X.e agitator gear unit

BUILDING on the success of its tried-and-tested X.e series of high-performance industrial gear units and gear-motors, SEW-EURODRIVE has launched a new X.e series agitator gear design.

This agitator gear unit boasts high permissible forces and bending moments alongside its operational reliability – making it ideal for all high-performance agitators and mixers. According to SEW-EURODRIVE's Head of Business Development Engineering, Andreas Meid, the agitator gear design expands the company's portfolio to include more application gear units designed for specific uses.

"Agitator gear units are used in various industries across Africa including chemical, pharmaceutical, food and beverage, and water and wastewater treatment – for mixing and blending liquids and other materials," says Meid. "The X.e-series agitator gear units can be used wherever high power ratings are required for stirring and mixing liquid or



The X.e-series agitator gear units can be used wherever high power ratings are required for stirring and mixing liquid or paste-type materials.

paste-type materials."

SEW-EURODRIVE's X.e series features a modular design for flexible customisation, and includes innovative motor and gear unit technology that ensures high efficiency and long service life. As part of this range, the SEW-EURODRIVE X.e agitator gear unit is designed to provide reliable and efficient operation in these demanding applications.

Meid highlights that the 'digital twin' concept was applied throughout the design process for the X.e-series agitator gear unit, making it possible to simulate and optimise the mechanical compo-

nents and oil flow in virtual reality.

"The application-specific rolling bearing concept – with a large bearing spacing and its rigidity optimised agitator housing – allows the unit to absorb the strong forces and bending moments that typically occur in agitation and mixing processes," he explains. "Depending on the particular load scenario, there are three load-specific rolling bearing variants available for each size."

The X.e agitator gear unit's advanced gear technology, which includes helical and bevel-helical gearing,

provides high torque transmission with low noise and vibration. This ensures smooth and efficient operation, even in high load applications.

"Among the innovative design elements of the gear unit is an oil expansion chamber to compensate for temperature variations," he says. "It also features a labyrinth sealing system to prevent contamination and reduce the risk of oil leakage." The units are available in three sizes, for a torque range of 117 to 217 kNm. As a three-stage or four-stage helical gear unit, it also covers gear ratios ranging from 20 to 400.

Launch of Africa's biggest machine tools exhibition

THE recently launched Machine Tools Africa exhibition, an event owned by the Machine Tool Merchants' Association of South Africa (MTMA) and in partnership with organisers Specialised Exhibitions, will be taking place at the Expo Centre in Nasrec, Johannesburg, from 21-24 May 2024.

Recognised as the biggest machine tools exhibition in Africa, Machine Tools Africa is a showcase of cutting-edge developments across the machine tool and related industries. The expo is designed to showcase the very latest global machine tool technology and to highlight the importance of local suppliers and their international manufacturing partners.

Metal processing is a critical sector of the South African economy and serves as an essential input to multiple industries. According to the Metals and Engineering Indaba, the industry contributes around 28% towards the country's manufacturing GDP, and according to NUMSA employs an excess of 360,000 people. Despite its importance, this industry faces challenges that need addressing to ensure its sustainability.

Challenges such as



high energy supply costs, energy interruption, increasing raw material costs as well as inadequate infrastructure are what the industry faces on a day-to-day basis.

Speaking at the launch, Joanne Canossa, MTMA Chairperson, says that "We can all agree that the past few years leading up to this much anticipated show has been nothing short of manic. Machine Tools Africa 2024 is a great step towards the recovery and upgrading of local manufacturing businesses in South Africa."

"At the show, industry players have an opportunity to highlight technological advancements and how technological infrastructure for human-machine collaboration can streamline

processes and improve high level decision making. It is this combination of technology and human creativity that defines smart factories and industry 5.0. It will be very exciting to see how our members as well as other companies utilise this platform to target and entice the manufacturing sector."

The Machine Tools Africa exhibition is seen as a crucial platform for business to connect with potential customers. Eighty-eight percent of visitors attended the previous edition of the show in search of new products, technologies, and trends.

"We are delighted to again be in partnership with the Machine Tool Merchants Association for the next edition of Machine Tools Africa,"

says Charlene Hefer, Portfolio Director at Specialised Exhibitions. "The collaboration is significant as our combined expertise and industry insights will bring immense value to our exhibitors and attendees alike."

"Over 50% of our exhibition space has already been sold for 2024 through our pre-launch to MTMA members, and this is just the beginning. We are committed to reaching an even wider market and attracting the most influential players in the industry."

For more information, visit the Machine Tools Africa website www.machinetoolsafrica.co.za or contact Keraysha Pillay at Keraysha.Pillay@montgomerygroup.com

Advertorial



Deane Nothard,
Marketing Manager.

South Africa’s market-leading safety footwear styles a testament to local development

WITH a 120-year history in occupational footwear, integrated workplace safety solutions provider BBF Safety Group remains Africa’s largest manufacturer of safety footwear. It also continues

to expand its range of head-to-toe Personal Protective Equipment (PPE). The group’s brands have made an indelible impact on the safety footwear market. Over the last 30 years, the

Lemaitre Maxeco has proudly helped protect over ten million workers. This surely marks Maxeco as the #1 sold safety footwear style in South Africa over the last three decades. Bova’s Neoflex

would probably be the closest style gaining ground, with a 25-year pedigree, and arguably currently the best-selling safety boot in South Africa. Sisi has been a constant champion for women-

specific PPE for over 15 years, while styles like Reese continue to be a firm favourite for female employees in heavy industry. But what does it take to build and maintain market-leading prod-

ucts in these industries, especially under the constant threat of imported products flooding in? It is important to note that BBF Safety Group was established based on championing local manufacturing, procurement, and SMME development. “This objective is now more relevant than at any other time in the country’s history to get the economy back on its feet,” comments Marketing Manager **Deane Nothard**.

With South African manufacturers experiencing the toughest socioeconomic conditions ever, BBF Safety Group remains committed to its local operations. “Not only do we manufacture locally, we support a downstream supply chain of local companies who provide us with a range of raw materials and services from the leathers and laces to the actual manufacturing of the uppers,” says Nothard.

“Millions of pairs of our leading styles have passed through South African hands. Our brands have established their reputation thanks to our research and development over the years, combined with consistent quality and service. They have been proven and trusted and continue to contribute to local employment and production,” says Nothard.

Along with an entire R&D department working across the PPE categories, a contracted research podiatrist bolsters safety footwear development. **Dr Anette Thompson** is an internationally published research podiatrist and recently awarded her PhD in Clinical Medicine. She consults with BBF Safety Group extensively on South African foot shapes and foot health. Dr. Thompson has provided invaluable input on several local developments, as well



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LEMAITRE MAXECO

THE AUTHENTIC
SISI REESE

We take pride in our locally produced market-leading safety footwear styles that have proven themselves over many years across various industries. Competitors may look to replicate these iconic styles, but our success comes through our commitment to delivering exceptional, reliable safety gear that contributes to the growth of the local economy.

Continued on P13



Maxeco is the #1 sold safety footwear style in South Africa over the last three decades.

South Africa’s market-leading safety footwear styles a testament to local development

Continued from P12



Eugene du Toit, Group Technical Manager.

as providing advice and training to customers on foot health in the workplace.

Eugene du Toit, Group Technical Manager for BBF Safety Group, explains further: “The styles that have proven themselves over the years, and continue to perform, are the result of our initial insights and ongoing development. Whether it be in the mix of compounds, raw materials, or refinements through the years, it is important for us to keep on producing quality products that provide the balance of durability, comfort, and performance.”

However, it is not only the tried-and-tested styles. “We are constantly looking at international trends, new materials, and production technologies to blend with our extensive experience in South African industrial environments. We are very excited about some of the new developments due for introduction in future.”

“There is a lot of time, effort, and investment in developing locally,” adds du Toit. “Not to mention the ongoing Dollar-based testing with internationally accredited laboratories. With well-established products in any industry, you can expect some degree of imitation. However, it can be frustrating when you pick up products that have been imported from a catalogue with a few design tweaks to look almost identical to BBF styles that have gained market trust over many years.”

With this in mind, the company has launched a ‘Beware of Imitations’ campaign to promote the benefits of its authentic branded ranges – ranges that represent some of Africa’s best-selling safety footwear styles, proudly designed and manufactured in South Africa.

About BBF Safety Group

BBF Safety Group is an integrated workplace safety solutions provider that helps customers create safe working environments.

In 2014, four of South Africa’s largest safety footwear manufacturers joined forces to create BBF Safety Group (Pty) Ltd. The merger created the largest safety footwear manufacturer

in Africa producing over 4.5 million pairs of footwear and gumboots per annum.

In 2017, BBF Safety Group transitioned from being a leading safety footwear manufacturer to an

integrated workplace safety solutions provider. Today, we offer a full portfolio of head-to-toe personal protective equipment (PPE) and professional occupational health and safety (OHS) services.

BBF Safety Group Contact

Deane Nothard, Marketing Manager, Phone: (031) 710 0400 Email: deane.nothard@bbfsafety.com Web: www.bbfsafety.com

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GRIPPAZ – Unbeatable grip and protection

THE GRIPPAZ range consists of specially formulated 100% nitrile, silicone free, food safe gloves, which combine household and disposable glove technology. This unique combination offers users a multitude of benefits, perfect for applications in the automotive and engineering, food and beverage, medical hygiene, construction, plumbing, beauty DIY and many more sectors.

Firstly, the chemical composition together with reduced curing during the manufacturing process increases stretch and provides a snug fit, making it more comfortable to wear while improving durability.

The gloves are resistant to chemicals, such as clutch and brake fluid, commonly encountered in the automotive and engineering sectors. They are also resistant to animal fats found in the processing of foods and offer a barrier against particles and aerosols found in the construction sector.

GRIPPAZ gloves are also chemically resistant against most cleaning agents used in medical and janitorial applications and are a proven barrier against bacteria and viruses.

The patented “fish-scale” grip is embossed on the palm and inside of the thumb on both



the inside and outside of the glove. This grip pattern forms a lattice which massively adds to the tensile strength

(+50%) of the glove, while at the same time using the vacuum suction principle to achieve immediate and

effective grip against dry, wet, and greasy surfaces.

The internal grip gives extra traction to

avoid the glove slipping against the skin whilst reducing perspiration. This unique feature also allows a GRIPPAZ glove to be used on either hand, reducing usage as a damaged glove can be replaced by another single. This grip when combined with the rotated thumb grip, not found on other ambidextrous gloves, forms the ultimate grip achievable for this class of gloves. GRIPPAZ gloves have a standard thickness, offering high levels of dexterity and sensitivity to achieve delicate tasks, while also being touch screen friendly to facilitate the use of technology without

having to remove the gloves.

GRIPPAZ are sold in boxes containing 25 pairs which reduces packaging as well as packs of 10 gloves for convenience. The gloves are available in Black, orange and blue as well as a variety of sizes to fit most hands.

Lastly GRIPPAZ gloves also contribute to a circular economy, as they can be recycled to manufacture other nitrile products, such as running tracks, matting, patio furniture and flowerpots.

For more information:
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Disinfectants and cleaning products harbouring toxic chemicals are widely used despite lack of screening for potential health hazards

By Courtney Carignan Assistant Professor of Food Science and Human Nutrition, Pharmacology and Toxicology, Michigan State University

CONCERNS about unnecessary use of a common class of antimicrobial chemicals used in disinfectants reinforces recommendations to opt for soap and water or safer products, my colleagues and

I determined in our recent critical review of the scientific literature.

Quaternary ammonium compounds, or QACs, are increasingly marketed and used in homes, schools and workplaces with limited evidence for their appropriateness or safety. These chemicals can be found in common disinfectant solutions, wipes, hand sanitizers, sprays and even foggers.

Laboratory animal studies have found that some QACs can have developmental and reproductive toxicity with sustained exposure, may contribute to weight gain, and can impair energy production in cells.

Surprisingly, despite these concerns, studies on people have been limited to patients with allergic contact dermatitis and workplace-induced asthma among workers in hospitals and other facilities that require a sterile environment. We were even more surprised to find a lack of comprehensive screening for health hazards in the majority of this large class of common and widely used chemicals.

One of the top reasons to use antimicrobials only when needed is that overuse leads to the rise of antimicrobial resistance, which contributes to millions of deaths per year worldwide. QACs and other antimicrobials create “superbugs” that not only can’t be killed by disinfectants but can also become resistant to lifesaving antibiotics.

Why it matters

When the COVID-19 pandemic began, recommendations cir-

culated in the news and social media to disinfect almost everything, from doorknobs to desks to groceries. Because COVID-19 is not primarily transmitted from surfaces, many of these disinfection practices don’t substantially reduce transmission risk.

Our team became concerned that frequent disinfectant use could lead to adverse health effects from QACs. Most people probably don’t know about existing health concerns regarding QACs, or aren’t aware that QACs can remain on surfaces and in indoor air and dust long after the product has dried, exposing more people to these chemicals than just the initial user. Researchers have found that the average levels of these chemicals in people’s bodies have risen since the pandemic began.

What still isn’t known

One of the most commonly used QACs is benzalkonium chloride. Others may be identified on ingredient labels with names that end in “ammonium chloride” or similar terms.

While reading labels can help consumers identify QACs, some products may not require disclosure of these chemicals in the ingredient list. For example, pesticide labels are required to list QACs whereas paint labels are not. QACs can be used in a wide variety of consumer products where they may or may not be listed when used, including personal care products, textiles, paints, medical instru-

ments and more.

What’s next?

Reducing the harm of QACs requires their disclosure in all products, comprehensively screening them for health hazards and closely monitoring their broader effects in people and on the environment.

In the meantime, my colleagues and I recommend that individuals, schools and workplaces take a close look at their cleaning practices to see where disinfectants can be replaced with safe cleaners or safer disinfectants.

Cleaning with soap or detergent removes most types of harmful germs like COVID-19 from surfaces. While disinfection can help kill any remaining microbes, it should be limited to situations where people have been actively ill, such as vomit on a surface, and during certain disease outbreaks.

For disinfectants to work properly, they must be left on the surface long enough to kill the germs, and this required contact time may be noted on the product. When you use or handle disinfectants you should wear protective gloves and eyeglasses or safety glasses, and you should open windows and doors to ventilate indoor spaces.

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STEINMÜLLER Africa is one of the country's leading manufacturing, maintenance, life extension plan and project management partner for the industrial and steam utility equipment. The company offers boilers and burners as a part of its engineering services and designs and manufactures coal and oil & gas-fired boilers as well as pulverised burners. All manufacturing work is conducted at the company's state-of-the-art facility in Pretoria, where individual components are tailor made using alloy.

All equipment can be manufactured to customer specification, and boilers are designed to maximise boiler efficiency within the typical boiler operating range.

Where required, burners can be

designed to emit lower CO2 emissions. Burners manufactured by the company in this fashion are at the forefront of international technology for low NOx burners.

