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Virginia SEZ? – no pipedream says Renergen CEO



Renergen's current production facilities.

IN an exclusive interview with CBN editor Robin Hayes, Stefano Marani, CEO of Renergen – the Free State helium and LNG producer - outlined the company's second phase development plans and speculated on support for a government sponsored SEZ (Special Economic Zone) to exploit the company's helium and natural gas discoveries.

“...the exploitation of natural gas discoveries is not a five minute thing.”

“Having secured the necessary finance of \$750 million to proceed with the development of phase two of developing what is really a new gas industry not only in the Free State, but for South Africa, we are currently assessing tenders of EPC contractors for the construction of facilities to meet our production targets of 4 200 kg/day of helium and 600 000 kg /day of LNG,” explained Marani.

“This is a substantial increase over our phase one production of just 300 kg/day

of helium. As had been widely reported our helium discovery has a purity of up to 12% in some wells - probably the highest of any producer anywhere in the world. This discovery hadn't escaped our friends in the USA who are the major consumers of this rare gas, used in hi-tech industries such as semiconductor manufacture, cryogenic research, medicine, fibre optics, the nuclear industry, welding and generally aero-space and defence - all strategic industries.

"As a consequence the US International Development Finance Corporation has pledged \$500 million of the total investment pool, pending the listing of Renergen on the Nasdaq; the deal we have struck is that 50% of our expected production has already been pre-sold mainly to American interests, with the balance being available on the spot market.

"The balance of \$250 million investment has been secured from Standard Bank, so with the money flow confirmed, we can proceed with phase 2 with confidence" he said.

The world market for helium upstream is \$2,7 billion pa – 2021 figures and is projected to rise to \$3,9 billion pa by



Stefano Marani.

2031 according to several global business analysts.

Reneger's current production of natural gas for liquidation (LNG) and helium comes from just 19 wells via a gas pipeline of 50km connecting them to the production facility. Its 187 000 ha site allows for further exploitation by drilling several hundred more wells.

Not just helium

“While our helium business is very exciting our LNG business has huge potential too. We have established LNG customers in Gauteng and the Western Cape via a virtual pipeline to Ardagh – formally Consol Glass and Italtile’s Ceramic Industries which is delivered by tanker trucks. We have also signed an agreement with Timelink Cargo amongst others to supply LNG to their fleet of trucks. Burning LNG results in a significant reduction of pollutants and carbon footprint compared to diesel, is a cheaper substitute, a ‘home grown’ fuel, much more environmentally

Continued on P2

Scania Southern Africa is planting a forest



One tree for every Scania Sustainability Pioneer who partners with them to drive the shift to a sustainable transport system.

SCANIA's sustainable transport solutions include low emission Euro 5 vehicles, the soon-to-be launched Scania Super with Euro 6 engines and zero emission Scania Battery Electric Vehicles.

The trees will be planted in areas where they have the most impact. Many communities in South Africa lack green spaces. Research links trees to a reduction in crime, better school performance and improved health benefits. Every tree planted in a Scania Sustainability Pioneer's name, will create a healthy and sustainable community ecosystem, while ensuring these business visionaries are forever a part of the environment, they are helping Scania to protect.

"Considering that our roads carry more than 70% of all goods transported across South Africa, ensuring the effects of climate change are drastically reduced is a pressing responsibility," explains Erik Bergvall, Managing Director, Scania Southern Africa. As the only heavy vehicle manufacturer to set science-based targets aligned to the Paris agreement, Scania is, together with its sustainably minded customers, taking collective ownership of their role in climate change. "Already our vehicles

Continued on P5



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Construction mafia extortion – City responds

By Sue Segar

IN the wake of ongoing threats and intimidation by “mafia-style extortionists” at construction sites in and around Cape Town, the City’s Urban Mobility department is considering procuring heavy tactical response vehicles to ensure the safety of the sites. This is according to the City’s mayoral committee member for Urban Mobility, Roberto Quintas.

In an interview with CBN, Quintas said this procurement will involve large unbudgeted capital expenses - the cost of which will have to be borne by tax and ratepayers.

At least seven key transport infrastructure projects in the City, valued at about R58.6 million have been delayed or come to a standstill because of threats and intimidation by these “construction mafia” extortionists..

“We may need these response vehicles to be able to access our sites under construction, so that we can have law enforcement on the ground, and dedicated just to Urban Mobility,” Quintas said.

“This would not be for the City Safety and Security directorate – although it would be managed by them in terms of personnel. The vehicles would potentially be procured from Urban Mobility’s capital bud-

get, with the sole purpose of protecting our sites. It’s insane that we have to consider going that far.”

“We are being forced to strongly consider additional capital and operational expenditure just to keep our construction projects moving.”

He continued: “One has to steal from Peter to pay Paul which means that, whatever the cost – capital, operational and salaries expenditure - results in less available for other projects. This might include critical projects, like road repair or potholes.”

Countrywide intimidation

The Western Cape is not the only region to experience these threats. In an attempt to redirect public money into their own pockets, a growing extortion “mafia” is crippling many construction projects around the country, and, in some cases, killing people if their threats, intimidation, and bribes are not met.

Projects on behalf of the City’s Mobility Department that have been halted or stopped due to extortion include a roads resealing and stormwater repairs project in Delft; the upgrading of roads in Bishop Lavis; the Walter Sisulu/Lindela roundabout in Khayelitsha, a road rehabilitation project in Kalksteentfontein; traffic

calming measures in Brooklyn; construction of new MyCiTi depots in Spine Road, Mew Way in Khayelitsha and Mitchells Plain. Quintas said a safety and security task team in Executive Mayor Geordin Hill-Lewis’s office is currently working with the SA Police Services to try and build up “the necessary files of evidence” for charges to be laid at particular alleged extortionists, “so that cases can be made, followed by arrests, and, hopefully, prosecution, and then some form of consequence.”

“The office of the Executive Mayor has experience across multiple directorates. It’s not only urban mobility. The departments of Solid Waste, Water and Sanitation, Electricity and Energy as well as Human Settlements, are all experiencing these incidents of attempted extortion at various levels.

“Sometimes, it is local opportunists trying to take advantage of small projects – literally the people living in the vicinity who begin to threaten, intimidate, and stop works because they want opportunities to work on the project. Then it goes all the way through to the big stuff which impacts our large projects.

“These so-called concerned ‘residents groups’ or ‘development forums’ or ‘business forums’ arrive



Roberto Quintas.

and disrupt and try and negotiate with the City and/or the contractor to make allowances for additional scopes of work, be it at subcontractor level or just for more people on the ground.

“People often masquerade as concerned groups, but there is an attempt to extort, intimidate, or harass their way onto a project. And it goes all the way down to locals who are just going to interrupt works in the hope of getting an opportunity to work.

“In my own experience as a ward councillor for Hout Bay, we had quite a few instances where locals tried to muscle their way onto projects. That happens a lot and it is seldom reported because it’s not necessarily very well organised, unlike the almost

legalistic type of correspondence and threats that we receive.

“Then of course there is the uglier side where armed people arrive, hold up everyone on site, telling them not to come back unless they take a certain group or a gang onto the project.”

Quintas said the construction extortion situation is “not at a stage yet where it has completely crippled service delivery. But it is bad enough to be seriously impacting the building and maintenance of important infrastructure projects.”

He believes there should be a special task team, at national level, that looks at the matter. “This should be an urgent priority for the Police Minister, the Minister of State Security and the Minister for Public Works,” he said.

Virginia SEZ? – no pipedream says Renergen CEO

Continued from P1

friendly and requiring relatively little modification to an IC engine produces substantial cost and environmental benefits.”

Gas to power – not anytime soon, but perhaps

“While there is much in the media about the potential of gas to power as a counter to loadshedding, it should be remembered that the exploitation of natural gas discoveries is not a five minute thing. We have reached our stage of commercial LNG development after a long 10 year road and our phase two plant is only coming on stream in 2026/7.

“Gas to power, while

having huge potential in the country, isn’t our main focus, although we will be constructing our own 30MW power station to be grid independent as part of the phase 2 developments, so the tail won’t be wagging the dog when it comes to power-outages. That doesn’t mean that the huge discoveries of exploitable methane in Mpumalanga won’t have the potential to transform the energy picture; but it won’t happen overnight for very practical reasons.

“We have under consideration a mega gas fired power station that could consume 20 – 25% of our projected gas delivery but it is early days on this front.”

Vision for development of hi-tech industries

“There are much broader implications of our development of a gas industry in the Free State, besides being a profitable venture for shareholders. Beneficiation of our raw materials by other countries boosts their economies and creates jobs which could be ours if only there was the will and strategy to create an investment friendly environment to embark on such developments.”