Quality standards applied

The fabrication process of the pressure parts and components is strictly governed by international design, as well as manufacturing codes and standards. Steinmüller Africa has implemented ISO 9001, BH OHSAS 18001, ISO 14001, ISO3834 and PED manufacturing standards at its Pretoria West workshop. In addition, the company continues to update welding procedures and qualifications to ensure that production is of the highest quality. Along with design

and manufacturing services, Steinmüller Africa conducts comprehensive maintenance for its boilers and burners throughout their lifespan. In order to assess plant conditions and allow adequate time for outage planning, the company undertakes short-duration inspection visits approximately 18 months prior to the maintenance outage. All maintenance includes function assessment and the removal and replacement of worn parts.

Specialised design

Steinmüller Africa's boiler and burner offering is best illustrated by work conducted at Eskom's Kusile and Medupi power plants. A design was supplied and the company participated in the design process to



make modifications to suit its own manufacturing process.

This included designing special manufacturing jigs and lifting equipment

required at its Pretoria facility. "We pride ourselves in providing the best boiler and burner solutions and services for power generation, petro-chem-

ical, steel, paper/pulp and sugar and nuclear industries. With the use of the latest technologies and constant innovation, we are the partner you can trust

throughout the life cycle of your plant and its equipment," says Steinmüller Africa's Corporate Communications Specialist, Mpho Muvhango.

ACTOM expands into the East African region



ACTOM CEO, Mervyn Naidoo

ACTOM, a supplier of electrical equipment and services, will take over a low-voltage product manufacturing facility in Kenya from existing technology partner Schneider Electric – a move that will facilitate ACTOM's industrial expansion into East Africa.

ACTOM CEO, Mervyn Naidoo, explains that the company is planning to establish industrial hubs in East, West, and eventually even North Africa that will provide a platform for the broader ACTOM portfolio of products and services in these regions.

Its takeover of the Kenyan manufacturing facility will provide the company with an entry point into East Africa, where it plans to target the Tanzania, Uganda, Rwanda, and Ethiopia markets. Naidoo says that ACTOM has an extensive range of Intellectual Property (IP) in low-, medium-, and high-voltage products. These span a wide spectrum of transmission and distribution products, as well as power generation and associated products.

"We intend to use the

industrial platform in Kenya to enter the East African market with our products and services. We want to expand to Kenya, where we will transfer IP and, where economically feasible, set up manufacturing and establish our repair business there," says Naidoo.

He notes that the African Continental Free Trade Area (AfCFTA) presents numerous opportunities for inter-continental trade, especially within the economies of countries like Kenya and Tanzania, which are growing at 4%-plus annually.

ACTOM celebrates its 120th anniversary this year and currently manufactures products that range from boilers to control equipment, uninterrupted power supplies, LED lighting, solar heating systems, transformers, switchgear, and turnkey EPC solutions. The company also provides full aftermarket repair and service solutions to its customers.

"By offering repair and service solutions, we can ensure the sustainability of our products, literally from cradle to grave. It would be fruitless having products that cannot be serviced; hence throughout the full lifecycle of the product, we can provide support and optimise lifecycle costs and availability. In this way, we can maximise availability and performance for our customers," says Naidoo.

WE MAKE STEAM

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Avert common boiler and cooling tower issues with proper maintenance

COMMON mistakes and oversights that can cause system failures in boilers or water-cooling plants can be averted by putting in place a proper water treatment and regular maintenance plan.

Lionel Maasdorp, MD of Allmech, a leading South African manufacturer of boilers and supplier of water treatment components, says one of the most prevalent issues the company comes across is skimping on water pre-treatment or on ongoing maintenance. "Unfortunately, we often have cases where costs or downtime could have been reduced had a proper water treatment plan been implemented from the start," he says.

Maasdorp explains that effective water treatment requires treatment both before and after introduction of water into the boiler or cooling tower. "The selection of pre-treatment option

will depend on the quality of the source water, the chemical characteristics of the water, the quantity of make-up feed water required, plant operating practices, and so on," he says. "Many companies skip water treatment, including pre-treatment, because they're looking to minimise costs, but this might actually increase costs in the long run as it can affect the boiler or water-cooling tower's efficiency (driving up energy usage and thereby costs) and ultimately significantly shorten its lifespan."

The problems that water treatment aims to address

Anelia Hough, water treatment consultant at Allmech, explains that there are four common problems that can occur in boilers and cooling towers that affect how effect the system is: corrosion, fouling, biological



contamination, and scaling.

"A total water treatment programme should address any impurities in the source water (pre-treatment), the water treatment itself (filtration and / or chemical treatment) and ongoing testing and maintenance," she says. "Raw water sources are likely to contain

amounts of suspended and dissolved impurities, depending on the source (whether it's municipal, borehole, river or dam water), and the geographical area, among other things."

In boiler operations, poor water quality results in poor quality steam, which is why pretreatment of feed-water is critical. The

aim of this step is to remove impurities to control deposition, carryover, and corrosion in the boiler system, which affect the boiler's effectiveness and, in the long run, can cause costly downtime and unscheduled repairs.

In cooling towers, the treatment focus is on the water-replacing bleed, and evaporated

and leaked water from the cooling tower. "If makeup water is not treated in cooling towers, we almost always see scale and corrosion taking place, which can drastically decrease the efficiency of the system," says Hough.

Microbiological fouling is another concern. This is when organisms settle on the surface of the cooling tower. They secrete a polysaccharide layer for protection, which then collects silt from the water, thus growing thicker and further reducing heat transfer.

The next stage in the "water treatment life cycle" is what's known as "after-treatment". This involves adding chemicals to the water to ensure it is fit for a specific purpose. For example, Allmech offers a range of SANS 1827 food-grade chemicals for boilers, which are safe for food, beverage, pharmaceutical and agricultural uses. For cooling towers,

the company supplies chemicals that act as scale and corrosion inhibitors (for open and closed systems), along with micro biocides, dispersants and cleaning agents.

A final important step

Beyond setting up the correct treatment systems and procedures, Maasdorp says that one of the most effective ways to ensure boiler or cooling tower health is to schedule regular maintenance checks.

"A comprehensive preventive maintenance programme not only keeps your boiler or cooling tower up and running reliably, but also ensures you get the maximum life span from your system," he says. "It's also a priority in ensuring the safety of your people" he concludes.

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SA grain and livestock farmers must adapt in the face of changing weather patterns

IN the coming months and years, changing global weather patterns will likely have significant consequences for South African farmers, especially those involved in livestock and grain production. That's according to Paul Makube, Senior Agricultural Economic at FNB, who says that, after enjoying three years of abundant rains and favourable conditions due to La Niña, South Africa is now heading into an El Niño phase, which typically translates to drier weather and creates uncertainty for farmers with the potential to negatively impact yields going forward.

Weather see-saw adds to woes

"The previous La Niña years were a boon for South African farmers, with above-average rains supporting agriculture and leading to higher yields in field crops, fruits, vegetables, and even improved grazing pastures for livestock," Makube explains, "but the anticipated shift to El Niño conditions presents a new set of challenges for farmers who are already facing multiple other factors that are impacting their activities."

According to Makube, these challenges include loadshedding, changing consumer patterns and declining consumer confidence due to lower levels of disposable income, and relatively elevated farming input costs. He explains that the changing weather patterns will almost certainly exacerbate these challenges and add upward pressure on costs for farmers and food prices for consumers, further fuelling concerns about food insecurity – not so much in terms of availability, but more so due to unaffordability.

"Adaptation by farmers is crucial in the face of the coming hot and dry conditions caused by El Niño," he emphasises, "and for livestock farmers this means taking steps now to ensure an appropriate balance between feed availability and stock numbers."

Not all bad news – but save water

Makube is optimistic about the short-term fortunes of SA's crop farmers, pointing out that the sector is likely to end the current harvesting season on a positive note, with projections of a good harvest of around 19 million tons. The extensive rains have

also served to replenish groundwater reserves and soil moisture levels, which puts farmers on a positive footing going into the next planting season. But he says that these factors will not be enough to support crop farmers through an extended, or

extreme El Niño period and farmers will need to quickly adapt and implement sustainable farming practices that can mitigate the impact of changing weather patterns. "Crop farmers need to urgently begin looking into investing in drought-resistant crop

varieties, improving water conservation techniques, and adopting climate-smart agricultural practices and technologies like precision agriculture techniques," Makube says, "and also ensure they have appropriate risk management tools in place

to guard against potentially extreme weather events."

Collective plan for food security needed

And Makube is quick to point out that the imperative for farmers to quickly adapt to

the changing climate patterns is not only to protect their own operations, but also to help address rising concerns about food affordability in South Africa. While South Africa produces enough staple foods for its own needs, affordability and rapidly rising

food inflation are major concerns. "As weather patterns change, and farmers face challenges and rising production costs, the affordability of food becomes a significant concern for vulnerable populations with lower levels of disposable income," he explains,

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Agro-processing sector pivots to new realities and innovative products amid challenges



Image credit: Math.

By staff reporter

SOUTH Africa's agro-processing sector is being forced to optimise manufacturing processes and to explore new markets by introducing new ranges of products. This in the wake of the stagnation the sector is facing in output, investment, and employment, as well as increasing commodity prices and economic instability.

Christo van der Rheede, CEO of South Africa's largest agricultural federation, Agri SA, said in an interview the Western Cape is not exempt from these challenges, caused by a range of factors, including the national havoc caused by loadshedding, and high prices of inputs, including diesel price increases.

Cost spiral

"The price of electricity, packaging, and shipping are also impacting the industry massively," he said.

"In addition, the cost of production has gone up, driven by the repo rate that's risen by more than 475 points since 2021, making the cost of capital much more expensive and production or infrastructure development costly.

"Agro-processors depend on farmers who produce the raw material. Preparing and packaging meat; and turning maize into bread or products involves a highly cost-intensive process.

"We have seen the impact of Covid and of the (Russia-Ukraine) war on the entire global economic system which has driven up prices.

While prices are coming down in some parts of the world, in South Africa, the opposite is happening. Inflation is at an all-time high. Food inflation has been at 14 percent, the highest in years, caused by own goals. Failure to supply enough electricity is a big challenge for an energy-intensive industry."

Van der Rheede said the solution to these challenges involves addressing the concentration of market power, promoting competition, and supporting the growth of small and medium-sized agro-processing firms to unlock the economic potential and address inequality in South Africa.

Agro-processing – particularly on-farm agri-processing – is crucial to the agricultural sector as it opens up new markets, stimulates economic growth and creates jobs, while enabling farmers to diversify and spread risk.

The head of the Western Cape Department of Agriculture (WCDa), Dr Mogale Sebopetsa said the sector – whose products include fruits, vegetables, wine, grain, dairy, and meat products – contributes about 4% into the provincial GDP and creates about 250 000 jobs. "The combined primary and agri-processing sectors account for 17% of the Province work force. "However the current challenges relating to load shedding and general increase in production inputs will not only affect primary, but also extend to agri-processing.

"This sector depends on raw material for

inputs and, given the decline in horticultural production in the 1st quarter 2023, there will be challenges as raw material availability dwindles," he added.

Western Cape – the nation's breadbasket

Commenting on innovative ways in which the Western Cape is dealing with these challenges, van der Rheede added: "The impact of global competition is compelling certain manufacturing companies to embrace novel technological advancements and business strategies. Some sectors have shifted towards being more reliant on capital investments, aiming to enhance productivity, profitability, and competitiveness."

He said optimising manufacturing and exploring new markets is critical for the industry. "We must stay competitive. As part of the global village, we have to compete with chicken, grain, meat, and other imports. If we're inefficient in terms of operations we lose our ability to compete internationally.

Dumping, power and water woes

"Farmers in America, Europe, and Brazil receive production support from their governments so they can put agricultural products on the market more cheaply than us. We've seen large-scale dumping of agricultural products on the SA market which has had a devastating effect on the sugar, dairy, and poultry industries, so we must

remain competitive.

"But how do you remain competitive if you don't have electricity or clean water? Some agro-processing companies have packed up and moved from towns where municipalities don't deliver proper services. That's a costly exercise. Agro-processors face many unfavourable circumstances."

Van der Rheede's view is that agro-processing companies have turned to innovative explorations of new branding and packaging of their product "to be appealing to the new generation.

"There is huge emphasis on the health value of the products. We have also seen processing companies adapting to new legislation especially with regard to sugar content ... and, various plant-based products are being developed for vegetarians. Food manufacturing companies are continuously adapting. It's important that they explore this even further to adapt to new trends."

Dr Sebopetsa said the Western Cape Department is conducting an impact analysis on the industry, which will be concluded by the end of June 2023. "The sector will benefit from the investment in energy infrastructure announced during the Budget Speech of the Provincial Minister of Finance and Economic Opportunities; and from the incentives such as diesel rebates for manufacturers of foodstuffs. The department is also hosting an Agriculture Energy Summit on 22-23 June 2023 to look for more solutions."

"SA can unleash agriculture's growth potential" – Sihlobo

IT's been just over one year since South Africa launched its Agriculture and Agro-processing Master Plan (AAMP), touted as an inclusive growth strategy for the agricultural sector. A framework was submitted to build competitiveness, attract more investment, improve inclusion and create jobs. The plan aims to unleash the agricultural and agro-processing sector's full potential and increase its current 8% contribution to GDP.

This is according to Wandile Sihlobo, Chief Economist of the Agricultural Business Chamber (ABC) of South Africa. Sihlobo explored the role of the AAMP in South Africa's recovery and growth story during the latest PSG Think Big webinar. The series, facilitated by award-winning journalist, Alishia Seckam, examines some of the most pressing issues impacting South Africa's economic development.

Reflecting on whether the master plan is still fit for purpose given the heightened level of local and global challenges in the operating environment, Sihlobo asserts that it's doable, however, it needs to be adjusted and treated as a recovery plan. He highlights that many of the issues addressed in the plan has become a lot more complex over the last year.

The master plan hopes to unlock 10% to 15% growth in gross value added and to create roughly one million jobs in the primary agriculture and agro-processing sector. "But it will require close collaboration between all the stakeholders who came together to co-create AAMP – government, labour, private sector and communities – to explore opportunities for all the high-value commodities," he said.

When evaluating the impact of geopolitics – most recently the US and SA tensions – the importance of trade came into focus. He made it clear that exports need to increase to grow this sector and for AAMP to reach its targets, however, for exports to increase, production must expand.

As an export-oriented sector, it's important to maintain trade relations with our most important markets, or we run the risk of running at a loss. Sihlobo breaks down the composition of the

\$12,8 billion in agricultural exports according to market size. At 40%, the African market receives most of South Africa's agricultural exports. Roughly 27% is Asia, 20% goes to the EU, the UK is at 4%, and the US is about 4%. Russia is fairly insignificant at around 2%. "So, although the US is an important market for us, the EU is the primary market that we want to nurture a relationship," emphasises Sihlobo.

When we look at expanding production and facilitating enhanced trade outputs, Sihlobo explains that the master plan also seeks to unlock currently under-utilised land. "We think the South African government currently has close to four million hectares of land. Some of it is agricultural and can be brought into full production and nearly two million hectares of that land has already been audited by the Agricultural Research Council. To put it into perspective, South Africa currently plants about 4.3 million hectares of summer grains and seeds. That number can be increased substantially, for grains, horticulture, and livestock, leading to better output for exports and job creation in the process," notes Sihlobo. At present South Africa exports just over half of its produce in value terms, which equates to \$12,8 billion in 2022.