“This has been seen in Austin, Texas where \$500 billion worth of stimulus was granted to make investments into micro chip manufacturing facilities – recognised as strategic

industries, in order for the US to become less dependent on these vital technological products from other supplier countries, notably Taiwan. There is no reason why our Virginia facilities couldn’t be the catalyst to form a manufacturing hub for similar hi-tech industries exploiting our own helium and LNG. The prospect of creating an SEZ has been discussed with the Free State Provincial Government with an enthusiastic response from those who recognise the potential for job creation and the generation of economic prosperity, not only in the Free State but for the country as a whole” he concluded.

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Talking Business with Cape Business News

Exclusive interview with Terry Gale – chairman of Exporters Western Cape by Sue Segar

Besides being their chairman for many years Terry runs a freight forwarding company and is passionate about the Western Cape and hugely optimistic about its economic future.

QUESTION: What is Exporters Western Cape and what does it do?

TERRY GALE: We are a privately-run organization, which strives to promote the export industry in the Western Cape. We aim to represent the export industry and to be a forum through which concerns may be raised, input provided and knowledge shared. We are funded by members, and have been going for 45 years.

We strive to provide businesses with a local forum to discuss exporting issues; to signpost new and existing exporters with the right advice and information; and to highlight market opportunities.

It is well known that the Western Cape government has an initiative, the Growth for Jobs (G4J) strategy, which has, as a key goal, to build a trillion-rand, jobs - rich provincial economy which grows at between four and

six percent a year in real terms by 2035. We want the exports industry to be a key part of this strategy, because exports create employment. We support this initiative wholeheartedly.

We bring all stakeholders from Exporters Western Cape together once a month at a function where we have a topical speaker, followed by a presentation. Recent speakers were Andre de Ruiter and Captain Vernal Jones, executive manager of Western Cape Ports for the Transnet National Ports Authority (TNPA). Our next function will host the economist Dawie Roodt, who will talk about 'Everything you needed to know about grey-listing but were afraid to ask'.

We keep all our stakeholders in the loop and on top of relevant current affairs pertaining to the industry. We regularly host Premier Alan Winde, mayor Geordin Hill-Lewis, as well as representatives from Transnet, the port, and from Wesgro.

Q: Who are your members and how many members do you have?

TG: We have two types of membership – corporate membership for companies, and individual membership. We have about 60 corporates and 20 individuals.

Our membership includes exporters, manufacturers, freight forwarders, as well as banking institutions and the marine insurance companies. We have representatives from the SA Association of Freight Forwarders, the Cape Chamber, Transport Port Terminals, Transnet Port Authority and legal companies which have marine departments dealing with claims.

Q: What sort of products are exported from the Western Cape?

TG: Our main products are agriculture, including deciduous fruits, a huge market for export grapes, and citrus. We also export wine, rooibos tea, as well as many manufactured goods, including woodwork, artworks, curios and other tourist items.

Q: What sort of issues do you deal with and try to address as Exporters Western Cape?

TG: Since 2020, we have facilitated meetings with all the stakeholders involved at the port related to exporting – including transporters, the shipping lines, the freight forwarders etc. We meet once a week on Teams to address the challenges at the port.

We also negotiate and communicate with

key players on issues relating to exports. We deal with key people, including the president so as to ensure the voice of Exporters Western Cape is heard.

Q: Is the export industry a critical part of the Western Cape economy and why?

TG: Yes, and a key reason for this is that, among other things, it grows the economy and creates much needed employment.

Q: How are the exporters from the Western Cape doing?

TG: Currently, it is our saving grace because of the favourable balance of payments. In the Western Cape, we export more than we import – and this is what we focus on expanding at Exporters Western Cape. The United States market is vitally important, particularly California where we have a trade agreement. The US is our second biggest export market, and our most profitable, so it is vital that we keep our ports functioning efficiently.

More and more companies in the Western Cape are becoming exporters and there is great potential because of the weakness of the rand.

Q: Is there potential to grow Western Cape exports even more?

TG: Yes. The American market is largely untapped; with a population of 340 million people with lots of money to spend! There is great potential for us to grow in particular manufactured items, as we are seeing with our fruit and wine, furniture and doors, and other products.

Q: What is Exporters Western Cape doing to grow the export market?

TG: One key action I am taking is to ensure that I voice concern about AGOA. I've addressed the President and Minister Patel of DTIC, stressing the importance of AGOA to our export business. I also engage in public speaking and am very involved in talks relating to the African Continental Free Trade Area (AfCFTA), as I am a great believer in Africa, and for Africa to combine resources.

Q: What are some of the big issues in the export industry in the Western Cape at the moment?

TG: Failure to modernise the port has resulted in productivity and capacity constraints. Previous corruption and mismanagement has meant that the port equipment that should have been upgraded



Terry Gale.

and serviced, was not. For instance, we should have at any given time 30 operational rubber tyre gantries (RTGs) which move the containers within the terminal, but we are lucky if we have 14.

Productivity is an issue. There should be about 35 crane movements per hour (i.e. how many containers you take off a ship) but they only average 20.

These are all issues we address. And because we meet weekly with the port authorities, and get statistics from the port, we can benchmark performance. We can work out why we moved 21 containers in one week, but only 18 in another.

Another big challenge is the weather. In February, we had 248 hours of wind stoppages and we've experienced a lot more wind during the winter, which really affects the port.

Q: What is your reaction to the recent announcement on the semi-privatisation of the Durban port? Should Cape Town's port take a similar route?

TG: We have two terminals in Cape Town – the Cape Town Container Terminal (CTCT) and Cape Town Multi-Purpose Terminal (CTMPT). The advantage of the multi-purpose terminal is that it's not as affected by wind. But the disadvantage is that it has only three landside cranes, and the vessels that berth there have to use their own equipment, slowing operations. Investment following privatisation could expand operations into three working berths to supplement the main terminal. So, when the main terminal becomes wind bound they can use this one.

Going "Off-grid" with Satellite Broadband

Building business resilience in a dynamic environment.

ESKOM's ongoing programme of loadshedding while intended to protect the integrity of the national grid, is creating one of the most difficult business environments in South African history. As a result, enterprises have had to invest in generator back-up or alternative solar supply options to ensure business continuity. While the response of SA business owners is testament to the tenacity and commitment at the heart of our culture, loadshedding represents an existential threat to many SMMEs, in particular. Ongoing power outages are also causing additional communication network "off-grid" situations.

"Off-grid" telco networks?

The continued power disruptions have caused widespread mobile network signal degradation and, in some cases, a complete collapse of network services. The repeated power disruptions result in infrastructure failure on the towers, leading to service disruptions. This is particularly problematic for merchants and businesses that rely on 3G connectivity to transact and complete credit card payments.

In these situations, merchants, businesses and e-commerce platforms can find themselves "off-grid" from a

telecommunication network perspective. While these business owners may manage to resolve localised electricity supply problems, they are still left without connectivity which means no e-commerce or point-of-sale trading.

Satellite is robust

Satellite networks offer a unique and attractive solution to this problem. By their very nature, satellite networks are extremely dependable and immune from terrestrial power disruptions or physical damage to infrastructure. This is because satellite communication networks require only a terminal to be installed

on the end-user's premises. This then communicates with a central gateway (or teleport) via the satellite in the sky. The satellite network gateway is then connected to the Internet to provide the user with broadband and business data connectivity services.

This means that as long as the user terminal is operational and powered, typically using a small generator or a solar-powered supply, the business will be fully connected and can trade as usual. In this way satellite communications offer a robust solution to the disruption of business communication networks caused by loadshedding.

Smart Satellite Services

Satellite network technology continues to evolve with the development of Smart Satellite Services such as the Twoobii service, developed and operated by the Q-KON Africa engineering team. Smart Satellite Services incorporate advanced quality-of-service features and additional security measures to enable integration with merchant credit card readers and point-of-sale trading systems. Twoobii is also the only certified solution for a leading e-commerce bank with direct integration from merchant point-of-sale devices to the core financial network.



Combining the fundamental reliability of satellite networks with the rapid transaction functionality of the Twoobii Smart Satellite Service therefore provides merchants with a robust communication alternative that can complete trading transactions in <1 second while main-

taining near-perfect network availability (at least 99.95%). And with their Smart Delivery system offering an end-to-end business model, pricing and delivery concept, Twoobii can provide merchants with a simple one-stop option for going off-grid and ensuring reliable trading.

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SU team retrofits a minibus as EV

A team from Stellenbosch University which successfully converted a minibus taxi to an electric vehicle, believes there is potential for electric vehicle manufacturers in South Africa to open plants to produce electric vehicles locally.

Professor Thinus Booysen, from the department of Industrial Engineering at Stellenbosch University, said the recently completed prototype electric taxi, which is currently being tested for road safety, will be used to prove the concept and for testing.

SU joined forces with the company Rham Equipment to retrofit a minibus with electric propulsion, making it the first electric taxi of its kind in the country.

The South African National Energy Development Institute (SANEDI) provided funding for the retrofit, and Transport Services at SU donated a minibus from its fleet.

Dr Neville Smith, project manager at SANEDI, said the novel approach to ret-



rofitting normal combustion engines with EV engines will contribute extensively to achieving the country's climate change targets, saying the first retrofitted minibus is just the beginning.

"More than 70% of the trips in South Africa are by minibus in the informal sector, which is why we are hoping to encourage the retrofitting of some of the 250 000 minibuses in the country with electric propulsion. These will be cheaper and much more environmentally friendly than new elec-

tric vehicles.

"With this venture, we want to help build the skills needed to manufacture electric vehicles locally and also create awareness about how much we could save with electric taxis."

Kevin Reynders, CEO of Rham Equipment, said the collaboration with SU allowed the company to "plough back" into engineering students' development and to contribute to sustainable mobility in South Africa.

One of Booysen's team members,

Stephan Lacock, who is doing his master's degree in electronic engineering at SU and funded by Golden Arrow, helped designed the retrofitted minibus with partners at Rham Equipment.

Lacock said a stand-out feature of the retrofitted minibus is its advanced regeneration system which harnesses energy generated during deceleration and downhill driving, enhancing the vehicle's energy efficiency and overall range.

"As a result, the minibus is now

equipped to travel an estimated range of approximately 120 km, with a maximum speed of 120 km/h. It has an electric motor power of 90 kW and a battery capacity of 53.76 kWh. This ensures that it meets all load and driving requirements comparable to those of traditional internal combustion engine minibuses.

"Thanks to the inclusion of a 20 kW charger, the minibus can be efficiently charged in just over two hours."

Lacock stressed that this is just the initial model, and that future advancements in technology will likely lead to more improvements in charging times, longer ranges by increasing the battery capacity, and overall performance.

PhD student and team member Johan Giliomee says the expected charging times that result from the way minibus taxis operate is a concern because of the additional load the simultaneous charging will put on the grid.

"Research results show that electrifying all minibus taxis in South Africa could add a load of 5% of what the grid can currently deliver.

Giliomee said minibus taxis could be supplied with electricity through the installation of solar panels and battery energy storage systems at taxi ranks. Hydrogen could also be used as an alternative electricity source or for interim energy storage.

"The vast majority of taxis are stationary between the early morning and afternoon peaks, making it an ideal opportunity for charging from solar panels. This also means a single charge would only need to supply sufficient energy for half the day, significantly reducing the required battery capacity as opposed to being scaled to support a full day's operations. Further ideal charging opportunities are seen overnight when the national electricity demand is at its lowest."

"We must think anew about how we buy a car; it must be sold as part of a mobility package, that is, the car, solar panels and a large battery as a system, rather than just an electric car that will mess up and be restricted by our grid."

Booyesen says in the next phase of the project they will collaborate with Rham and Golden Arrow Bus Service to retrofit one of the company's buses.

Greener manufacturing: Hikvision's efforts to reduce carbon footprint



HIKVISION recognises that it is important to adapt and evolve every aspect of our operations to move towards a greener footprint. That's why we are developing innovative products that are more efficient, and which save energy. It is also why we are making huge efforts to make every part of our manufacturing process cleaner and more sustainable.

As an industry leader with a global reach, we know that even small changes in our product development processes can make a big difference. As a result, we are continuously exploring best practices to reduce waste and minimise our carbon footprint. We are, for example, introducing clean and green practices throughout the manufacturing process, improving energy utilization, promoting water conservation and recycling, reducing pollution, regulating chemicals management, and adopting sustainable materials in packaging.

In all cases, our ambition is to mitigate the impact of our production and operation activities on the environment and, in so doing, to create an environmentally friendly production model. There are a number of areas where we are focusing our efforts to evolve our manufacturing processes:

Cleaner energy

The energy used by Hikvision primarily includes electricity, natural gas, diesel, and gasoline. Our aim is to intelligently manage the way we use these resources in order to reduce energy throughout the entire manufacturing process. We have made numerous energy-saving adaptations throughout our operations such as process improvements and equipment upgrades. We are also increasing the proportion of clean energy we use through green electricity procurement, distributed photovoltaic power generation, and energy storage. During the year of 2022, we purchased 32,852 MWh of green electricity, and generated 4,508.3 MWh

of power via photovoltaic units.

Cleaner water

Municipal water, surface water and groundwater are major water resources used by Hikvision. To improve water use efficiency and manage water resources more effectively, we take active water conservation measures and continue to improve our water resources and management systems. For example, we have been able to reduce water waste through balanced water testing, water use monitoring, water-saving transformation, and rainwater collection.

Cleaner waste management

In order to grow into an environment-friendly business, Hikvision closely monitors all emissions and waste in order to reduce our impact on the environment wherever possible. For example, to manage the waste generated during production and operations, we have established a waste classification and disposal system. Waste is classified into general waste, hazardous waste, and industrial waste for different disposal methods. The whole process is monitored and recorded to assure standard and traceable waste disposal.

Greener packaging

Hikvision advocates sustainable packaging to lessen the environmental impact of packaging materials. While ensuring that products are fully protected by packaging, we have taken measures to de-plasticise and reduce packaging materials, promote degradable materials, and increase packaging recycling efficiency, minimizing the use of packaging materials.

For example, by cutting the use of plastic cushioning and replacing high-volume, high-quality plastic cushioning and lining with materials with low plastic content, we are able to reduce carbon emissions by 767 tons per year.



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Scania Southern Africa is planting a forest

Continued from P1

produced in 2023 emit 20% less carbon emissions than those produced in 2015", says Bergvall. "To further increase efficiencies, we have introduced optimised vehicle specifications that include better powertrains and further fuel efficiencies."

When fossil fuels, like diesel, burn, they release carbon dioxide. These gases are trapped in the atmosphere, causing temperatures to rise, leading to climate change. The transport sector is particularly exposed and vulnerable to impacts of natural disasters. Climate change is expected to exacerbate future risks. Extreme weather may disrupt and damage the vital connections that provide access to economic opportunities, healthcare, education and social connections. In South Africa, the transport sector is the third largest contributor to greenhouse gas emissions, with most vehicles running off internal combustion engines powered by fossil fuels. Transport contributes 12% to South Africa's total carbon emissions. Of that, freight transport is responsible for 85%. "The shift to sustainable transport solutions is a collective effort," says Bergvall, "We can't do it alone. By partnering with our Scania Sustainability Pioneers, we are working together to reduce the carbon emissions necessary to limit climate change in Southern Africa".

The shift to sustainable transport solutions offers transport operators a competitive advantage. Many companies have climate-related targets and are looking across their supply chains for opportunities to reduce carbon emissions. A fleet that includes sustainable transport solutions could soon become a factor to enable transport operators to win in a competitive bid. "By differentiating as a transport operator, with a distinct focus on people and the planet, your company engages with a sense of purpose and could attract a new customer base that prefers to do business with sustainably minded suppliers", says Bergvall.

The costs of inaction are steep, especially if carbon emissions continue to rise. Resilient transport interventions can significantly help to reduce future losses across the transport sector. "At Scania, we

measure the climate impact from our vehicles using operational data from all our globally connected trucks and buses", explains Bergvall. This commitment to a transparent process of tracking emissions ensures Scania and their visionary customers can play a

leadership role in combatting climate change.

"We look forward to growing our Scania Southern Africa Sustainable Forest, with each tree a symbol of the on-the-ground partnership we have with our visionary customers", says Bergvall. "By managing their

operations with less climate impact than their competitors, they are paving the way for a new and sustainable transport system across Southern Africa". A shift that promises to deliver long term benefits for the transport industry, society and the environment.



THERE'S A FOREST WITH YOUR NAME ON IT

We're planting a tree for every customer who partners with us to drive the shift to a sustainable transport system



LEADING

THE SHIFT IN SOUTHERN AFRICA

As the first heavy commercial vehicle manufacturer to set science-based targets aligned to the Paris Agreement, we are, together with our sustainably minded customers, taking collective ownership of our role in climate change. Already our science-based targets aim to ensure our vehicles produced in 2025 will emit 20% less carbon emissions than those produced in 2015. To recognise those customers who have made the shift to our Scania Sustainable Transport Solutions*, we're planting a tree in their name, to honour their commitment to a sustainable future. Because on the road to a sustainable transport system every customer counts, every vehicle counts, everyone counts.