Shifting to domestic challenges and how the AAMP supports the agricultural sector in overcoming them, some issues that took the spotlight were poverty and loadshedding.

When asked about how South Africa can reconcile the issue of food security, Sihlobo points out that although the sector exports roughly 51% of the food that it produces, this creates the funds for vital sector input needed for items such as fertiliser, certain chemicals and seeds. He also points out that just because we are exporting roughly half of what we produce in value terms doesn't mean that consumers are left without supplies, or that the exports are resulting in an unusual increase in domestic prices. "The poverty issue that the country has comes from unemployment, so even if you were to drop the price of a food item, if someone has no income, that will still be too expensive for them," says



Image credit: <https://www.agricultureportal.co.za>

Sihlobo. He further adds that a large part of the problem is also the infrastructure constraints that are curbing the supply to locals – referring to the roads, electricity issues, and water.

Evaluating the impact of load shedding, Sihlobo points to irrigation usage. The primary agriculture sector irrigates 100% of fruit and vegetables and a third of field crops. About a third of the income generated in agriculture is directly linked to irrigation. And that's excluding poultry, dairy and other agri-industries.

To address this risk, the Department of Agriculture has tabled a capital investment initiative, called the Agro Energy Fund, which encourages farming entities to subsidise a portion of their loan to put towards generating their own power through a range of renewable energy solutions. Private sector players have been invited to participate in the fund to support farmers, but Sihlobo says before the master plan can be implemented, there are important steps that Agriculture Minister Didiza must take, one of which are all social partners must be gathered to evaluate the sustainability of the energy plans for the sector going into the next season.

He says once those elements are in place, we can look at the AAMP and identify the commodity-by-commodity interventions, that needs to be put in place at a regional level and establish who should take what part in the implementation process. "I think this approach will move us forward, it will ensure we grow the agricultural pie and that we have new players coming in using resources that are currently underutilised.

Sihlobo concludes, "I see vibrancy in the agri-processing and business space that can generate the jobs that we so desperately need. Although this policy is not a perfect one, it is supportive of growth in this sector, and that's on what we need to focus."

Backsberg pioneers carbon neutral wine farming - accreditation



BACKSBERG Family Wines, a winery with a rich heritage spanning over a century, remains steadfast in its philosophy of providing world class wines while prioritizing sustainable practices. As South Africa's first certified carbon-neutral winery since 2006, Backsberg prides itself in constantly extending the utmost care for its employees, products, land, and the broader community.

In a significant recent achievement, Backsberg can now proudly announce that their wines from the 2022 vintage onwards have undergone a rigorous verification process through internationally recognised third parties and have been awarded the PAS 2060:2014 specification for carbon neutrality. Another first for

the South African wine industry, this world-renowned verification process solidifies the brand's unconditional dedication to reducing its carbon footprint.

The carbon neutral certification is accredited to the full value chain, from viticulture, winemaking, bottling, warehousing and distribution to the furthest possible international customer, a truly holistic evaluation.

With a long-standing commitment to environmental stewardship, Backsberg – now with its fifth generation at the helm, continues to thrive by honouring the past whilst simultaneously forging ahead with forward-thinking holistic practices: from the biomass boiler and heat exchange chiller for cooling in their previous cellar to its past prickly pear biomass

programme, supporting 'Credible Carbon' on projects such as the Kuyasa Project, undertaking of the internal 'Bamboo Project' underway at the Mooiplaas Farm in the Eastern Cape, local tree planting schemes and joining arms with Stellenbosch University in a previous bee pollination initiative,

In addition to their dedication to sustainability and recent carbon-neutral accolade, all wines in the range are also suitable for vegans and vegetarians and 100% GMO free.

To find out more about the sustainable farming efforts in place at Backsberg Family Wines, aligned projects and recent 'PAS 2060:2014' accreditation via the website: <https://backsberg.co.za/>

Rare collections of the world's leading wines to be sold, together with a uniquely minted NFT

STRAUSS & Co Fine Wine Auctions unveils six significant collections of the world's greatest wines, that have also been minted as Non-fungible tokens (NFTs), including Penfolds Grange, Domaine de La Romanée Conti, Château Mouton Rothschild, Château d'Yquem, Screaming Eagle and Harlan Estate that will be sold online in July 2023 (Registration and Bidding now open – visit www.straussart.co.za). A highly rare offering to global wine collectors takes place after the inaugural successful sale of Iconic South African Wine NFTs in 2022.

"Considering the size and depth of these impressive, unique collections, and the critical need for authenticity, we saw the advantage of minting each wine as



Roland Peens and Higgs Jacobs wine specialists.

an NFT", said Roland Peens, Strauss & Co Wine Fine Wine Senior Specialist. "We authenticated and photographed each bottle with the information now stored on the blockchain. This is a chance to buy a super rare collection or invest in an alternative asset. Fine wine has proven to be an uncorrelated long-term asset with low volatility and the

NFTs adds further security."

Superb Provenance and Meticulous Authentication

The Coats Family Cellar is arguably the most prestigious fine wine collection ever offered in South Africa. It contains an expansive range of the world's finest and most sought-after wines spanning over 150 years.

Are sugar and caffeine fizzling out of SA's CSD market?

BOTH globally and locally, the Carbonated Soft Drinks (CSD) market is witnessing a shift in consumer preferences from traditional high sugar, caffeinated soft drinks to healthier variations that exclude these ingredients, driven by ongoing health concerns surrounding these ingredients. This is resulting in market players increasing its existing brand ranges or launching new CSD products that are sugar- or caffeine-free, or lower in sugar content, thus meeting the ever-changing needs of consumers and catering to ongoing global health trends and priorities.

Insight Survey's latest South African Carbonated Soft Drinks (CSD) Industry Land-



is forecast to increase by a compound annual growth rate (CAGR) of 3.3% between 2023 and 2027, to reach approximately \$423.7bn by 2027.

In South Africa, the local Carbonated Soft Drinks market achieved very strong growth of 15.1% year-on-year, at current prices, between 2021 and 2022. Tell-

ers to meet prominent consumer health trends and concerns.

For example, The Coca-Cola Company introduced four limited-edition zero-sugar CSD products. Competitor PepsiCo has launched its new caffeine-free, lemon-lime flavoured CSD product, Starry Lemon Lime. In addition to being caffeine-free, this product was also made available in a zero-sugar variant.

This range was made available in three flavours that are all caffeine-free and low in sugar, responding to consumer demands for healthier alternatives.

Additionally, PepsiCo tested its Pepsi MAX zero-sugar product, through an international 'Taste Challenge' in South Africa.

The South African Carbonated Soft Drinks (CSD) Industry Landscape Report 2023 (111 pages) examines the local and global Carbonated Soft Drinks industry from a holistic perspective, with detailed insights into the entire value chain – market sizes and forecasts, industry trends, latest innovation and technology, key drivers and challenges, manufacturer overview, distributor overview, retail and pricing analysis.

The 111-page report is available for purchase for R35 000.00 (excluding VAT). Alternatively, individual sections can be purchased for R15 000.00 (excluding VAT).

For more information, email info@insightsurvey.co.za

"In South Africa, the local Carbonated Soft Drinks market achieved very strong growth of 15.1% year-on-year, at current prices, between 2021 and 2022."

scape Report 2023, describes the latest global and local market trends, innovation and technology, drivers, and challenges, to present an objective insight into the South African Carbonated Soft Drinks industry environment and its future.

In 2022, the global Carbonated Soft Drinks market was estimated to have generated approximately \$328.9bn in revenue and is forecast to reach approximately \$372.1bn in 2023, growing by 11.6% year-on-year. Furthermore, the global CSD market

ingly, the Reduced Sugar Carbonates market has witnessed significant growth in the country since 2017, with a CAGR of 9.4% between 2017 and 2022, compared to 7.3% for Regular Carbonates.

The current and expected growth of both the global and local Carbonated Soft Drinks market can be attributed, in part, to the introduction of healthier CSD products, specifically those lower in, or without, sugar and caffeine. These new products and formulations are being released by market play-

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Wear ring technology boost pump efficiency

IN the mining industry's drive to conserve energy, a focus on pumps is essential, especially given the sheer scale of pumping equipment required on the average mine and mineral processing plant.

On this score, global minerals process specialist FLSmidth has allowed mines to achieve new levels of efficiency with the initially patented wear ring technology on its KREBS pumps, according to Stephan Kruger, FLSmidth's Vice President Pumps, Cyclones and Valves for Sub-Saharan Africa, Middle East and South Asia. Mines have seen significant efficiency gains by using KREBS

pumps, explains Kruger, resulting in considerable bottom line impacts when multiplied by the dozens or even hundreds of pumps often employed on a single mine site.

"It is not only the rising cost of electricity that drives mines' energy strategies, but also their commitment to a low carbon future," he says. "FLSmidth's KREBS pumps directly support these efforts by our mining customers, thanks in great part to our innovative wear ring technology."

He highlights that two key aspects that reduce efficiency in slurry pumps tend to be suction side recirculation and mechanical

grinding between the casing and the impeller. The wear ring significantly reduces both of these factors, leading to lower power draw and longer pump life.

"Through our case studies, we have seen power draw being cut by 5 to 10% for the same flow and head with the application of KREBS pumps," he points out. "Similarly, we have measured the impact on pump life, and have shown that the life of wet end parts can be lengthened by one and a half to two times."

According to Derek Lane, General Manager Operations, conventional products in the market solve only

one of these factors through impeller and liner adjustment which may reduce recirculation but simultaneously exacerbates the grinding. "This leaves the pump user having to compromise on efficiency, which we do not expect our customers to do," Lane explains.

He says adjusting the wear ring allows the speed of the pump to be maintained as a constant, rather than users having to speed up the pump in response to the impact of grinding and wear."

"The wear ring in KREBS pumps can be easily adjusted so that it continues drawing the same power for the required pressure, holding energy con-



A KREBS® slurryMAX™ high pressure tailings pump on a mobile skid.

sumption to a minimum.

The regular adjustment of KREBS pumps can also be done without shutting down the pump and disrupting operations, says Morne Potgieter, FLSmidth Sales Man-

ager Pumps, Cyclones and Valves for Central and Southern Africa. This is important as it contributes to the general continuity – and hence efficiency – of the whole operation.

"The wear ring can be simply adjusted by

hand while the pump is running, and without the use of any special tools," he notes. "This allows the gaps to be kept as small as possible to avoid recirculation inside the pump, while maintaining speed and pressure."

Ultra-high solids epoxy CUI-mitigation coating

SHERWIN-Williams Protective & Marine has introduced the best ways to date to mitigate the dangerous condition of cor-

rosion under insulation (CUI) with its new line of Heat-Flex CUI-mitigation coatings. The line includes Heat-Flex ACE (Advanced

CUI Epoxy), which is an ultra-high-solids epoxy novolac developed with a functional chemical enhancement for CUI mitigation.

The coating performs the best at mitigating CUI out of any other formulation available. In addition, three coatings featuring a

high concentration of micaceous iron oxide (MIO) pigment round out the lineup, including Heat-Flex 750, Heat-Flex 1200 Plus and Heat-Flex 650. The MIO-enhanced coatings offer significantly improved CUI-mitigation performance compared to similar formulations currently on the market.

"The battle against CUI is never-ending, as coated steel encapsulated in insulation will inevitably corrode over time. Our goal is to mitigate that corrosion process for as long as possible, and we've developed some high-performance coatings that enable just that," said Mark Rubio, Energy Business Manager, Sherwin-Williams Protective & Marine. "For example, Heat-Flex ACE is the best product we've tested for long-term CUI mitigation. We anticipate it becoming a preferred specification solution as the industry gains experience with this enhanced CUI-mitigation system. We have also boosted the market's CUI-mitigation capabilities for existing specifications with the three MIO-enhanced Heat-Flex coatings."

All four Heat-Flex CUI-mitigation coatings have passed extensive lab testing, showing good to excellent performance in a variety of tests. These tests included various heat cycling, simulated CUI, BS EN 927-6:2016 erosion and dry film thickness (DFT) tolerance testing for thermal resistivity performed on all coatings, as well as cryogenic testing performed on the

MIO-enhanced coatings. Heat-Flex 750, Heat-Flex 1200 Plus and Heat-Flex ACE also showed excellent results following ISO 12944-9 CX cyclic anticorrosion testing. In addition, Heat-Flex ACE showed exceptional results in a series of CUI simulation tests performed in accordance with ISO TM21442 in excess of 204°C.

New Solvent-Free Coating Technology for CUI Mitigation.

Representing a new class of CUI-mitigation coatings, Heat-Flex ACE is a complete advancement over other similar coatings on the market. The two-component, organic, ultra-high-solids epoxy novolac coating is solvent free, unlike most other CUI-mitigation epoxies, which typically have between 60-80% volume solids. Being an ultra-high volume solids coating, Heat-Flex ACE reduces the release of volatile organic compounds (VOCs) for better environmental stewardship and reduced permitting costs for applicators. In addition, the coating has been developed with a functional chemical enhancement and is free from the flake-filled pigmentation that's common in alternative CUI-mitigation coatings.

In testing, Heat-Flex ACE far surpassed the capabilities of solvent-based epoxy phenolic and novolac coatings designed for CUI mitigation. For example, it displayed best-in-class temperature, corrosion, chemical and mechanical resistance, while providing the

most versatile DFT range among CUI-mitigation coatings.

"When we tested Heat-Flex ACE in the lab, we decided to test it vigorously to try to break it and found it was quite unique," said Rubio. "Following those promising results, we have confirmed the coating's robust performance as a more dependable and longer lasting organic coating solution. This has led to the product being added to customer specifications."

MIO-Enhanced Coatings

To better meet the needs of current CUI-mitigation specifications, Sherwin-Williams also enhanced three existing formulations by adding MIO reinforcements. Each coating features a minimum concentration of 25% MIO pigment by weight in the dried coating film, which helps extend the life of the coatings and reduces risk by addressing typical CUI failure mechanisms experienced while in service and during shipping and construction.

"The coatings' heavy load of MIO reinforcements provides greater durability against impacts, chemicals and corrosion when coated assets are insulated and placed into service," said Rubio. "In addition, the MIO provides enhanced UV erosion resistance, which protects the epoxy-based coatings from degrading before insulation is installed on assets."

For more information visit: <http://www.sherwin-williams.com/>

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New aluminium filter regulators enhance process efficiency

EMERSON has launched its new ASCO™ Series 641, 642 and 643 Aluminium Filter Regulators, which maximize process efficiency and reduce unplanned downtime in a broad range of process applications. This line of durable, aluminium filter regulators can handle the highest flow rates of any regulators in their class and provides precise pressure regulation to downstream instruments.

An alternative to stainless steel filter regulators, ASCO Series 641, 642 and 643 Aluminium Filter Regulators complete Emerson's full suite of valve piloting technologies. This allows process manufacturers to source their total valve piloting solutions, including so-

lenoid valves, switch boxes, filter regulators and accessories, from one global technology partner.