*Sustainable transport solutions include Scania Euro5, Scania Gas vehicles, Scania Super Euro 6 and Scania BEV. To explore our Sustainable transport Solutions visit scania.com/za



Meet our Scania Sustainability Pioneers at www.scaniaforest.co.za

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pletely tampering proof and can only be fastened or loosened with the customized tool driver. Once the installation is complete, the customized driver tools are given to the customer. Each driver and bolt system are issued with a certificate handed to the customer. If the drivers should be lost, they can then be replaced by sending a certified copy of the certificate to I Fab Pty Ltd.

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New tourism campaign - 'Live South Africa!'

SOUTH African Tourism's North Europe Hub has launched a campaign known as *Live South Africa!*, which focusses on inviting travellers from the Netherlands, Belgium and Sweden to recognize that coming to South Africa is responsible tourism behaviour. The campaign is based on the premise that travellers from the Netherlands, Belgium and Sweden place high priority on sustainability and responsible tourism.

The Netherlands, as the biggest market out of this hub and the fourth

largest market out of Europe, recorded 54 083 arrivals in the period of January to June 2023; 93% of the number in the same period pre-COVID. Other markets within this hub are Belgium and Sweden, recording 19 087 and 12 660 respectively for arrivals between January to June 2023, a statement from SA Tourism said.

Sustainable travel as a driver for consumers travel choices is a key trend out of Europe, with the North Europe region having led this conversation since 2018 when the

flight shaming movement out of Sweden was highlighted.

Acting Hub Head: North Europe, Abby Jacobs, said the North European Hub focus, based on this trend and insight, is to recognise values-based marketing as a lever to reach consumers who are driving the sustainable tourism conversation.

"Authentic South African values of inclusivity, ubuntu and diversity, putting people at the centre, are a central premise of this campaign, and are aimed to

appeal to North Europe travellers," she said. "Tourism businesses are pivotal in showcasing our exceptional experiences that travellers want, and as such, have deliberately been placed at the centre of this campaign".

South African Tourism North Europe Hub collaborated with six tourism businesses from various provinces across the country; both small and established; to highlight what responsible tourism means and showcases these products in their campaign.

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Five reasons to use energy chains

POLYMER energy chains provide improved low maintenance protection for cables, hoses and pneumatics for industrial equipment wherever power, data, control, fibre and optic cables are required.

Global polymer manufacturer, igus is steadily making inroads into where its energy chains can improve cable management on machines where repetitive linear movements are required. The energy chains usually replace festoon systems on equipment like gantry cranes, tripper cars and can even replace cable reel drums on heavy duty mining machines such as stackers and reclaimers.



igus managing director, Ian Hewat, says its e-chain cable carriers are increasingly being designed into new systems or retro fitting festoons and cable reel systems in most industries. Rather than looping cables or winding them onto drum, the e-chains simply act as a moving conduit or a sort of spine that keeps the cable neat and always protected.

These are the five reasons to choose igus energy chains over festoons:

- Increased Reliability: igus energy chains are designed to provide reliable performance which reduces downtime through protecting the minimum bending radius unlike festoons which can be prone to snagging and wear, energy chains offer a more robust and controlled cable management solution. Among these solutions are their chainflex cable that is specially designed to run inside of the e-chains.
- Reduced Maintenance: Energy chains require minimal maintenance compared to festoon systems.

- Better Cable Protection: Through the design of the energy chains the minimum bending radius is controlled that shields cables and hoses which in turn reduces the risk of damage or electrical failures caused by external elements. Festoons, on the other hand, have their radius exposed and uncontrolled with added stress and tension on the hanging parts.
- Space Efficiency: igus energy chains are designed to be compact and space-efficient, making them suitable for applications with limited space where-as with festoons, you need to allow space for the cables depending on the length of travel and number of trolleys used.
- Safety: Energy chains contribute to a safer work environment by preventing cables from hanging loose. The e-chain can be installed at a lower level due to its compactness, making any sort of maintenance easier and safer. Festoons need to be at a much higher-level impacting health and safety.
- Effective cable management systems should complement an operations' objectives and result in better productivity, increased reliability, improved safety and reduce costs. Polymer energy chains from igus ticks all these boxes and more.

Further information can be found by visiting www.igus.co.za



THE government of Taiwan recently contributed 40 tons of rice to be distributed to those in need across the province, at an event at the South African Red Cross Society's offices in Wynberg. The handover was led by Lily Chen, the new director-general of the Taipei Liaison Office in Cape Town. The rice was donated to various non-profit organisations, as well as constituency leaders from various political parties. This follows on from a donation, in September last year, when the Taiwanese government donated 40 tons of rice to similar organisations.

THE BEE IN MY BONNET COLUMN

South Africa's oil and gas bonanza – some good news on the horizon?

Certainly if you believe the narrative of James Lorimer, the DA's Shadow Minister of Mineral Resources who revealed details about South Africa's untapped oil and gas treasure at the recent Biznews 10 Conference.

The following was published by the Daily Investor (<https://daily-investor.com/>) on 21 August 2023, the same day that Kinetiko, the company focused on commercialising advanced shallow conventional gas and coal bed methane projects, in Mpumalanga, announced its maiden gas find of 6.4BCF (Billion Cubic Feet) with yet more to come. Kinetiko CEO Nick de Blocq also announced an agreement with the Industrial Development Corporation (IDC) to co-develop a joint ven-

ture for the appraisal and production of LNG to deliver 50MW growing to 500MW gas equivalent energy. The first stage will be a 50MW equivalent project estimated to cost approximately R1,7 billion. The agreement also grants IDC the option to participate in the co-development of further 1 000MW LNG gas equivalent projects, totalling 1.5GW.

LORIMER said South Africa has a significant oil and gas industry under development which holds huge potential for the country.

"We could have a resource that will echo the great finds in the past, like the Kimberley diamonds field, the Witwatersrand goldfields, and the Witbank coalfields," he said.

He said offshore gas and oil discoveries in the southern Namibian territorial waters, just kilometres away from South African territorial waters, give a good idea of what will be found in future.

South Africa is the closest landfall to the wells in Namibia, estimated to contain around 5 billion barrels of oil.

The wells are also in the same geological feature, the Orange Basin, which stretches all the way down the coast to the south of Cape Town.

"Serious geologists say there's a very strong chance of finding oil all the way down the basin. That means in South African waters, in considerable quantities too," he said.

Total has exploration rights in this

area, stretching from Saldanha to far south of Cape Town, and they are confident they will find oil.

Rough expectations for the entire West Coast oil fields are around 10 billion barrels of oil and 50 trillion cubic feet (TCF) of gas.

"Put another way, 1 trillion cubic feet of gas could create a thousand megawatts of electricity for 25 years," Lorimer explained.

Moving to Mossel Bay, Total is obtaining production licences for discoveries estimated to contain reserves of 3 to 4 trillion cubic feet of gas and a billion barrels of oil.

Petroleum Agency of South Africa CEO Phindile Masangane said the development of the Southern Cape

Field alone could contribute up to \$457 million per year to government revenue.

South Africa also has impressive onshore gas resources. Reneggen and Kinetiko have been successful, with the latter drilling 40 holes and finding gas in every single one.

This gas is payable and relatively shallow. It has a potential life of 12 to 30 years, with another 5 trillion cubic feet expected.

The location of their resource is close to South Africa's power-producing heartland, making it easy to transport and use.

Lorimer said the country also has large shale gas reserves. However, due to strong resistance to fracking, the commercial viability is still 6 to 7 years away.

Threats

- Exploiting the potential of South Africa's valuable oil and gas fields is threatened by two possible issues –
- The government can mishandle the legislation again, as it did in 2014. The Upstream Petroleum Development Act is currently before Parliament, and its passage will be crucial.
- Big Green – internationally funded anti-development groups that often challenge drilling or seismic applications.

Lorimer said South Africans must decide whether they want development or not. If so, the country's development can be boosted by its mineral endow-

ments, including fossil fuels.

"Renewable energy is with us to stay, but fossil fuels still have a major role to play in energy worldwide," he said.

The demand for minerals for renewable energy is much greater than the current mining industry can supply.

There's also concern about China's global leadership in processing these minerals, leading to a need for diversification."

He said these oil and gas resources could help South Africa to have loads of cheap power in ten years.

"The world will be primarily powered by fossil fuels for a long time to come, and South Africa should seize its endowments to create a better future for our countrymen," Lorimer said.