By using one supplier, manufacturers can simplify their supply chains, improve design accuracy and access comprehensive engineering support. Designing a valve piloting solution that includes technologies from different suppliers splits vendor responsibility and can introduce an opportunity for error.

"Sourcing valve piloting technology from multiple vendors is time-consuming and complicates supply chains, while limited options for conventional filter regulators leave some customers with unmet needs," said Mike Howells, marketing manager, process applications

for Europe, Middle East & Africa at Emerson. "Our new ASCO Series 641, 642 and 643 Aluminium Filter Regulators simplify sourcing for our customers and ensures that they have industry-leading technology that enhances process efficiency, safety and reliability."

With the market's highest flow rate capabilities of up to 370.8



standard cubic feet per minute (10,500 litres per minute), the aluminium filter regulators improve process efficiency and ensure that stringent process valve opening/clos-

ing requirements like those for emergency shutdown valves are met. Higher flow rates provide more air to the valve actuator, which increases the opening and closing speed of process valves. Depending on the application, slow valve closures can increase safety risks.

These robust filter regulators feature rugged construction and advanced engineering that further enhance safety and maintain plant uptime, while specialized powder coating ensures reliable operation in harsh, corrosive process environments. Effective moisture removal keeps media dry to protect downstream devices, and sophisticated media filtration prevents downstream process contamination.

This three-tiered

regulator line provides a 6mm to 25mm coverage and is highly customisable.

Process manufacturers can choose advanced features such as Quick Relief, which enhances safety and operational certainty by exhausting downstream pressure if supply air pressure is lost, as well as low-temperature and low-copper variants, manual and automatic draining, global certifications, and many other options that serve specific applications, in the chemical, oil and gas, energy and utilities, food and beverage, and water and wastewater industries.

For more information, visit: <https://www.emerson.com/en-us/catalog/automation-solutions/asco-64123>

Verderair HC-PURE: Hygienic Double Diaphragm Pump

VERDER Liquids has unveiled the Verderair HC-PURE series, a line of hygienic double diaphragm pumps for handling hygienic applications. Engineered for optimal cleanability and uncompromising durability, the HC-PURE pump is said to set a new standard.

Highest Hygienic Design Principles

The Verderair HC-PURE pump is crafted from SS 316L, meeting the highest hygienic design standards, complying with EC-1935/2004 and FDA regulations. Its electropolished surfaces minimize bacteria traps and contamination risks



while enhancing corrosion resistance. With easy maintenance and extended lifespan, downtime in the production process is significantly reduced.

Key Features of the Verderair HC-PURE:

- Electropolished SS 316L for exceptional cleanability
- Solid machined centre block made from

- PE/Polyamide
- Rotatable stand for quick draining and servicing
- Single-piece manifolds with smooth corners
- PTFE/EPDM over-molded diaphragms for longer lifetime
- Manifold clamps for effortless disassembly
- Maintenance-free air valve ensuring reliability

Industries and Applications

Verderair HC-PURE pumps are designed for various industries, handling a wide range of low and highly viscous fluids. They are ideal for applications in the beverage, pharmaceutical, cosmetics, dairy, food, and brewery/winery sectors. With the Verderair HC-PURE, Verder demonstrates its commitment to delivering innovative pumping solutions that elevate hygienic processes to new levels. Watch the video for all the key features and benefits of the Verderair HC-PURE in a glance: <https://youtu.be/MH9gkewf57A>

New flushing ring design reduces maintenance - improves pressure measurement accuracy

EMERSON has introduced the Rosemount™ 319 Flushing Ring with valve-integrated design, ensuring accurate differential pressure measurement and lower maintenance suitable for a wide range of differential pressure applications. Available in Traditional and Compact options, the new Rosemount 319 Flushing Rings provide a process-to-seal connection and allow for faster diaphragm seal maintenance without disconnecting them from process flanges.

Both versions of the Rosemount 319 Flushing Rings come pre-assembled including the flushing ring,

matching valves, and connections, allowing technicians to commission devices faster by eliminating the need to procure and assemble components onsite. Rosemount 319 Flushing Rings are factory leak-tested so users can mount products to vessels right out of the box. When installed, diaphragm seal maintenance is significantly faster without compromising safety while reducing stocked inventory and management of multiple vendor piece-parts. Version-specific features include:

- The design utilizes a flow-through cleaning action and can be sized

to fit almost any application. Configurations are offered with a choice of ball valves, needle valves or gate valves, and in multiple materials, flange types, sizes and ratings.

- The Rosemount 319 Compact flushing ring design removes residual build-up quickly, cleaning five times faster over 30% more surface area and 50% fewer leak points than other flushing rings. Assemblies accommodate a wider range of applications due to their smaller footprint for accurate differential pressure measurement in applications that have limited space for flushing ring installation.



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How fluid technology can optimise the benefits of air lubrication

RIDING a slippery layer of microbubbles produced by compressor technology, a ship can achieve up to 8% fuel savings, reduce CO2 emissions and improve its overall Carbon Intensity Index (CII) rating.

This is the ambition behind air lubrication, which uses compressors to provide a steady stream of air to produce microbubbles along the flat bottom of a ship's hull to lower drag with the seawater. Reducing frictional resistance lowers the amount of power required to propel the vessel.

Air-lubrication systems are one of the novel technologies being employed on newbuilds and fitted on existing ships to improve CII ratings, and comply with other IMO regulations, including Energy Efficiency Existing Ship Index (EEXI)

and Energy Efficiency Design Index (EEDI). Saving fuel will be even more critical when the EU Emissions Trading System (ETS) kicks in on 1 January 2024, when ships will be required to buy CO2 credits for emissions on voyages to, from, or within the European Union.

One of the frontrunners in shrinking its carbon footprint is Odfjell, which has invested in some 130 energy-saving devices (ESDs) across its tanker fleet over the last 10 years. Using these ESDs, Odfjell has reduced the carbon intensity of its tankers by more than 50% as compared with 2008, reaching its 2030 target by Q1 2023. This was verified by DNV and announced during a ceremony at Nor-Shipping in early June.

Still, the chemical tanker owner is not

taking a victory lap, particularly with three of its ships, Bow Summer, Bow Sea and Bow Star, having potential CII ratings of D in 2023, according to a presentation by Odfjell VP technology Erik Hjortland during Capital Markets Day 2023. All three ships are employed in the ARA to US Gulf trade, with long port times.

To improve its CII rating, one of them, Bow Summer, will be fitted with an air-lubrication system when it enters drydock in September or October 2023.

At Nor-Shipping 2023, the Oslo-listed chemical tanker owner signed an agreement to install an Alfa Laval OceanGlide air-lubrication system. The OceanGlide system combines air lubrication and fluid technology. Alfa Laval says its OceanGlide technol-

ogy uses fluidic oscillators to generate a precise, even layer of microbubbles across the ship's entire flat bottom. The compressors used in the system provide the air to produce about 240,000 bubbles per second and metre, reducing specific drag by up to 75%. The independent management of each belt provides a more controlled and streamlined flow of air bubbles to ensure optimum efficiency, maximum coverage and reduced compressor output. Lower power consumption is a benefit. Only two air compressors and three air release bands will be mounted on the bottom of Bow Summer.

Odfjell expects to achieve net CO2 reductions of between 6 and 8%, but this will need to be verified in the pilot project.

Sulzer offers closed impeller for Ahlstar A pumps

Sulzer has introduced a closed impeller to its Ahlstar A single-stage pump range, offering enhanced performance and improved efficiency.



AHLSTAR is a series of end-suction single-stage centrifugal pumps designed to work with all types of liquids in demanding industrial applications. Sulzer's Ahlstar A process pumps are available with six different impellers, each designed for specific industrial applications. Closed impellers are

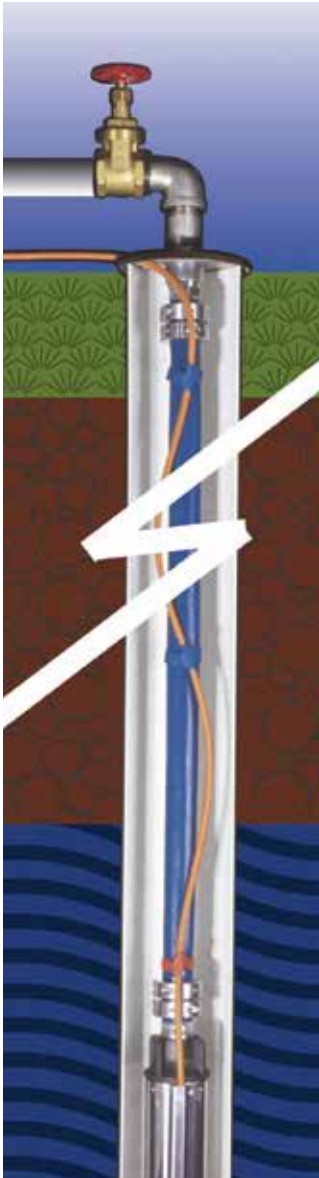
commonly used in water processes due to their high efficiency and good run ability. Also, a closed impeller offers a reliable option when processing flammable or toxic liquids, for instance in the chemical process industry. The closed impeller is an addition to Ahlstar A end-suction

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Scientists sound alarm on failing water systems

By Steve Kretzmann.
Article originally published in GroundUp 23rd June 2023

ALL four towns that have recorded cholera deaths this year have failing drinking water supply and failing sewage treatment plants

- At least 32 people have died of cholera – a preventable and treatable disease – this year.
- The water in more than half the water supply systems examined for the Department of Water and Sanitation’s latest Blue Drop Watch Report is unfit to drink.
- While water in the taps is dirty or simply not available, sewage runs in the streets of towns where cholera has led to death.
- A group of senior scientists warn of a national health and environmental emergency.

In Hammanskraal the cholera epidemic has claimed the lives of 29 people, according to health department spokesperson Foster Mohale. The Free State towns of Parys and Kroonstad, and Phake in Mpumalanga have each reported one death attributed to cholera. These are likely underestimates of the actual cholera deaths.

The water supply systems in Hammanskraal, Parys and Phake are among the failing systems inspected by the Department of Water and Sanitation (DWS) for its Blue Drop Watch Report released on 6 June. The drinking water in these towns is contaminated by faecal bacteria such as E.coli..

The bacterium which causes cholera, *Vibrio cholerae*, is also transmitted by faecal contamination of water and food.

The Blue Drop Watch Report provides a technical overview of the country’s drinking water supply, ahead of the full Blue Drop Report 2023 expected to be published in July. Of the 1 186 water supply systems in South Africa, the watch report assessed 151. Of these 77 are failing, including those supplying drinking water to Hammanskraal, Parys and Phake. The Kroonstad water supply system is not included in the report, but information on the DWS Integrated Regulatory Information System (IRIS) which is used as a database informing the Blue Drop Report, shows the Kroonstad system is also failing.

Scientists warn of looming health emergency

The cholera deaths in Gauteng, Free State and Mpumalanga are symptomatic of a widespread collapse of water and sanitation infrastructure.

Immediate action needs to be taken by authorities. This is the warning from a group of 15 senior academic experts forming South Africa’s Scientific Advisory Group on Emergencies (SAGE). On 6 June, the same day DWS released the Blue

Drop Watch Report, SAGE released its Strategic Advisory on Waste-water Management in South Africa. In it the scientists state that if left unchecked, the “unfolding collapse” of water treatment works countrywide “could precipi-

tate multiple concurrent health and environmental emergencies”.
Article abridged due to space constraints. To read the full content visit: <https://www.groundup.org.za/article/failed-water-supply-sewage-pollution-align-with-cholera-deaths/>



Sewage running down streets, such as here in Nduli township outside Ceres. Photo: Steve Kretzmann.



THESE MACHINES HAVE BEEN ENGINEERED TO ENDURE

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Commercial and residential water storage and treatment systems



Commercial and residential water storage solutions.

ANELIA Hough, water treatment consultant at Allmech, leading South African manufacturer of boilers and supplier of water treatment components, explains that while many industrial and agricultural operations have long had need of their own water storage and treatment facilities, it's now more commonplace in 2023 for shopping centres, office parks, residential developments and even individual homes in certain areas to invest in their own systems.

These might include rainwater harvesting systems, boreholes, greywater systems, tanks that store municipal water, or a combi-

nation of these. Hough notes that the best system will depend on the quality and amount of water required, among other things.

For example, untreated rainwater, borehole or greywater can be used for irrigation or processes where drinking water quality is not a requirement, such as flushing toilets, or washing pavements, driveways or vehicles. However, Hough says, for some other applications, such as running a washing machine, basic pre-filtration will be necessary to improve sediment content and clarity of water.

"For drinking purposes, water needs to be treated with

mechanical filtration to comply with the potable drinking water standards in South Africa (SANS 241: Drinking Water Quality Requirements)," she says. "Treated rainwater, borehole water or greywater can be used for applications such as drinking water or in consumable and non-consumable production plants."

Borehole water

"Borehole water is generally considered safe for drinking. However, its quality varies from place to place," says Hough. "Different factors can influence the quality of the water, such as climatic

changes, soil types, surfaces, and even the type of rocks through which the water moves. The biggest problem, however, is human activities such as disposal of chemicals, and biological and microbiological material. The challenge is that certain types of contamination are not visible or easily detected. It is therefore important to have the water tested against Drinking Water Quality Requirements SANS 241 prior to use."

Water testing and proper treatment can deal with common borehole water issues, including microbiological contamination, hard water, nitrate concentration, high sedi-

ment levels, high iron / manganese content, conductivity and low pH.

"Problems we commonly assist with when it comes to boreholes include dealing with faecal coliforms (the most common threat we identify is E. coli bacteria), high turbidity, water discoloration, and high levels of fluoride or sodium," says Hough.

Storing water

Hough cautions that water storage tanks should be cleaned and disinfected regularly. "Many people think if they use municipal or borehole water, the tanks stay clean and don't need disinfection," she says. "But that's unfortunately not the case. If water has stood in a tank for weeks or months, it's not necessarily still safe to drink. Disinfection should be considered when storing water in plastic water tanks. Chlorination, ozonation and UV filtration are all successful disinfection methods and to control micro-organisms."

Getting a professional opinion

She says the correct process if you want to use borehole water for drinking is to complete a Drinking Water Quality Requirements SANS 241 test, which Allmech can assist with.

"Once you have the information, the right treatment for the borehole water will depend on the laboratory result of the water quality analysis. Some water quality problems are better handled through pre-filtration applications, including colour and odour problems, water hardness, or lime scale. Other contaminants can be best handled and filtered through water purification equipment such as reverse osmosis or ultra-filtration."

Allmech offers a range of water testing and treatment services and systems, as well as repairs and maintenance for such systems, predominantly for commercial and industrial applications. "We also partner with a network of reputable service providers who can assist with smaller-scale requirements too," says Hough.

For more information, visit www.allmech.co.za

50% of SA municipalities have poor drinking water quality - Blue Drop Watch report



THE 2023 Blue Drop Watch Report has revealed that there has been a deterioration in drinking water quality since the last report was done. Presenting the report on Tuesday, 6 June, water and sanitation director-general Dr Sean Phillips noted that in the 2012 report, only 10% of municipalities had bad or poor microbiological water quality, as opposed to 50% in this sample.