Mossel Bay's efforts to address rolling blackouts

EXECUTIVE Mayor of Mossel Bay, Alderman Dirk Kotze, was the special guest at Premier Alan Winde's 19th Energy Digicon recently. Ald. Kotze detailed how he and his team are taking short- and long-term measures to keep critical services for residents running amid loadshedding. These interventions include:

- services such as sanitation and water treatment
- Groot Brak River hydropower project
- A rooftop solar strategy, and
- A 30 MW solar plant is in the planning phase

The Mayor explained that the municipality is also looking at gas-to-power projects. "We are busy with talks with PetsoSA. They reckon they can produce gas to generate about 180 MW which will also be a quick solution."

With emergency

funding from the WCG, the municipality is installing three generators to keep services running during loadshedding.

Among the bigger projects, the municipality is investing in the development of mini-grids located

near municipal infrastructure, such as waterworks, run on hybrid-solar photovoltaic (PV) systems generating 1 MW of power.

The Premier noted, "We will continue to enable and equip our municipalities with the

necessary resources and guidance to make daily life a little easier for residents during blackouts."

An intervention the WCG will be implementing soon is the rollout of loadshedding kits to help indigent households. "I

often think of learners who have to study in the dark. We need to offer them some kind of assistance. In the coming days, we will start distributing over 400 000 of these kits to indigent households across the province" Premier Winde said.

- Fitting streetlights with LED bulbs as well as installing solar lighting at public ablution facilities
- Installing solar geysers at new housing projects
- Traffic lights at some intersections are fitted with uninterrupted power supply (UPS) systems
- Emergency generators to protect






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Contentious FRAP vital for future of deep sea trawling industry

By Sue Segar

THE South African Deep-Sea Trawling Industry Association (SADSTIA) is eagerly anticipating the completion of the long-awaited Fishing Rights Allocation Process (FRAP), from the Department of Forestry, Fisheries, and Environment (DFFE); expected during October 2023.

SADSTIA Chairman Innocent Dwayi said the finalization of this process will provide much-needed certainty to the sector. SADSTIA represents South African trawler owners and operators engaged in Cape hake fishing. DFFE Minister, Barbara Creecy has said the department received a record number of appeals against rights allocations. FRAP seeks to enforce allocations for the next 15 years in nine fishing sectors - and Creecy said each appeal would be carefully assessed.

The lengthy appeals process has drawn criticism from stake-

holders saying it is affecting the livelihoods of fishers, while they await the outcomes. Appeals affect eight of the sectors – hake deep-sea, hake long-line, South Coast rock lobster, small pelagic, KwaZulu-Natal crustacean trawl, demersal shark, squid and tuna – are due to be finalized in October.

“The lingering nature of these appeals is impeding our ability within the deep-sea fishing sector to determine appropriate levels of reinvestment in assets, including acquiring new vessels, restructuring operations, and integrating modern technology. We are earnestly looking forward to obtaining the definitive appeal outcomes before October. In a climate of allocation uncertainty, our ability to strategically shape our business and embark on fresh investments is hindered,” Dwayi told Cape Business News.

He said the much anticipated amendment of the Marine Living Resources Act – which makes provision for



Innocent Dwayi.

how the rights allocations should be regulated, and who should be the participants and beneficiaries – is another measure which will have important implications for the industry - strengthening the sector and promoting economic growth. “This important measure and legislation also looks at what transformation should look like in

where every member’s perspective is heard and valued. Currently, SADSTIA has roughly 30 members including those who have lodged appeals, representing over 90 percent of rights holders in the hake deep-sea fishing sector.

Dwayi is hopeful that the new rights holders who are successful in the hake allocations will also join SADSTIA for a more inclusive organisation.

“The hake deep-sea trawl accounts for about 84% of the total hake TAC (Total Allowable Catch) and safeguarding the well-being of our members’ interests remains paramount, enabling their ongoing pursuit of achievements in domestic and international markets where their goods are marketed. Another key objective is to ensure governmental accountability by means of partnerships and collaborations, while also ensuring equitable representation for the smaller enterprises within our association.

“We engage in both

on-board and land based processing facilities, generating numerous employment opportunities for women within the sector. Our focus extends across the complete value chain, contributing to over 5 000 indirect positions and 7 300 direct jobs, with 72 percent representing permanent roles. This encompasses individuals on vessels as well as land based professionals, excluding roles within the broader value chain like service providers involved in vessel discharge and fish transportation from sea to land-based facilities. Favourable rights allocations will protect existing jobs while creating additional jobs in the value chain.”

Dwayi added that the Marine Steward Council (MSC) had given positive feedback of SADSTIA’s processes and the sustainability of the fishery, earning for the trawl fishery for hake certification from the MSC, a programme that certifies sustainable, wild-caught seafood.

“Fishing now en-

tails more than setting sail with basic equipment. The industry has evolved with the integration of advanced technology, encompassing innovations like state-of-the-art nets, devices, and sensors on vessels. We are actively encouraging our members to embrace this technology, as it plays a crucial role in maintaining sustainable practices within our fishery. This modern technology is designed to achieve several goals, including better conservation of smaller aquatic species, enhanced electronic vessel monitoring, benefitting both the industry and regulatory oversight by the department, ensuring comprehensive oceanic vessel tracking.”

“Seventy percent of our products are exported and SADSTIA is well respected among international players.

“It’s a delight for me to be part of such an organisation that is committed to sustainable practices and promoting innovation” he concluded.

Water and Sanitation soars, with 95% capital spend of City’s largest budget allocation



An aerial view of the Zandvliet Wastewater Treatment Works under construction.

THE City’s Water and Sanitation Directorate successfully achieved 95% spend of its R2,385 billion capital budget in the 2022/23 financial year.

In a statement, the directorate said this spend proves their commitment to “investing in infrastructure which ultimately provides access to good quality drinking water and dignified sanitation, particularly in informal settlements.

The Mayoral Committee Member for Water and Sanitation, Council-

lor Zahid Badroodien commended the staff from the directorate, for managing the highest allocation of capital expenditure within the City in the 2022/23 financial year.

“Some of the major successes have been in enhancing wastewater treatment capacity. R248 million was spent on upgrades to Zandvliet Wastewater Treatment Works (WWTW) and R129 million on the commencement of the extension of Potsdam WWTW, after years of delay,” said Badroodien.

Other major projects which contributed to this expenditure include:

- R221 million on the Cape Flats Aquifer Recharge
- R159 million replacement and upgrades of the sewer pipe network
- R104 million on upgrades to sewer pump stations
- R118 million towards the Cape Flats sewer pipeline rehabilitation and
- R117 million

upgrade of the water pipe network

To combat load-shedding, the directorate pioneered the installation of Uninterrupted Power Supply Systems (UPS) at pump stations and paired this with security upgrades to reduce vandalism.

“This financial year will present new challenges as our capital budget doubles. R4,3 billion has been allocated to enable us to deliver on the objectives set out in the City’s Water Strategy. R604 million will be going towards the New Water Programme for the Cape Flats, Atlantis and Table Mountain Group aquifers, as well as the Faure New Water plant,” said Badroodien.

He said a further R38 million has been made available for new taps and toilets in informal settlements, and the drive to repair leaks in indigent households will continue to be implemented beyond the 534 households who have already benefitted thus far. service to indigent residents.

All leaders can be managers but not all managers can be leaders

ELLENÉ Pienaar-Carstens, from Bizmod Development (BizDev) says that while both are important to the success of an organisation, they are very different approaches to an authoritative role and require different individuals with different skillsets and approaches.

Pienaar-Carstens says that when looking at the qualities and skillsets for each role, it is evident that all leaders can be managers but not all managers can be leaders. “Saying this, it is important for organisations to understand the difference between the two roles as the right individuals need to be selected for the positions.” She highlights the key differences between leaders and managers:

Leadership is the ability to motivate and inspire a team to achieve a shared goal. Leaders are:

- Individuals who have vision and the ability to communicate that vision to others in a means that inspires them to act.

- They motivate others to work towards a common goal by creating a sense of purpose and direction.
 - They lead by example and are willing to take risks to achieve their vision.
 - They are excellent communicators with good interpersonal skills who can build strong relationships with their team.
 - They have the ability of quick decision-making and can adapt to changing circumstances when required.
- Management is the process of planning, organising, and controlling resources to achieve specific goals. Managers are:
- Individuals who are responsible for coordinating and directing the work of others, to ensure that goals are met efficiently and effectively.
 - They ensure that resources are being used wisely and that the organisation is operating in compliance with

applicable laws and regulations.

- They are concerned with maintaining the status quo and ensuring that tasks are completed on time and within budget.
- Are organised, analytical and detail oriented.

“Overall leaders tend to be more innovative and forward-thinking, and managers tend to be more conservative and risk-averse,” she explains. “Leadership can be taken a step further with the philosophy of servant leadership. This approach is based on the idea that leaders should be committed to serving the people they lead – helping them to develop and grow in an environment where they feel valued and respected – rather than seeking personal gain or control. Both roles are important for the success of an organisation and by having the right individuals in the right roles there is a balance between innovation and stability within the organisation” concluded Pienaar-Carstens.

Brackengate 2 precinct grows, with R64.5 million development

REDEFINE Properties' investment at Brackengate 2 Business Park is growing with the Heroldt's Group development, the newest addition to the precinct, representing a R64.5 million investment by Redefine and VDMV. Due to be completed during the first quarter of next year, the development comprises 4 927sqm warehousing and 820sqm office space. The development is enrolled for a Level 1 Edge certification, which targets a 20% reduction in energy, water and embodied energy in materials. Nestled between Planet Fitness and Brights Hardware, its prime position gives exposure to the Bottellary Road intersection with Cecil Morgan Drive.

Redefine's Head of Development and Industrial Asset Management, Johann Nell, says Heroldt's Group is a welcome addition to an already admirable list of companies

that chose the precinct as their home. This includes Massmart, GEA Group, Montague Snacks, Bidvest, Teraco and Amazon Web Services.

The Heroldt's Group, is expanding its national footprint as a supplier of sustainable energy solutions to the conveniently located business precinct in the northern suburbs of Cape Town.

A joint venture (JV) development between Redefine Properties Limited and VDMV Property Holdings, Brackengate 2 is situated where the R300 converges with Bottellary Road next to Stikland and Brackenfell.

Established during 2016, the JV converted unproductive farmland to serviced industrial- and business-zoned stands. The Brackengate 2 project included the upgrade of the Cilmor Road bridge that crosses over the R300 to link Cecil Morgan Drive to La Belle Road; develop-

ment of the on- and off-ramps linking Bottellary Road to the R300; and upgrading of the Kuilsriver river course that runs through the Stikland portion of the development. The City of Cape Town (CoCT) has played an integral role in the successes achieved at Brackengate 2 so far.

The precinct is ideally situated for logistics and warehousing; niche industries benefit from the diverse businesses located at the precinct, which has easy access to the N2 and N1 freeways. Convenient travel to the Cape Town Port, Cape Town International Airport, Stellenbosch and the nearby Stikland and Brackenfell railway stations affords the precinct a substantial centre of gravity.

The remaining three portions available for development at Brackengate 2 measure 2.2ha, 1.9ha and 0.98ha. Once these stands are committed, the Brackengate 2 pre-



cinct will be completely developed, in line with its original 10-year plan.

The Knight Frank Africa report for 2022/23 shows that industrial property, including logistics, is enjoying its lowest vacancy rate since mid-2020 (4.4%). The report notes that rents rose by 1.4% during Q1, "fuelled by the growing prominence of e-commerce and the recovery in the manufacturing and retail sectors".

The Brackengate 2 JV offers Cape Town businesses world-class spaces, aligned with the CoCT's climate change and sustainability energy objectives. Redefine is participating in the CoCT's first electricity wheeling pilot project that is enabling commercial entities to sell electricity back to the City's grid by undertaking a 5.5MWp solar wheeling project on the roof of its wholly owned Massmart Distribution Centre at Brackengate

2. The wheeling project design, with an estimated capital expenditure of R86 million, is being finalised for implementation during 2024 and is expected to take around 60 weeks to complete. It is anticipated that the project will wheel 8.8 million kWh (8.8GWh) to the national grid annually while saving 9.394 tons of carbon emissions.

Nell adds: "Demand for new developments in the City of Cape Town metropolitan

area remains high and supports Redefine's focus to continue to invest in both brown-field and greenfield developments in the commercial, industrial and retail sectors. We are particularly excited about the major refurbishment we have underway at Black River Park, Observatory, and the redevelopment of Golf Air Park in the Airport precinct that is currently in design phase."

SA jetsetters travel less, spend more



SOUTH African business travellers – in line with global trends – are "hitting the road" less often but spending more. The country's corporate travel scene has changed due to a combination of post-pandemic challenges, load shedding and rising inflation, according to travel data from travel group Corporate Travel.

According to Bonnie Smith, GM of Corporate Traveller (a division of the Flight Centre Travel Group), their data shows that the number of travel bookings is down slightly in the first six months of 2023 when compared to the same period in 2019. However, the number of room nights is significantly up and has increased by 88%. "This trend indicates that business travellers are opting to stay longer at their destinations and

planning more meetings during their trips," Smith said in. "We're seeing business travellers clustering meetings to achieve more on each trip."

Despite the decrease in bookings, the Corporate Traveller research shows a significant increase in spending in the first six months of 2023 compared to the same period in 2019. "These increases have been observed both in international and domestic accommodation. Other travel components have also seen a substantial rise in spend: the transactional value for domestic flights has increased by 151%, international flights by 112%, domestic car rentals by 62%, and international car rentals by 224%."

Smith said the reasons for these increases in spend while bookings remain constrained are

varied. "It seems business travellers are leaning towards more premium services. Instead of booking economy flights or standard hotel rooms, they may be choosing business class flights or luxury accommodations."

"Of course, increased prices also play a significant role in the surge in travel spend. Prices for accommodation, flights and car rental are up across the line after the pandemic."

Smith said the increase in travel spend comes at a time when companies in South Africa are feeling the pressure of load shedding and inflation. The changing travel landscape inspired Corporate Traveller to examine the complexities of business travel spending trends in South Africa and globally in a new white paper, "Economic Jet Lag: Understanding

the Impact of SA's Economy on Business Travel". The report reveals how economic shifts have influenced business travel.

"The report reveals that power outages in South Africa aren't just leaving people in the dark; they're reshaping the future of work and business travel. Persistent load shedding is putting the brakes on the hybrid workplace trend, disrupting virtual connectivity, and shaking the foundation of online business events."

"South Africa is pivoting from the global trend, trading in digital workspaces for good old-fashioned offices, thanks to Eskom's power failures," Smith said, adding that face-to-face meetings are poised for a resurgence.

"Power solutions are a financial black hole, forcing companies to opt for the certainty of in-person dealings. Load shedding, ironically, is giving business travel an unexpected boost, making each trip a strategic play for maximum ROI."

Smith said she sees a potential resurgence in 2024 as the economy improves and businesses regain confidence. "However, this doesn't mean it's 'business travel as usual.' The travel spend trends we see emerging will keep both business travellers and travel managers on their feet."

RBS partners with eLearnAfrica for African MBA

THE Rhodes Business School has entered into a partnership with eLearnAfrica to develop a Virtual Learning Environment (VLE) to fulfil the school's goal of enabling its AMBA-accredited MBA to reach into Africa and beyond.

Rhodes Business School, at Rhodes University, is located in the rural city of Makhanda (formerly Grahamstown) in the Eastern Cape.

Professor Owen Skae, Director of Rhodes Business School, said the eLearnAfrica-supported VLE will be operational from 2024. "We are very excited about this as it means our MBA is now more accessible than ever".

Founded in 2000, Rhodes Business School's vision is to "transform business for a sustainable world" and its mission is to "educate and influence responsible business practice, responsibly". The school is recognised as one of the leading business schools for its focus on sustainability and ethical leadership.

"We learnt two things from teaching through the pandemic. Returning to the old 'business as usual model' of 'chalk and talk' is not going to happen like it used to," said Skae. "At the same time, running Zoom or Teams sessions and just displaying your powerpoint slides does not suffice. Students and lectur-

ers want the best of both the digital and the physical teaching world. 'Physical' is key!"

He said the common denominator is having the necessary technology enablement to provide the best teaching and learning experience for students whilst creating a virtual classroom environment for academic staff to deliver effectively, regardless of the mode of delivery.

"Getting the state-of-the-art VLE platform that was needed required partnering with someone who knows what they are doing. Students need the right balance of synchronous and asynchronous interaction that only a top-class VLE can bring. That partner is eLearnAfrica," Prof Skae said. The VLE-enabled MBA will allow the current four two-week block attendances (i.e. two blocks in Year 1 and two blocks in Year 2) to be reduced to one block in each year (i.e. one block in each of Year 1 and Year 2), for the invaluable face-to-face delivery mode.