"This indicates that there has been a deterioration in drinking water quality since the last report was done," Phillips said.

The latest report indicates that the drinking water produced from some municipal water treatment systems during the 2021/22 municipal financial year did not meet the South African National Standard (SANS) 241 standard and could on occasion have posed a potential health risk.

However, the report does not provide an indication of the current status of water quality in municipalities.

Phillips emphasised that in terms of SANS 241 and the norms and standards issued by the department, under the Water Services Act, when tests carried out by a municipality indicate that the water supplied poses a health risk, the municipality must inform its consumers that the quality of the water that it supplies poses a health risk.

He said the department has sent directives to the municipalities identified in the watch report as having systems with poor or bad compliance to inform their residents should they still have poor or bad compliance.

"The public can safely consume water from their taps if their municipalities indicate that the water being provided is being tested and meets the requirements of SANS 241.

"Water Services Authorities (WSA) are responsible by law to inform affected constituencies as soon as there is any change in

quality," Phillips said.

Over 40% non-revenue water

The No Drop Watch Report, which assesses the status of water losses and non-revenue water (NRW) in South Africa, also showed that the total volume of water treated for municipal use is estimated to be approximately 4.3 million cubic metres per annum.

Of this, the report said, two million cubic metres per annum (46%) is estimated to be non-revenue water.

"This is the volume of water that municipalities are unable to collect revenue for. In 2015 when the last No Drop report was published, the national NRW figure was estimated to be 35%," Phillips said.

The non-revenue water is made up of water losses and the unbilled component of authorised consumption.

Phillips noted that the international average for non-revenue water is below 30%.

"The national trends suggest that per capita consumption is approximately 216l/capita/day compared to the international average of 173l/person/day. This is an anomaly, given that South Africa is a water-scarce county," Phillips said.

The No Drop assessment includes the levels of physical water losses in the system, including leaks in pipes, levels of non-revenue water, and the amount of water used per customer per day.

It also assesses whether the infrastructure is properly maintained to minimise wastage; the existence of plans and strategies to reduce water losses, and the effectiveness of metering, billing and revenue collection systems.

The department will release the full 2023 Blue Drop Report in July, which will be a complete assessment of the state of all drinking water systems in the country, whilst a full 2023 No Drop Report will be released in September 2023.



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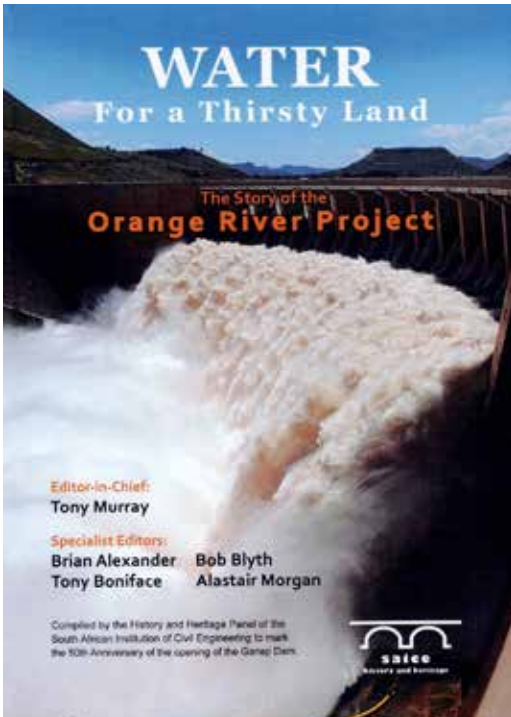
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SA's largest civil engineering feat unpacked in a new book: *Water for a Thirsty Land*



TO mark the 50th Anniversary of the opening of the Gariep Dam, the South African Institution of Civil Engineers (SAICE) has published the story of the Orange River Project - the largest civil engineering project undertaken in South Africa - entitled *Water for a Thirsty Land*.

Tony Murray, a committee member of SAICE's History and Heritage Panel, explained that the book is a product of many contributions of SAICE colleagues, individuals who worked on the dam and tunnel construction, plus contributions from those who have benefited from the Orange River project.

"We decided to undertake the chronicling of the Orange River project and the construction of the Gariep Dam back in 2019, to coincide with the 50th anniversary of the dam's completion."

The construction of the Gariep Dam, Murray explained, represents such a significant milestone in the history of South Africa, not just as it still stands as the largest civil engineering project yet undertaken, but the

downstream social and economic benefits are quite staggering and often overlooked and taken for granted.

Marianne Vanderschuren, 2022 SAICE President and a Professor in Transport

Planning and Engineering, at the University of Cape Town, adds that as with many large civil engineering projects, the Orange River Project has had its fair share of opposition and controversy.

Without trying to devalue arguments against the project, or dams in general, she said, "... it is important to acknowledge the benefits generated by the Vanderkloof and Gariep dams over the past fifty years.

"The water source has been a provider of life in the form of food and drinking water, and a catalyst for the generation of employment for thousands in all walks of life. Improved food production has promoted food security and provided additional economic benefits through the growth of export markets. There are even some economic benefits created by tourism and recreational activities at the sites.

"More importantly,

in a time where the use of renewable energy is paramount, due to the negative impacts of coal-based electricity on the local and global environment, the engineering foresight needs to be commended," she added.

Irrigation of dry land

Building the Vanderkloof and Gariep dams was finally approved in 1962. The aim of the project was to provide irrigation to vast areas of dry land, the control of floods and the provision of hydro-electric power. Today, the Orange River dam must carefully balance the supply of water resources for irrigation, potable water and electricity generation.

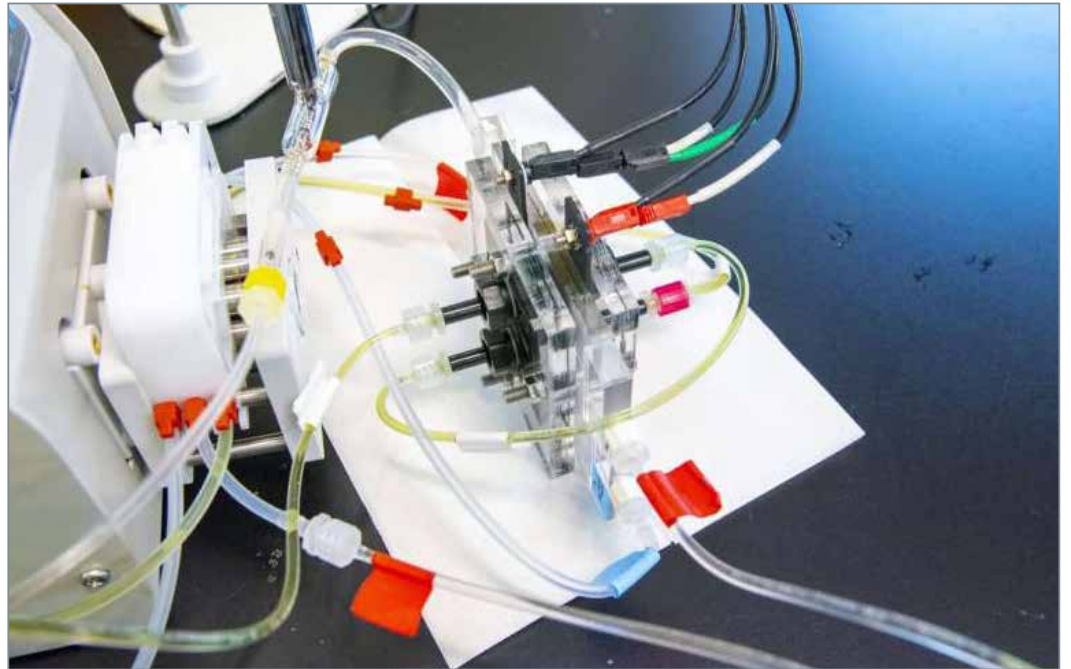
"The engineering knowledge gained during the design, implementation and operation of the Orange River Project has benefitted generations of young engineering students and graduates, South African classrooms, and engineering firms both locally and abroad," adds Murray.

In summarising the value of this book, Professor Vanderschuren concludes:

"The authors have done the profession and the country a great service by recording the history of this project and reminding us how bold and imaginative ideas, decisions and actions can bring new benefits and wealth through the medium of civil engineering. But they also show a glimpse of the great variety of work and expertise that is inherent in the profession, and the feeling of satisfaction and pride in leaving these benefits for humanity. I trust a great many readers will enjoy their efforts."

Copies of the book are available from the SAICE Bookshop at SAICE House. Email angelene@saice.org.za for further information.

Don't wait, desalinate: A new approach to water purification



This device is central to a new wastewater purification technique developed by researchers at the Beckman Institute for Advanced Science and Technology at the University of Illinois Urbana-Champaign. The method separates out salt and other unnecessary particles with an electrified version of dialysis. Successfully applied to wastewater with planned expansion into rivers and seas, the method saves money and saps 90% less energy than its counterparts. Credit: Beckman Institute for Advanced Science and Technology Communications Office.

By Jenna Kurtzweil, Beckman Institute for Advanced Science and Technology

TWO-THIRDS of the Earth's surface is awash with the stuff, but water—specifically, the clean and drinkable kind—is inaccessible to billions of people.

A new purification system developed by researchers at the Beckman Institute for Advanced Science and Technology uses an electrified version of dialysis to separate salt and other unnecessary particles from the potable product. Successfully applied to wastewater with planned expansion into rivers and seas, the method saves money and saps 90% less energy than its counterparts. The study has been published in ACS Energy Letters.

If only stripping salt from water was as simple as waving a giant magnet above the Pacific or sifting liquid through a super-fine sieve. Once the shifty mineral dissolves, the separation process—christened desalination in scientific circles—becomes more expensive and uses more energy.

Desalination is further complicated by impurities and organic matter (the small specks you'd find suspended in a scoop of unfiltered ocean water), the removal of which spurs energy and cost budgets to swell.

"We need a way to purify drinking water

that's low-energy, inexpensive, and useful for the communities that need it the most. I see our solution as a platform to tackle both the energy and water crises," said Xiao Su, a Beckman researcher and an assistant professor of chemical and biomolecular engineering at the University of Illinois Urbana-Champaign.

De-salting water usually requires filtration or evaporation to separate out undesirable elements like sodium, chloride, organic matter, and assorted atomic stowaways. Heat, for example, does this trick well—a simple kitchen experiment shows that boiling salted water causes the liquid to evaporate and the salt to abide as a solid, briny crust.

Su and his colleagues took a different approach: electrodialysis. Just like dialysis of the blood, which, kidney-like, flushes salt and other toxins from our veins, electrodialysis removes salts and organic matter from wastewater to produce a clean, drinkable product.

Electrodialysis is an effective desalination tool, but often comes at a high energy cost. This is largely due to its flagship water-splitting reaction, which pulls water molecules apart into two components: a positively charged proton and a negatively charged hydroxide.

Because the building blocks of salt have charges of their own, splitting the water

forces the mineral's movement in a designated direction—like a moth to an oppositely-charged flame or a scrap of metal to a magnet.

Instead of a magnet, though, electrodialysis uses charged ion-exchange membranes, so named because only ions (atoms with a positive or negative electric charge) can pass through. Ion-exchange membranes are one of the costliest components of electrodialysis, as they require diligent upkeep and frequent replacement.

To save energy, the researchers streamlined the salt separation process with a chemical phenomenon called a redox reaction. The word redox is a portmanteau of the words reduction (which, in chemistry, describes adding electrons to create a negative charge) and oxidation (which means subtracting electrons to create a positive charge). Physically, triggering a redox reaction looks like adding a special polymer-based material to the wastewater before it's filtered and purified.

Instead of splitting water molecules into positively and negatively charged slices to coax out the salt, the redox reaction changes the charge of the entire water molecule in one fell swoop, achieving the same degree of salty separation with about 90% less energy than traditional water-splitting.

To add economic savings to energy efficiency, the researchers

swapped conventional ion-exchange membranes for nanofiltration membrane, a more robust and less expensive option.

Potential to purify waste water too

Experiments at a regional water treatment plant demonstrated that the researchers' method can successfully purify wastewater; future plans include expanding into saltwater and brackish water sources like groundwater and rivers.

Due to its low energy requirement, redox-inspired electrodialysis is designed to pair well with solar panels. Its positive performance in hot climates is useful for applications in climate-affected regions, "where low-cost, low-energy desalination is very much needed," Su said.

"Water scarcity is a global problem, and it's not going to change in a day. But we are taking a step toward a solution that is feasible and capable of being scaled up," he said.

So far, the researchers have tested their method on samples of multiple litres. But they are eager to expand into a bigger pond.

"We have the right polymer, we have the right membrane, and we have the right conditions," Su said. "The science is there, so the next step is paving a way for deploying these devices for real-world water treatment. I believe the time is right for that, and I'm excited to see it happen."

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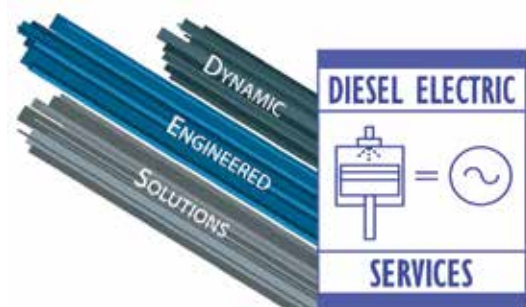
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Comment on the City's draft Energy Strategy



THE City has drafted an energy strategy entitled 'Our Shared Energy Future: The 2050 Energy Strategy for the City of Cape Town', and it wants your input.

About

The energy system is rapidly changing. These changes affect every aspect of the energy system, including energy generation and supply, energy distribution and energy use, among others.

Business-as-usual in the energy sector is no longer viable, especially with the energy crisis that South Africa is currently facing. The City of Cape Town recognises this, and wishes to enable and support the development of a resilient energy system, which is critical to the health and well-being of city residents, and the functioning of the economy.

The aim is to achieve energy security for a prosperous Cape Town by ending load-shedding over time and navigating the changing energy system to the benefit of all. This is possible by coming together to build a resilient energy system where all residents and businesses have access to reliable, affordable, and carbon neutral energy services.

To achieve this, it proposes the following commitments and enablers:

Commitments:

Commitment 1 - Harness New Energy Supply: Meet Cape Town's energy demand with a reliable and cost-effective supply of increasingly carbon neutral energy from multiple energy suppliers, with new energy sources introduced to the benefit of residents and businesses.

Commitment 2 - Alleviate Energy Poverty: Support indigent households and communities in informal settlements to access a range of safe and cost-effective energy services to meet their daily needs for

improved well-being and increase economic participation.

Commitment 3 - Optimise Energy Use: Businesses, households, and municipal services use energy efficiently and manage the demand for electricity to allow for greater use of renewable energy and contribute to balancing the electricity distribution grid.

Enablers:

Enabler A - Operate a Future-fit Utility Business: A municipal electricity utility with enhanced asset management of energy infrastructure that adapts its business model and systems to provide financially sustainable energy services in an increasingly competitive and distributed energy system.