The Rhodes Business School's essence is "Leadership for Sustainability." Leadership and sustainability principles underline all subjects in the curriculum. Emphasis is placed on business continuity and achieving a balance between economic, social and environmental sustainability. The School applies its unique 4E (Economy,

Ethics, Ecology and Equity) model in its teaching and learning practice. "Management Education is crucial to unlocking Africa's vast potential. Our MBA strives to educate Africa's future business leaders and managers that it 'isn't about how much money organisations make, but how they make their money'. Getting that right is critical to achieving the African Union's Agenda 2063, whilst simultaneously meeting the Sustainable Development Goals and gearing up to take advantage of the African Continental Free Trade Area agreement. The favourable rand-dollar exchange is also a compelling reason to get full value for money in studying for a world class MBA", says Skae. The Rhodes MBA is a coursework degree comprising coursework and a research assignment. The degree is offered on a part-time, modular basis over two years. The admission requirements are, an Honours degree or Postgraduate Diploma, a minimum of three years' work experience and an admission test such as NMAT, GMAT or GRE. Applications close on 31st October 2023.

For more information on how accessible a Rhodes Business School MBA is, email mba@ru.ac.za or visit www.RU.ac.za/BusinessSchool

Opinion

Building sustainable infrastructure for generations: a unifying path forward



By Chris Campbell,
CEO of Consulting
Engineers South
Africa

AMIDST the awe-inspiring accomplishments of our South African athletes, who have united the nation under the banner of excellence, it is imperative that we channel this unity and collective will towards addressing one of our nation's most pressing

challenges: infrastructure development. Just as Banyana Banyana, the Proteas netball team, Kat Swanepoel, and our Rugby team have showcased the strength of unity, our collective efforts can propel us towards a brighter future, where sustainable infrastructure serves as the foundation for prosperity that benefits all.

Infrastructure, the lifeline of a functioning society, lies at the heart of our national

progress. Consulting Engineers South Africa (CESA) recognizes the vital importance of sustainable infrastructure in shaping our economic growth, enhancing the quality of life of our citizens, and securing our nation's future. As we revel in the achievements of our athletes, it's crucial to acknowledge the immense positive impact that well-planned and resilient infrastructure can have on our society.

Decaying infrastructure has far-reaching negative consequences, undermining both economic growth and societal well-being. Inadequate basic services impede commercial and public investment, hindering the potential for a thriving economy. To provide access to healthcare, education, and opportunities for all, we must first ensure access to safe drinking water, proper sanitation, and functional transportation systems.

The recent gas explosion in Johannesburg's Lilian Ngoyi Street (formerly Bree Street) starkly illuminated the need for better understanding and maintenance of our urban infrastructure.

This incident underscores the importance of documentation and technical expertise in ensuring the safety and efficiency of our cities. It also reveals a wider challenge: a shortage of technical skills among professionals and artisans alike. The lack of investment in trade schools and vocational education has left us with an aging workforce and a dearth of skilled individuals capable of maintaining and improving our infrastructure systems.

While the challenges are substantial, a focused and systematic approach can yield tangible solutions. It's imperative that we prioritize key areas for intervention, directing resources and exper-

tise to areas where they can make a significant impact. By addressing critical issues one step at a time, we can steadily overcome the immense obstacles in our path.

Yet, these solutions demand a comprehensive plan that transcends political boundaries and policies that may have contributed to the deterioration in the first place. In this context, power utility Eskom looms large, an issue that demands thoughtful analysis and reform to reverse the damage inflicted by mismanagement and corruption. Eskom's challenges are indicative of a broader problem in our nation's administration and planning, which must be addressed to secure our fundamental well-being.

Lessons drawn from this experience should be used to prevent a similar crisis in our water sector, where similar ills are already

evident. We cannot be seen to be "kicking this can down the road" as well, until such time that we find the phrase "water shedding" becoming part of our daily lives and in the vocabulary of our children and grandchildren across the country.

Temporary water tanks and tankers, which have become permanent owing to corruption, arguably linked to the deliberate sabotage and neglect of functioning water infrastructure needs to be rooted out. Public-private partnerships are imperative if we are to restore the functioning and capacity of countless water treatment plants, which are currently not functional. Let us indeed be serious about declaring a: "War on Leaks", where these losses of potable water continue unabated for months on end, have grown from around 30% and is now edging closer to 40%.

We must be reminded that greatness is achieved through unity and collaboration; and rally together to build resilient and sustainable infrastructure that will stand the test of time and serve generations to come. Building a nation must be characterized by the excellence of its infrastructure, enabling prosperity and opportunity for all.

Let us harness the spirit of "Stronger Together" not only in our sporting endeavours but also in our efforts to construct a future that is defined by sustainable infrastructure, economic growth, and shared prosperity. Together, we can rise above our challenges and ensure that the legacy we leave for future generations is one of progress, resilience, and enduring unity and importantly sustainable infrastructure that serves the needs of our ever growing population.

Opinion

ChatGPT - the ultimate spreader of fake news?

By Lourens Sanders,
Senior Sales Engineer,
at Commvault
SEEMEA



CHATGPT has taken the world by storm in 2023. Unless you have been living under a rock, you will know what it is already – an Artificial Intelligence (AI) chatbot that can answer questions or complete whatever task you set it (not including manual, real-life tasks). The benefits are being widely spoken about: saving time and resources, cutting costs, and creating innovative content, to name just a few.

Potential Pitfalls

Yet it is becoming an increasingly apparent problem that ChatGPT is not always 100% accurate. If asked

something it does not know, the chatbot will confidently give you an answer even if it is wrong and, not knowing differently, most consumers are likely to believe it. In fact, ChatGPT will even argue against users who suggest it is wrong and explain why the answer it gave is correct.

This occurs because ChatGPT is not like a search engine. Search engines collect information from databases, rank the most popular findings, and show the user these results for them to find the answer that they are looking for. ChatGPT, similarly, finds the information in its database, but rather than relaying it to the user exactly how it is found, it creates the answer by making a series of guesses based on the results. That is where it has potential to go wrong and fake news starts to be generated.

But it is not just the creation of answers by ChatGPT that causes the risk of generating fake news. As an AI chatbot, ChatGPT does not have the ability to reason, like humans do. It cannot

identify an opinion piece from a factual news article so takes everything at face value. With fake news estimated to make up 62% of all internet information, the likelihood of ChatGPT finding false information in its discovery phase and relaying it to you as a definitive answer is high.

Furthermore, with its record-breaking fast growing user base, it is likely that users will be asking ChatGPT similar questions and getting similar, if not exactly the same, answers. As a result, multiple duplicates of fake information could end up online. Having been repeated and stated so many times, it will be cemented as fact.

A risky business

However, ChatGPT can be useful across a range of business departments – from marketing to product development. In creating the latest marketing campaign or developing the latest product, many employees will turn to Google for inspiration, perhaps asking the latest pain

points that the industry is experiencing so that they can dedicate their work to solving the issue. With ChatGPT accessible to everyone, it is quickly becoming a useful tool in the idea generation stage of new projects.

Yet, as highlighted above, there is a huge risk of ChatGPT providing an incorrect answer to a question that teams then build a whole product or campaign around. For example, ChatGPT could suggest that an industry problem from five years ago was one of the sector's current pain points. Taking this as fact, a marketing team could build a whole campaign around this idea, resulting in huge reputational damage in which the business is considered to be out of touch and obsolete. Even worse still, if a business was to build a whole product around this supposed pain point, millions of Rands could be invested into a solution that is not needed by their customers. This would not only have a huge reputational impact but also result in a significant financial loss.

Keep the humans!

Mistakes like the above can be avoided if a bit of expertise is applied alongside the technology. Humans should not be taken out of the equation just yet and any information that ChatGPT gives you should be checked – and then double checked – by experts in the field. Who knows if one day our jobs will be completely replaced by robots but, at least for now, human expertise is still essential in business. Think of ChatGPT more as an 'AI co-worker' who helps you out with certain tasks and comes up with ideas but, at the end of the day, you still have to do your part of the job.

This is not to say that ChatGPT and AI, in general, are not valuable. They can save hours of employees' time and come up with some great insights and ideas. ChatGPT is still in its early stages, and new updates are being brought out regularly. It is only a matter of time until it is a reliable source but, until then, businesses must proceed with caution.

New tourism campaign - 'Live South Africa!'

SOUTH African Tourism's North Europe Hub has launched a campaign known as *Live South Africa!*, which focusses on inviting travellers from the Netherlands, Belgium and Sweden to recognize that coming to South Africa is responsible tourism behaviour.

The campaign is based on the premise that travellers from the Netherlands, Belgium and Sweden place high priority on sustainability and responsible tourism.

The Netherlands, as the biggest market out of this hub and the fourth largest market out of Europe, recorded 54 083 arrivals in the period of January to June 2023; 93% of the number in the same period pre-COVID. Other markets within this hub are Belgium and Sweden, recording 19 087 and 12 660 respectively for arrivals between January to June 2023, a statement from SA Tourism said.

Sustainable travel as a driver for consumers travel choices is a key trend out of Europe, with the North Europe region having led this

conversation since 2018 when the flight shaming movement out of Sweden was highlighted.