Enabler B - Action by Residents, Businesses and Partners: All stakeholders in the energy system have the knowledge needed and are

supported to take action that contributes to the achievement of energy security in Cape Town.

In terms of section 17 of the Local Government: Municipal Systems Act, Act 32 of 2000, you can submit comments to the municipality in respect of the draft strategy.

Access the documents:

Draft Energy Strategy:

https://resource.capetown.gov.za/documentcentre/Documents/City%20strategies%2c%20plans%20and%20frameworks/Draft_Energy_Strategy.pdf

Energy Strategy Summary:

https://resource.capetown.gov.za/documentcentre/Documents/City%20strategies%2c%20plans%20and%20frameworks/Draft_Energy_Strategy_Executive_Summary.pdf

Advert:

https://resource.capetown.gov.za/documentcentre/Documents/Forms%2c%20notices%2c%20tariffs%20and%20lists/HYS_ENERGY_STRATEGY_English.pdf

You can also access the documents at:

City libraries
Subcouncil offices

Comment period

Submit your comments from 12 June – 31 July 2023.

Submit your comment

Comments may be submitted via the following channels:

Online

Submit your comments online:
https://www.capetown.gov.za/_layouts/15/WebFeedback.SharePoint/webfeedback.aspx?id=%2073b63417-f744-41cc-aaf8-eaf1a3daf91b

Delivery

Deliver your comment by hand to:
Sustainable Energy Markets Department
Fourth floor Energy Head Office, Bloemhof Complex, Bloemhof Street, Bellville, 7530

NewFeed Feeder Protection Relay for microgrid feeder protection between solar farms and the conventional power grid in both the LV and MV

THE NewFeed Feeder Protection Relay is designed to target Microgrid feeder protection between solar farms and the conventional power grid in both the LV and MV distribution environments.

The NewFeed Relay measures voltage, current, positive, negative and zero sequence, phase angles, power factor, harmonics, THD and independent earth leakage levels, allowing the implementation of full ANSI protection features for Microgrid feeder protection as well motor protection with multiple curve selections (IEC60255-8, NINV, VINV, EINV, MINV, DT, IT, I2T, I4T) and directional current elements to cater for parallel feeder applications. All housed in a 45mm din rail mounted enclosure with clear descriptive fault, field input and relay output LED indications, with internal fully configurable logic and statistic recordings.

A range of MV and LV current transformer module blocks (CTMB) caters for different current ranges with easy interfacing to higher current and system voltages using interposing

current transformers and voltage transformers, the ratios of which are selectable on the configuration software, catering for the full isolation as well as flexible range settings. A separate CBCT caters for earth leakage detection.

The NewFeed relay is configurable with the aid of configuration front-end software. The relay has an on-board database with time and date stamped 36 fault records and 940 event records. The configuration software has a full-fledged comprehensive data recorder and spectrum analyser package, which can be used to analyse motor performance or feeder power quality respectively.

Advanced control features and switch-

gear controller logic, integrating motor and feeder control functions with prestart, close command execution time and continuous breaker state monitoring with load current feedback to detect unauthorised operation or starting as well as breaker failure detection.

The relay is an IED (Intelligent Electronic Device) with selectable communication protocols Modbus/TCP, PROFINET and IEC61850.

The relay is South African designed and locally manufacture ISO 9001:2015 compliant.

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- ANSI 51LR Running Stall – Jam
- ANSI 51LS Start Stall
- ANSI 46 Unbalanced Current
- ANSI 46 Single Phasing
- ANSI 37 Minimum Load
- ANSI 50G / 51G Earth Leakage
- ANSI 50P Short-circuit
- ANSI 66 Starts per Hour Limit
- ANSI 59 Overvoltage
- ANSI 27 Undervoltage
- ANSI 47 Phase Rotation
- ANSI 81O Over Frequency
- ANSI 81U Under Frequency

Microgrid Feeder Protection Relay Features:

- ANSI 50P / 51P Curves for Feeder Protection (ANSI 67 Directional)
- Curve Selection: IEC (NINV), (VINV), (LINV), (EINV), (MINV), (DT), (IT), (I2T), (I4T)
- THD Protection and Monitoring
- ANSI 46 (I2) Negative Sequence
- ANSI 50G / 51G (I0) Zero Sequence
- ANSI 24 Volts / Hertz Overfluxing
- ANSI 81R Rate of freq change
- ANSI LOP Loss of Power
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The seven most expensive words in Low Voltage Assembly!

‘We have always done it that way’

By Ludi Erasmus,
Director of Modulêr
Electrical Assemblies.

FIRST of all, it must be understood that the rules and regulations have changed drastically.

In this article we are only focusing on South African Standards for Low Voltage Assemblies

The current legal document in South Africa is the SANS10142-1 Ed3.1 released in 2021 already.

In this document we will see that SANS 61439-1 as well as SANS61439-2 are mentioned, drilling down to Table 4.1 we will see that Electrical Assemblies are broken down into:

“ ≤ 10 kA short-circuit current low-voltage switchgear and control gear Assemblies that must comply to SANS1973-3 and Assemblies > 10 kA (most Assemblies connected to a Transformer 315kVA and larger) which must comply to SANS 61439-2.”

SANS 61439-1 and 2 are exact copies of IEC 61439-1&2 Ed3 published in 2020, by referring to SANS/IEC61439 in the new SANS 10142, South



Africa has actually moved into the IEC 61439 world, there is no more reference in the latest SANS 10142-1 to the old SANS 60439.

So why the change?

Designs and market needs for switchboards have evolved over the years with changing technology in circuit breakers and a lot of new multinational component manufactures entering the market.

It is not practical to fully type test every conceivable configuration of assembly produced.

Where type testing is not feasible, there has to be alternative ways of ensuring an assembly meets the minimum required safety and performance criteria. The methods for

proving the design of a partially type tested assembly in accordance with IEC60439 and old SANS1973-1(pre 2017) is weak and rely entirely on the capability of the panel builder, The new standard focuses on temperature and heat dissipation and this is all taken in to effect when fitting components and copper busbar; no longer is height x width x 1.6 = to current carrying capacity. Most multinationals now dictate what the minimum recommended size of copper connections are and in some cases even the orientation that will have an effect on current.

If we take the published installation rules of a well known multinational we will see that for a 2 500A Air

circuit breaker their min/recommendation is for horizontal tags 2 x 100 x 10 Copper and for Vertical tags will be 2 x 80 x 10 Copper which then also gets downgraded if the breaker is in an IP31 enclosure to 2 250A and an IP54 enclosure to 2 000A only, so if your client has a load of 2 500A you will now have to install a 3 200A breaker with horizontal bars of 3 x 100 x 10 for 2 800A in IP31 or 2 500A in IP54 , or 3 x 80 x 10 in vertical, with rating of 3 100A in IP31 or 2 700A in IP54. So now you can see that to comply has strict rules to follow from the multinationals as well and it becomes very expensive to build the way you always have built and your equipment will start failing!

Strong gas results from first core wells close to Secunda

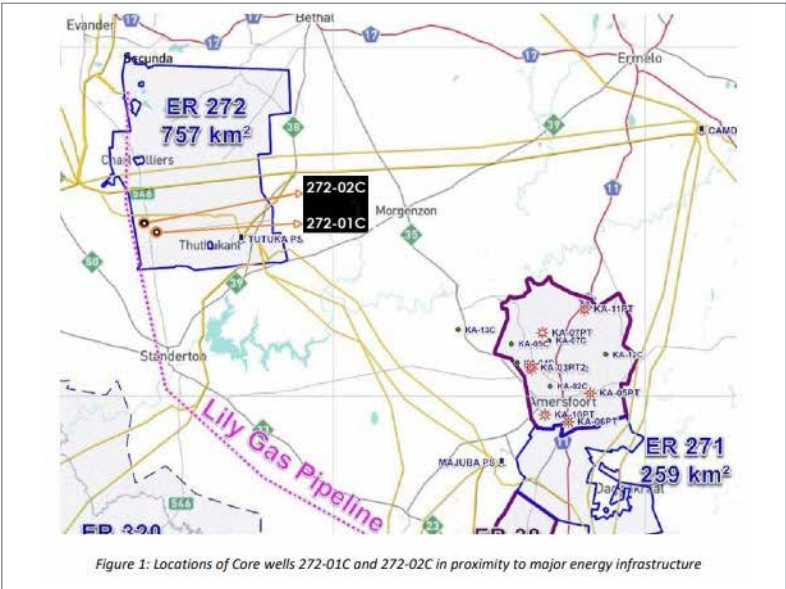


Figure 1: Locations of Core wells 272-01C and 272-02C in proximity to major energy infrastructure

Highlights

The first two core wells in ER272 near the Secunda refinery has been successfully completed

Wireline logging results have established significant sandstone gas intervals in both wells of over 100m

Accelerated dual rig exploration continues with two further core wells expected to be spudded in ER272 soon.

Core well situated only a few kilometres from major South African energy infrastructure.

KINETIKO Energy Ltd, an Australian gas explorer and developer focused on advanced shallow conventional gas and coal bed methane in South Africa, an update on its onshore gas exploration and production development activities.

ery (potential gas off taker) and South Africa’s largest gas pipeline the Lily pipeline, have been successfully completed with logging results indicating strong potential for gas field development.

Kinetiko CEO, Nick de Blocq, com-

“It is always very rewarding to enter a new exploration block and have such an unexpectedly high level of success in the initial core holes...”

Core well 272-01C and 272-02C spudded in early May and in close proximity to both Sasol’s Secunda refin-

mented: “It is always very rewarding to enter a new exploration block and have such an unexpectedly high level of success in the initial core holes. The TD (Terminal Depth) was shallower than what we encountered further south, just as predicted, due to the sloping nature of the Karoo basement structures; so the logged stratigraphy returning over 100m of gassy pay in both 272-01C and 272-02C was a most encouraging outcome. We are in the process of moving the two core rigs to sites 272-06C and 272-08C due to the logistical expedience of proximity, and we have no reason to expect anything but success from these core holes as well. Of course, the strategical placement of the current exploration effort so close to Secunda is obvious. Sasol runs one of the world’s biggest and best Coal-To-Liquids plants at Secunda, and they have stated their need to move towards a Gas-To-Liquids conversion as they reduce pollution whilst increasing the quantum of their fuels output going forward. We absolutely expect to be a large part of that positive evolution towards greener liquid fuels.”



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Eskom kicks off bid to switch two plants from diesel to natural gas



By Jan Cronje, News 24

ESKOM has finally put out a request for proposal (RFP) to supply Gourikwa power plant in Mosselbay and Ankerlig power station in Atlantis with natural gas.

The two power stations run on diesel, but have been converted so they can also use natural gas. The utility hopes to switch from diesel to gas by December 2027.

“The intent is to have a gas main feedstock which will be supplemented by diesel as and when it’s required,” Eskom stated in tender document published this week (12th June 2023). It is hoping that gas will be a cheaper and more environmentally friendly source of fuel for the two stations than diesel.

Eskom is seeking “holistic” solutions from suppliers – meaning they will have to create the infrastruc-

ture to transport the gas to the two power plants and supply the gas itself.

They will also be responsible for storing the gas and converting it from liquified natural gas back to gas. The gas supply contracts will last for either five or 10 years.

Eskom hasn’t yet said how it expects the gas to be transported to the two sites. The RFP is just the first stage of a two-step process the utility will use to choose a gas supplier.

It will use feedback from the RFP to help craft the technical specifications for the project. These will then be included in its request for quotation, which will likely be published later this year.

All bids for the RFP will need to be in by 31 July.

Trend is toward larger power plant solutions, says Zest WEG

WHETHER companies need power to survive loadshedding or to raise their production output, the trend is for these power generating systems to get bigger.

According to Bernard Mitton, Business Development Consultant at Zest WEG, it is becoming more common for customers to request proposals for power solutions that exceed 10 MW. In South Africa, this appears to be mainly a response to rising levels of loadshedding. In other parts of Africa, says Mitton, it is economic growth that drives demand.

“For many companies who want to grow their output, it is vital to have continuous and reliable power supply,” he says. “In recent years, Zest WEG has been designing and installing more of these large power plants for customers across Africa.”

It is Zest WEG’s depth of in-house engineering expertise and technical capability that earns it these contracts,



Generators ready to be installed within a custom engineered container solution.

he explains. From the generator sets themselves to the transformers, switchgear and containers, the company can provide customers with a full turnkey solution.

“We often propose a modular system that allows the customer to execute their project in phases,” he says. “They can begin with the most cost effective solution, and then expand the plant as the power demand grows.”

In one of these 10 MW systems, there will usually be eight to 10 generators installed within a containerised solution or a dedicated power plant room. They can generate power at 400 V, to be stepped up by transformer up to 11 kV – or power can be generated directly with an alternator output up to 11 kV.

“For a typical 10 MW power plant, we connect the generators to a common switchboard up to maximum 22 kV, to distribute power to the various on-site loads,” he says. “The switchboard solution can be installed in a container, an E-house or a plant room.”

The generating units are custom engineered, built and fully tested in Zest WEG’s Cape Town generator facility. Testing includes a step load test and the synchronisation of generators to each other – verifying all set-points, engine performance and efficiency indicators.



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Ready-made cables are revolutionising drive applications



INNOVATIVE manufacturer of motion plastics, igus, has emerged as a trailblazer in the world of drive applications with the introduction of a full range of ready-to-use cabling solutions to fit all commonly used drive systems.

igus sales executive, Edwin van Niekerk, says igus wants to minimise mistakes and speed-up cable installation by providing the perfect fit for specific systems and eliminating excessive cable lengths as well as reducing the risks of damage or tangling. Understanding that each application is unique, igus offers the flexibility to provide cables in custom lengths to provide technical teams and installers with cables that enable precision Integration. The igus ready cables are designed to work seamlessly with a wide array of manufacturers, making them a versatile solution for different

drive systems. "Whether you rely on Allen Bradley/Rockwell, Harting, Baumüller, Beckhoff, Fanuc, SEW or any other leading brands, igus has you covered," affirms Edwin.

Large selection

"We have an impressive catalogue of approximately 4,600 harnessed motor, servo, signal and encoder cables, that ensures you find the perfect cable for your specific application. What's even more remarkable is that igus continues to expand its offerings, introducing new cables regularly.

"From a cost perspective it provides a good balance between cost-effectiveness and uncompromising quality with a choice of seven cable qualities. Users can choose the most suitable option that meets their performance needs while remaining mindful of

their budget."

"These are assembled with advanced machines for connectors and cable harnessing, ensuring precise and reliable connections every time. Each cable also undergoes crimp force and crimp depth monitoring during the harnessing process which guarantees consistent quality and minimises the risk of faulty connections," says Edwin.

Global supply

He reveals that the cables are made at either one of 14 production sites worldwide, which adhere to standardised processes, ensuring consistent quality across all their products. This global approach enables igus to efficiently meet the demands of customers around the world.

Before leaving the igus test lab, every cable undergoes 100% function testing. These tests involve digital and logic

testing to verify the performance and reliability of each cable. Furthermore, each cable is sealed, ensuring its quality and providing peace of mind to customers.

The company does not impose a minimum order quantity. Whether a customer needs a single cable or a bulk order, igus allows customers to obtain the exact quantity they require. This flexibility eliminates unnecessary costs and inventory concerns.

Local solutions

The Midrand based local operation ensures fast delivery and reduced lead times for customers. igus can fulfil customer's cable requirements quickly to reduce downtime, while keeping projects on schedule.

In addition to offering ready cables, igus provides a comprehensive range of products, including energy chains (E-chains) and connectors. This one-stop shop approach allows customers to source all the necessary cables, protection devices and related components from a single source.

igus South Africa, Ian Hewat, managing director, Tel: (011) 312 1848, Fax: (011) 312 1594, Email: ihewat@igus.net, Web: www.igus.co.za

Outsmarting Eskom's proposed Demand Side Management solution

SOUTH Africa is currently experiencing longer power outages due to components within the transmission and distribution network failing as a result of load shedding, prompting Eskom to suggest replacing the current load shedding model with a demand side management approach. "This will place the responsibility back on the user to manage their electricity consumption through behavioural changes, but how will it impact South Africans on a day-to-day basis?" asks Dr Andrew Dickson,

iffs.

"This will affect consumers in two major ways. Firstly, the cost of electricity during peak times will be significantly higher. Secondly, the supply of electricity to a home will be limited, forcing consumers to switch off appliances that draw large amounts of electricity, like geysers or stoves, before the load limit is reached and Eskom cuts off their power. The consumer will need to decide where to utilise the limited power they have in order to get the best return for the price

on the grid.

"The rationing of electricity in this way will force consumers to keep a very close eye on how much they use, but Eskom's smart meter will only be able to tell them – and the power utility – when, and how much electricity is consumed. For households to be able to limit their consumption, they require more granular data to know exactly what is drawing the most energy," points out Dr Dickson.

"With 3.62 million South African households set to be actively using smart home technologies by 2027, these tools could be used to monitor and provide in-depth data about the electricity usage of individual appliances and systems. With this information, users can make decisions about where they could be cutting down on usage to avoid hitting their load limit and having Eskom switch off their electricity for an indeterminate amount of time," he adds.

Dr Dickson notes that, as the country's cost-of-living crisis is worsening, with about one in three consumers already struggling to pay their bills, South Africans will need to plan when and where to use electricity to reduce usage during peak times or else be prepared for increased costs and possible penalties. "The time-of-use-tariff will see people being billed different amounts based on the time of day, so they will need to try and use energy-draining appliances like geysers and washing machines outside of those more expensive times. Smart home technologies can also be used in this instance to schedule heavy loads to turn on only during those periods when it costs less.

"Whether the demand side management solution will have the desired effect on the country's consumption remains to be seen, but it will push the power back into South Africans hands to be more conscious about how much electricity they use as well as when. Hopefully, this strategy will be less disruptive to daily life than load shedding is and has been over the past 16 years," he concludes.

"With 3.62 million South African households set to be actively using smart home technologies by 2027, these tools could be used to monitor and provide in-depth data about the electricity usage of individual appliances and systems."

engineering executive at CBI-electric: low voltage.

He explains that to ensure user cooperation with the demand side management policy, Eskom has proposed the installation of a smart meter in every household across the country over the next four years, in combination with time-of-use tar-

they will be paying. Alternatively, they will have to change their routine to capitalise on off-peak demand periods and have minimal appliances and systems operating during peak periods. Both factors will push consumers to reduce their consumption during peak periods, thereby reducing overall demand

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IN the ever-evolving world of storage solutions, Acrow has emerged as a resilient and forward-thinking player, navigating the challenges of the market with agility and innovation.

Acrow is a name known throughout the world and is one of South Africa's largest storage and construction equipment manufacturers since 1946.

With an expanded product line and consistent trajectory of growth in the dynamic South African market, Acrow repeatedly showcases its adaptability. The company's

success in South Africa is a testament to its resilience and strategic foresight.

Our philosophy is to provide a holistic solution for our customers, meaning that we design, supply and install to the users requirements.

Acrow focuses on developing and manufacturing products for the retail and logistics industries by supplying and designing racking, shelving and associated products. Acrow's strong presence in the South African and International markets and their many years of experience means that we have a

large range of products to suite all warehousing and retail needs.

We pride ourselves on being customer centric ensuring that products can be customized or tailor made for precise customer requirements. This means that your retail or logistic storage and display requirements meet our customer's vision and are installed and the project is managed by a team with years of experience. A diversified product portfolio also enables us to adapt to changing market dynamics, cater to evolving customer needs, and

capitalise on emerging trends. Moreover, it also enhances brand loyalty, customer retention and overall market competitiveness. The retail sector, in particular, has been a significant source of ongoing and new business for the company.

Our aftersales service ensures that the environment meets the highest safety requirements and training can be provided to ensure that all these are adequately met. All Acrow product batches are laboratory tested and manufactured following SABS ISO 9001:2008 standards which is monitored for full traceability. In addition, Acrow manufactures according to SEMA, FEM and BS EN 15512:2009 standards.

Acrow believes that client service is an important function of any business relationship. With our highly qualified team, Acrow incorporates insights into future business trends and drivers to deliver end-to-end



Robots in the warehouse and safe racking



Racking inspection and safe racking

Storage and racking systems can pose potential dangers in a warehouse. Even a properly stationed pallet rack does not guarantee that product will not fall from the shelves. Material Handling Equipment (MHE) is one of the most common causes of accidents in warehouses. Leader Nkala, SHERQ Director at leading local racking and shelving company Acrow, shared practical safety tools and tips at the CILTSA warehouse conference on this important topic.

Nkala will share the company's 10 Racking Health and Safety Commandments, highlight the compliance requirements of the Occupational Health and Safety Act (OHSA), and stress the importance of ongoing training.

"Racking and shelving are important assets in any warehouse - helping you make the most of your storage space and optimising the organisation of your products. However, when these are damaged or incorrectly loaded or installed, they can become dangerous," he explains.

CILTSA's conference was hosted in collaboration with the Transport Forum. The event sponsors included Acrow, Fumani Holdings, ISB Optimus, Mamoja Trading and Projects, Toyota Material Handling, CFAO Equipment and Tendai Mhlanga Photography. Event supporters included CILTSA interest group Women in Logistics and Transport: South Africa (WiLATSA), the African Women in Supply Chain Association and Sincpoint.

AUTONOMOUS mobile robots (AMRs) are revolutionising the warehousing landscape internationally, setting new standards for expectations and deliverables. This exciting technology is already being used to a limited extent in South Africa - with companies reporting wide-ranging benefits. Andy Cooper of European Conveyors and Components, a specialist in materials handling and technology explored this topic at the recent Warehouse Automation hybrid conference hosted by the Chartered Institute of Logistics and Transport: South Africa.

In digital technology company Zebra's most recent global Warehouse Vision Study published in 2022, 99% of warehouse operators expected to deploy some form of AMRs in the next five years, even though only 27% say they are using AMRs in their warehouses today.

According to Cooper, AMRs encompass exciting new technologies, which are bringing about real Return on Investment (ROI) - hence the quick adoption from industry. AMRs employ a system that has an Artificial Intelligence algorithm; they are constantly learning and can plan journeys independently. Says Cooper: "AMRs use

Simultaneous Localisation and Mapping (SLAM), which enables you to build a map and localise your vehicle in that map at the same time. SLAM algorithms allow the vehicle to map out unknown environments."

Numerous benefits

Cooper outlined just some of the benefits of including AMRs in warehouses: increased efficiency; rapid ROI (one to three years), quick deployment (AMRs can go live within three to four months); better utilisation of storage space (by up to 30%); increased picking accuracy (up to 99.9 per cent); and, safer operations.

Contrary to popular belief, automation does not automatically take the place of people and so need not result in job losses. "Many warehouse companies are seeing that AMRs are making warehouse jobs less stressful, as operators' jobs require less walking and a reduced amount of handling and picking," says Cooper. "Indeed, warehouse workers have reported increased productivity and a reduction in the mistakes they make. AMRs have enabled them to advance to new roles and opportunities."

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before, during and after-sales options, ensuring that we provide all the support required for turn-key projects, even long after these projects are completed. In accordance with Acrow standards, these services are of the highest quality ensuring that goals are met within the time-frame set out, thus ensuring measurable success.

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How the choice of truck impacts forklift safety

WITH 70% of forklift accidents being preventable with standard truck safety features, the human, efficiency and cost benefits of leveraging this capability from a fleet are extremely powerful.

Some recent innovations have transformed forklift safety. And this makes them features you'll want to review when assessing a forklift upgrade.

These design changes have come about because accident stats, like the 42% of accidents caused by a truck tipping over or 25% involving crushing between the vehicle and a surface, mean 'designing out' most accidents through choice of truck is very possible.

And this should always be an evolving process as, the words of easyJet entrepreneur Stelios Haji-Ioannou:

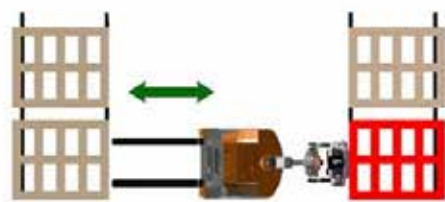
"If you think safety is expensive, try an accident!"

Therefore, these design innovations are recommended for a closer look when considering the safety performance of a new truck or fleet.

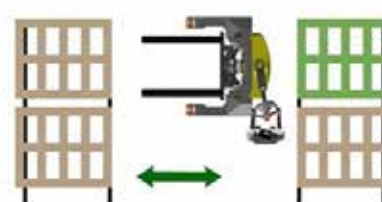
Is there a safer alternative to ride-on forklifts?
– Yes!

- **Pedestrian forklifts:** Now in use worldwide and for good reason, pedestrian operated forklifts like the Combilift pedestrian range is growing in popularity due to the safety benefits when operating around other personnel, especially when working on shop floors. Studies have shown that operators of pedestrian trucks have been found to be

Without Combilift



With Combilift



Standing to the side of the truck eliminates the risk of being trapped or crushed while allowing the combi-WR to operate in very narrow aisles.

more aware of their surroundings and vulnerabilities, leading to more careful operation and accident-free environments.

- **Combilift Pedestrian Forklift Trucks:** Taking Forklift Safety to yet another level, Combilift pedestrian trucks boast the latest in safety

features, and offer unparalleled performance and safety, and with capacities up to 4,000kg, these rugged trucks are recommended for a closer look when considering the safety performance of a new truck or fleet.

- **The Combilift Patented Tiller Arm:** A multi-position

feature found on Combilift pedestrian models, the Combilift Tiller Arm is unique in that it allows the operator to stand clear of the rear 'crush zone' behind the machine. Plus, the option to offset the rear wheel 90 degrees from the tiller arm means even more visibility

for the operator and other pedestrians. It even helps reduce product damage and ultra-user-friendly controls for rapid training times. With that side-operated operation made possible by the Combilift tiller arm, visibility of the product, rack and aisle is excellent. The option to

switch to a rotary attachment, tire-handling clamps, white good clamps or side-on platforms – and more – means superb versatility too. Space saving is again achievable with the Combilift COMBI-WR, COMBI-WR4 and COMBI-CS pedestrian trucks, which perform particularly well in narrow aisles – even with high levels of pedestrian traffic.

- **Ergonomic advances:** A greater than ever focus on and ease of use in terms of physical effort means reduced strain for warehouse colleagues. For example, this Combilift 'walkie' truck allows one person to effortlessly move loads of up to 1,600kg.

iLOQ's keyless mobile phone locking system

For the first time in Sweden, iLOQ's mobile phone-based locking system is used in apartment buildings. Property company Lindborg & Söner chose iLOQ's locking system for the new apartment building in Salnecke Park in Örsundsbro outside Uppsala. Since the locking system is completely free of keys, cables and batteries, residents only need to use their smartphone to enter their properties.



THE locking system was already in use from the start of construction, which reduced costs and increased efficiency and security. iLOQ's locking system also facilitates resource-intensive key administration that would have been required with mechanical locks when moving in and out.

With iLOQ's locking system, users' mobile phones function as keys, which removes the need for additional keys or devices. The locking system utilizes NFC technology in the user's smartphone, which means that the user's mobile phone is used both as a key and as a power source. With the help of this technology, the locking system is completely free of batteries, which reduces the environmental impact and removes the need

for battery replacement. The administrator can block and update keys in real-time. This means that, unlike traditional mechanical keys, keys cannot be lost, stolen, or fall into the wrong hands.

"We chose iLOQ because we saw several advantages with their digital locking system. It can be included already in the construction phase, the installation was quick and smooth and when the homes were ready for occupancy, we could easily reprogram the locks for the residents. All keys are sent directly to the users' mobile phones, so we avoid costly measures for lock changes", says Anton Lindborg, CEO of Lindborg & Söner.

"We at iLOQ see that this simplifies all forms of key manage-

ment and are convinced that mobile keys are the future with all their benefits for both residents and managers of apartment buildings", says Juha Suontausta, Key Account Manager at iLOQ.

iLOQ is a technology disruptor that has revolutionized the locking industry by replacing mechanical locking to make life limitless. Battery- and cable-free smart locks maximize security, minimize lifecycle costs and enhance the sustainability of properties and infrastructures. iLOQ operates in more than 30 countries with over 1 600 partner locations globally. In 2022, iLOQ had a turnover of EUR132.9 million and more than 300 employees.

For more information, visit: www.iloq.com

ZetesMedea transforms order picking verification and inventory accuracy

CIDEV Group Ltd., distributors of electronic components in Israel, has implemented ZetesMedea to streamline logistics execution in their distribution centre. The solution, which comprises Zetes ImageID technology, enables instant and simultaneous identification of multiple barcodes from different component manufacturers, while immediately converting the data to the configuration of Cidev's catalogue system. Significant efficiency and accuracy gains are being realised, reducing the non-productive time spent on both pre-despatch picking verification and inventory counting.

Digitising critical logistics processes

Cidev Group was established in 1973 and is the official representative and distributor of leading manufacturers of active and passive components, electro-optical, electro-mechanical, microwave and RF.

In the past, managing the logistics processes for tens of thousands of electronic components required the labour intensive manual identification and scanning of each component barcode label, followed by individual data adjustment for the compliant recording of the item info to their inventory



system. This prolonged control process consumed significant labour time for both outbound orders and inventory status visibility. Cidev was looking for an experienced integrated supply chain partner to achieve their vision of customer service excellence through technological innovation.

An automated system for instant multiple data recognition, verification and labelling

Zetes implemented a dedicated conveyor that incorporates ZetesMedea logistics execution software and ImageID, an advanced machine vision technology. With this integrated solution, the ZetesMedea system enables Cidev to simultaneously read a wide range of different component manufacturer barcodes in various formats, then recognize the data and automatically translate to Cidev's WMS. The solution then instantly verifies the items with the WMS and with customer order data, then

automatically prints a label with the needed information according to Cidev's catalogue data with required customer order details. Since implementing this solution Cidev has been able to increase outbound logistics productivity by above 80% due to efficient time saving.

Mobile stations for rapid inventory counting

To address the inventory status visibility challenge, ZetesMedea enables rapid inventory counting operations using two mobile stations. Each station has been custom designed and adapted to the operating environment and equipped with an ImageID camera to read and capture the barcode data located on the tape and reel component packages. The exact same logic and rules learned on the ZetesMedea system used for verification allowed Cidev's operators to rapidly read different multiple manufacturers barcodes. It also instantly feeds the

data into their internal WMS classified according to their catalogue numbers for full inventory item status visibility. The algorithm also transmits necessary item data validation details and user notifications appropriate for the part number.

This solution enabled Cidev to reduce time spent on inventory counting by above 75% freeing up valuable labour capacity for added-value tasks. "ZetesMedea proved to be a major added value solution to our logistics processes, not only from time perspective efficiency but also in terms of productivity gains. We were able to save a great deal of operational time in verifying order picking before the dispatch to our customers, and in executing periodically inventory counting, which allowed our customers to get a more accurate status of the availability of the components in stock when compared to the previous situation," comments Israel Utinik, VP of the Cidev Group.

THE NEXT GENERATION

Internships, Skills & Development Programmes

Internship programme addresses data management skills shortage



Hemant Harie.

GABSTEN Technologies, a data management consulting, support and services provider, has launched internship and learnership programmes aimed at addressing the shortage of data management skills in South Africa. The programmes are designed to provide practical work experience to unemployed graduates, including internationally recognised training in data management, and to offer learnership opportunities to students currently studying towards a qualification in the Information Technology field.

The learnership focusses on offering Work Integrated Learning (WIL) opportunities for students studying towards a qualification in IT, and who have completed the theoretical requirements for their course. The learnership is tailored to provide workplace experience and help students obtain their qualification, whilst it also offers access to recognised training in data management. The organisation has collaborated with the Media, Information and Communication Technology Sector Education and Training Authority (MICT SETA) for three learnership, with the aim of supporting MICT SETA's skills development initiatives focussing on scarce skills and addressing youth unemployment.

The internship programme, which is separate from the learnership programme, is designed for unemployed graduates who have completed their IT studies. The internship is an opportunity for suitable candidates with an interest in data management to gain work experience and to have access to specialised training in data management on a fixed duration contract basis. This enables interns to gain valuable work experience and develop skills in data management

"The organisation offers the interns specialised, globally recognised data management skills training in order to assure the program's success," says Hemant Harie, Managing Director of Gabsten Technologies. Harie also highlights that the training and development programmes are in line with the objective of producing employable youth with pertinent and current qualifications,

making them an asset to any organisation.

The minimum qualification requirements for the internship programme includes CompTia A+ and N+ (essential), with MCSA (preferred) or alternatively certificates in IT technical support, IT systems support, and IT database or system administration. A diploma in IT and network management or a higher certificate in IT and support services is a definite advantage.

The interns will learn and apply basic data management administration and support skills, with a specialisation in Commvault and its cloud version, Metallic. They will also learn about remote system support, customer communication, Virtual Private Network (VPN) and Remote Desktop Protocol (RDP) concepts, and analytical thinking and problem-solving skills.

Gabsten Technologies is engaging directly with Technical Universities and tertiary academic institutions to recruit suitable students and graduates seeking learnership and internship opportunities. The aim of the programmes is to empower unemployed youth, with a focus on employment equity.

"The internship program offers a hands-on learning setting that enables interns to put their newly acquired skills to use in a genuine working environment. This ensures more skills will be provided to the Information Communication Technology (ICT) sector, new and innovative ideas will be brought to the data management arena, and young talent will be empowered to enter the profession", concludes Harie.

136 Cape Town youth boosted by learnership and work placements in the local clothing and textile sector

JUNE saw a further 119 learners graduate from the Cape Skills and Employment Accelerator – a City of Cape Town-funded project, administered by the Craft + Design Institute's (CDI), that focused on creating employment opportunities for youth and women in the clothing and textile industry in Cape Town.

The group of 119 graduated and received their National Qualifications Framework (NQF) level training certificates from Boland College and the Cape Town Work-based Learning Academy (CTWLA), which marks a final milestone of success on the project. The first 17 graduates completed their learnerships on the project in 2022.

Made possible thanks to a collaboration between the City of Cape Town and the National Skills Fund (NSF), the project enabled SMMEs to take on machinists at a greatly reduced cost to their business while creating learning and work opportunities for unemployed women and youth. The programme offered NQF level training and workplace opportunities for unemployed youth and women as part of a 12-month learnership, with a view to the SMMEs employing the women at the end of the project.

The learners developed skills that include pattern making, pattern cutting, garment making, and sewing with 75% of the time spent in the business supported by 25% classroom time provided by the training provider. Erica Elk, Group CEO of the CDI, said the outcome has been a remarkable success, given the project started during the Covid-19 pandemic.

"When we initiated this project it was in the midst of a very difficult period for employment creation and for businesses trading in the creative industries. We are proud of the outcome, through which so many young women have gained an NQF4 Learnership qualification as a machinist. While they were learning, 27 CDI member SMMEs hosted the learners by providing the site for workplace learning to take place, and hopefully with a job at the end of each learner's 12 month journey."



"A highlight is that 87 of the learners have now been placed in jobs or chosen to study further. That's a 64% retention rate through the programme, which is a testament to the resilience and efforts of the youth and the local businesses to overcome the challenges presented by the pandemic and its aftermath. We also spent time with learners who weren't going into jobs or further study by facilitating conversations with them about their next steps and getting them into other networks, so they are more accessible in the job market."

Elk added that it was not just a skills development project for youth – the CDI placed emphasis on the development of each business and their capacity to grow. Alderman James Vos, the City of Cape Town's Mayoral Committee member for Economic Growth, said: "This project was designed to respond to a skills need in Cape Town's high growth industries and the needs of youths wanting to become part of the city's workforce. There is a direct correlation between South Africa's unemployment crisis – which largely affects our youth – and the dearth of valuable skills. The City of Cape Town is working methodically to meet this challenge head on, and our efforts are bearing fruit. In our programmes, we are not simply funding

training for the sake of it. Investment in meaningful skills development initiatives is one of the most pressing concerns in our country right now. We have the foresight and vision to make Cape Town the best city in Africa to do business and work."

At the event, Mae Newman of The Umtshayelo Foundation, one of the organisations that hosted learners in their workplace, spoke proudly of her experience with graduate Siphokazi Papiso, who has been retained as an employee now with the Foundation.

Addressing all the graduates, she said: "All of you are so much further than where were last year, you've all come a long way. Siphokazi has now started working permanently and there was no way I was going to let her go. When you have a good thing, you don't let it go! I want to celebrate you Siphokazi in front of all of your peers. When you first joined us, you didn't have a vision for your future. When I look at you today, with the help of this programme you have become who you were meant to be."

Papiso said the entire programme has changed her life. "I didn't believe in myself before, I didn't even know how to stitch, but now I have made my own designs, even what I am wearing today – thank you to the funders and the college, and all the learners, my new friends who supported me on the programme!"

IN THE NEXT ISSUE:

- Cutting / Welding / CNC Punching
- Electrical: Cable / Power Accessories Lighting / Test & Measurement
- Energy Sources: Renewable / Wind / Solar PV / Bio Energy
- Financial Services / Risk, Advisory, Insurance
- Flooring: Finishing / Sealants
- Food / Bev / Dairy: Factory Engineering & Production Lines
- Hydraulics & Pneumatics
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- LPG & LNG Gas: Storage / Processing / Logistics
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The global battle against ‘forever’ chemicals’

CHEMICALS giants have agreed to pay billions of dollars to end lawsuits over contamination from toxic “forever” chemicals found in everyday products such as non-stick frying pans and waterproof clothing.

Polyfluoroalkyl substances (PFAS), chemicals that take a very long time to break down in nature, have been linked to cancer, infertility and environmental damage, among other complaints.

Recently, US industrial conglomerate 3M said it would pay up to \$12.5 billion to settle numerous claims from US public water systems accusing it of tainting their supplies with the pollutants.

Here is a look at the biggest PFAS settlements to date:

Record US water deal

3M says it will pay between \$10.5 and \$12.5 billion over 13 years to public water systems across the United States to test and treat water for PFAS.

The deal, which has to be approved by a judge, is the largest involving drinking water in US history.

It centres on 3M’s use of firefighting foams containing PFAS, which are accused of polluting groundwater.

3M, which also produces post-it notes and COVID face masks, said in December that it would stop manufacturing PFAS

substances by the end of 2025.

Dutch, Belgian cases

In July 2022, 3M agreed to a settlement of EUR571 million (\$612 million) with the Belgian region of Flanders over alleged PFAS pollution from its Zwijndrecht plant, near the city of Antwerp.

Flemish authorities released a study showing that people living near the plant had high levels of a type of PFAS in their blood.

In May this year, the government of the neighbouring Netherlands said it would seek compensation from 3M for pollution caused by the same plant in the Western Scheldt River.

Dutch authorities last year warned against eating fish, shrimp, mussels and other products from the river.

Dupont case

Just days before the mega-settlement reached by 3M in the United States, US chemicals giant DuPont and its spinoffs Chemours and Corteva announced in early June they would pay nearly \$1.2 billion to settle claims they contaminated water sources serving “the vast majority of the United States population” with PFAS.

The 2019 film “Dark Waters” starring Mark Ruffalo, about a class action suit brought by people in west Virginia against DuPont,



maker of nylon and teflon, over pollutants in their drinking water, helped raise awareness around PFAS pollution.

DuPont lost the case after a 19-year legal battle.

Australian military under fire

Firefighting chemicals were at the heart of a class action suit taken against the

Australian government, which it settled in May.

Around 30 000 people claimed that the military’s use of firefighting foam containing PFAS had contaminated land around army bases and decreased property values.

They sought Aus\$132.7 million (US\$88 million) in compensation.

The legal settlement was confidential.

All-electric rideshare fleet could reduce carbon emissions, increase traffic issues

By American Chemical Society

TWO major ridesharing companies have promised all-electric fleets by 2030 in an effort to reduce their carbon footprint. To understand additional impacts of this transition, researchers reporting in the journal *Environmental Science & Technology* conducted life-cycle comparisons of battery-powered electric vehicle fleets to a gas-powered one, using real-world rideshare data. They found up to a 45% reduction in greenhouse gas emissions from full electrification; however, traffic problems and air pollution could increase.

Ridesharing apps are an increasingly popular way to travel around urban areas, especially for people without their own vehicles. But the cars and SUVs used in these situations drive more miles each year than a typical personal vehicle, contributing a higher proportion of greenhouse gases to the environment.

Previously, researchers calculated that rideshare companies’ carbon footprints could significantly decrease by fully electrifying their fleets. However, few studies have used real-world rideshare trip data in their estimates, or included additional assessments of air pollution and traffic impacts, from the switch.

So, Aniruddh Mohan and colleagues wanted to develop a method that evaluated the life-cycle costs and benefits for two battery-powered ridesource fleets and a gasoline-powered one.

The researchers collected real-world

rideshare trip data for Chicago and used it to simulate rides provided by three fleets: gasoline-powered, and electric-powered with either 40 kWh or 60 kWh battery packs. Then, they did a comprehensive estimate of the use-phase and life-cycle impacts of the trips made in the simulations. Combining these data, they assigned a monetary value to each trip, based on the assumed damage done by carbon emissions, negative health impacts and traffic-related issues.

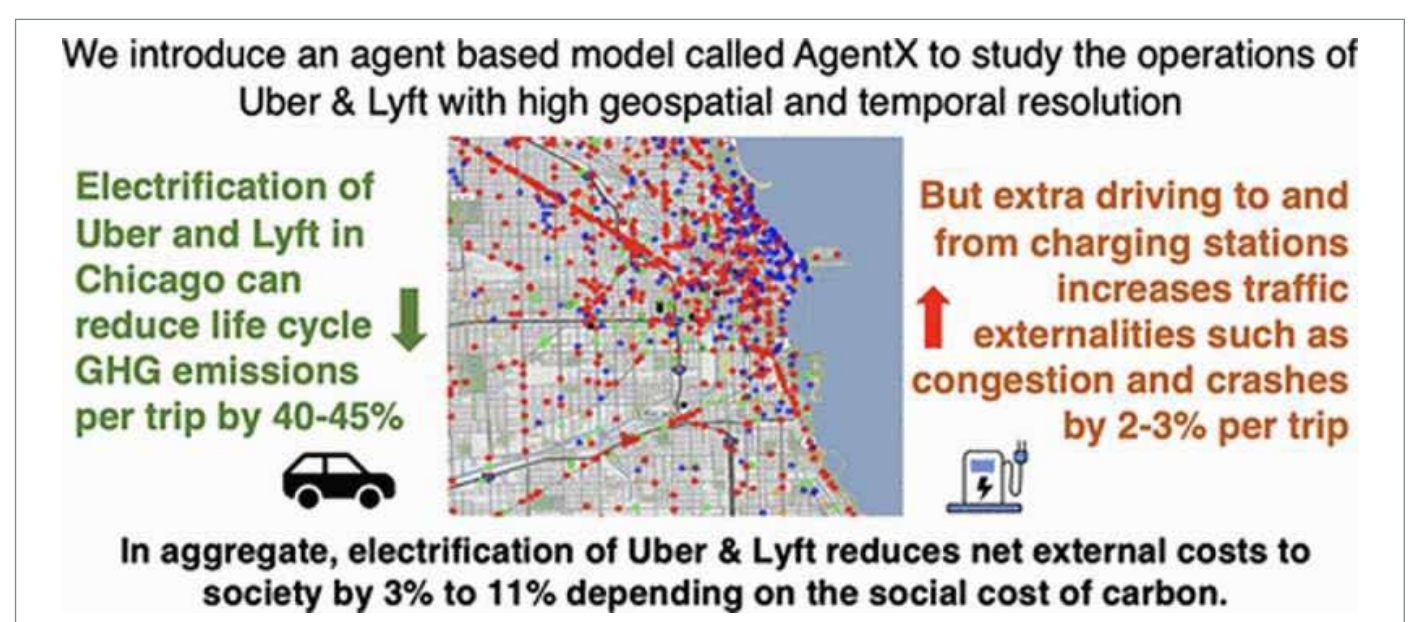
The analysis indicated that electrified

fleets had 40-45% lower greenhouse gas costs per trip compared to the gasoline-powered version. But the battery-powered electric vehicles were responsible for slightly higher air pollution from increased demand at local power plants for recharging purposes, as well as more ground-level particulates from tire and brake dust.

They also were involved in more traffic problems, including crashes, congestion and noise, than the internal combustion option. In the simulations, battery-powered vehicles, particularly the 40 kWh

ones, needed more frequent and longer trips without passengers to get to recharging stations. Overall, a conversion to battery-powered electric rideshare fleets could reduce the costs to society by 3-11% per trip, depending on the cost assigned to greenhouse gas emissions, the researchers say.

They conclude that these results are specific to Chicago, and cities with different power grids and street layouts could have different assessments from full electrification.



Credit: *Environmental Science & Technology* (2023). DOI: 10.1021/acs.est.2c07030