Acting Hub Head: North Europe, Abby Jacobs, said the North European Hub focus, based on this trend and insight, is to recognise values-based marketing as a lever to reach consumers who are driving the sustainable tourism conversation.

"Authentic South African values of inclusivity, ubuntu and diversity, putting people at the centre, are a central premise of this campaign, and are aimed to appeal to North Europe travellers," she said. "Tourism businesses are pivotal in showcasing our exceptional experiences that travellers want, and as such, have deliberately been placed at the centre of this campaign".

South African Tourism North Europe Hub collaborated with six tourism businesses from various provinces across the country; both small and established; to highlight what responsible tourism means and showcases these products in their campaign.

Innovative packaging solutions trade expo returns to the Western Cape

IT's been six years since the last edition of Propak Cape was held in the Western Cape as the twentieth anniversary show scheduled for October 2020 was cancelled due to Covid-19. This year sees the return of Propak Cape and, with packaging being big business in the region, you don't want to miss this year's event taking place at the Cape Town International Conference Centre (CTICC) from 24-26 October.

Technologies have greatly advanced over the past few years and the latest products and innovations from across packaging, plastics, print, labelling, food processing and related industries will be on display at the show.

Ready to share their industry and technical knowledge, the 160+ exhibitors will be showcasing their latest machinery, equipment, products, and services. It's an opportunity for visitors to see the latest in primary and secondary packaging, cutting-edge equipment in the food processing industry, and the endless possibilities of plastics and newest production techniques and materials. Modern trends in printing-for-packaging and the vital role of labelling will be in the spotlight, and visitors will also gain insight into state-of-the-art production machinery, equipment, and services.

"With packaging being such an integral part of essential industries such as food and beverages, healthcare, cosmetics and personal care, Propak Cape is an important visit for those involved in these industries and across the wider packaging, plastics and related industries," says Mark Anderson, Portfolio Director at Specialised Exhibitions, organisers of the show.

"Our exhibitors are leading industry suppliers and service providers who will be using this platform to showcase latest front-line technologies, innovative machinery, equipment and raw materials, and the most up to date processing techniques," he says. "Visitors will also have the opportunity to see world-class machinery in action during the live demonstrations, discover solutions for improved efficiency and cost containment, and benefit from the daily free-to-attend seminars presented by

industry experts."

Propak Cape is supported by the Institute of Packaging SA (IPSA), Packaging SA, Plastics SA, Printing SA, and the Aerosol Manufacturers Association (AMA). IPSA will be running a one-day high-level Responsible Packaging conference alongside the show on the Wednesday, 25 October. The Aerosol

Manufacturers Association will be hosting a breakfast and half-day workshop, also on Wednesday.

Theme days have been introduced this year with the first day focusing on new products and innovation, and the second day, sustainability. The final day is all about automation, with the future of robot-

ics and automation in packaging and related industries being the focal point. The free-to-attend seminar topics will be aligned with these themes.

"Visitors can register online for free access to Propak Cape, and we encourage all industry players to attend. It's the ideal place to learn about the latest



Propak Cape provides the opportunity to talk with technical experts.

industry trends, meet industry suppliers and service providers, network with industry peers, speak to techni-

cal experts, and source products and services to suit your business needs," concludes Anderson.

For more information and online visitor registration, visit the Propak Cape website www.propakcape.co.za



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SPECIALISED EXHIBITIONS

International Coastal Clean-Up Day – be there for SA!



Image credit: Cape Town Green Map.

PLASTICS SA’s annual Clean-Up & Recycle SA Week, which will take place this year from 11-16 September 2023, plays a pivotal role in promoting environmental sustainability and combating the waste crisis plaguing our beautiful country.

“Plastics SA is proud to announce its 27th year of coordinating South Africa’s active

participation in the International Coastal Clean-up Day (ICC), taking place at beaches across the country and around the world on Saturday, 16 September 2023, which will also be World Clean-Up Day. This year the Clean-Up & Recycle SA Week will again feature numerous clean-ups on beaches, at rivers, water sources

and in communities and neighbourhoods around the country. Highlights of the week include National River Clean-up Day on Wednesday, 13 September and National Recycling Day SA on Friday, 15 September. The culmination of the week’s activities will be on Saturday, 16 September, when South Africans from all walks

of life come together for International Coastal Clean-up Day and World Clean-up Day,” says Douw Steyn, Sustainability Director at Plastics SA.

To further emphasize their dedication and aid in clean-up activities, Plastics SA has increased the number of yellow refuse bags to an impressive 700,000, ensuring that the industry and coordinators of clean-ups can make a substantial impact on cleaning up our beaches and rivers. Cleanup champions in Gauteng and Mpumalanga will also be recognized and rewarded with essential clean-up tools i.e. of bags, gumboots, gloves, rakes and other equipment needed to clean the roadsides and rivers on River Clean-up Day.

“South Africa is facing a waste crisis, and every citizen can make a difference to reduce the amount of litter that pollutes our environment or ends up in landfill. As far as possible, we try to ensure that all the clean-ups that we support are audited and that volunteers register online on our www.cleanupandrecycle.co.za website. This allows us to build a detailed snapshot of the waste landscape in the country, the number of people who participated and how we as an industry can respond and provide support to community initiatives,” Douw says.

“During the entire month of September, Plastics SA with the support of all packaging streams, Producer Responsibility Organisations (PRO’s), various sponsors, businesses, and industries, as well as national and local government entities, community organizations, and municipalities will be conducting clean-ups in an effort to raise awareness about the importance of effective waste management and recycling. This collective effort underscores the importance of collaborative action in addressing environmental challenges. We encourage South Africans from all walks of life to make a difference where they work, live, learn or play this September by participating or coordinating a clean-up in order to create a cleaner, greener South Africa. Together, we can make a lasting difference!” Douw concludes.

The plastics industry taking action

More than **80%** of marine litter originates from inland sources and the plastics Industry in SA has identified river catchment projects to mitigate environmental pollution.

Education, Training and Awareness

Clean-up campaigns

RIVER CATCHMENT PROJECTS

Waste Management

Recycling

Litter booms

OPERATION CLEAN SWEEP

GLOBAL NETWORKS

With your support, Cleanup & Recycle last year saw

over **1 000** clean-ups

500 000 refuse bags distributed

1 600 tons of litter removed

CLEAN-UP ACTIONS IN SEPTEMBER 2023

Clean-up and Recycle SA Week	National River Clean-up Day	Recycling Day SA	International Coastal Clean-up Day	World Clean-Up Day
11-17 September 2023	13 September 2023	15 September 2023	16 September 2023	16 September 2023

The success of these projects is due to the dedicated support of and collaboration with our Industry partners such as the raw material producers, converters, recyclers, Producer Responsibility Organisations, brand owners, retailers, the packaging industry, Government, Non-Government Organisations and volunteers.

www.plasticsinfo.co.za

For more information about Plastics SA and the Clean-Up & Recycle SA Week, please visit www.plasticsinfo.co.za or www.cleanupandrecycle.co.za

Efficient conveyor belt monitoring

TO ensure that packages on a conveyor belt are distributed evenly to downstream stations, it is important to reliably measure conveyor belt utilization. For this purpose, Pepperl+Fuchs has developed the Contour2D sensor system based on a customer application. The solution, which is now available for the entire conveyor technology and intralogistics industry, detects the contours of the packages on the conveyor and uses this information to calculate the conveyor belt utilization. The Contour2D is said to offer the most efficient solution on the market for this application: a single 2-D LiDAR sensor in combination with an intelligent algorithm that sufficiently corrects the shadow effect. The minimal installation effort and fast commissioning make the Contour2D a particularly economical solution for conveyor technology.

When monitoring conveyor belt utilization, the key challenge is to correct shadow effects on the conveyor belt. While conventional solutions use multiple sensors for this, the Contour2D sensor system requires only a single LiDAR sensor. This is made possible by the outstanding performance of the R2000: The 2-D LiDAR sensor from Pepperl+Fuchs not only has the highest angular resolution of 0.042°, but also a scan rate of up to 50 Hz. As a result, the sensor detects the contours of the packages on the conveyor belt with maximum precision. The intelligent software integrated in the Multi Scan Evaluation Unit (MSEU) of the sensor system subsequently corrects the measurement results. In this way, the Contour2D enables reliable shadow effect correction with a single LiDAR sensor.

Since only two components—the sensor and the MSEU—need to be installed, the Contour2D impresses with particularly low hardware costs and minimal installation effort. Compared to conventional systems, the complex configuration required to align multiple sensors is eliminated. Since only one sensor is mounted centrally above the conveyor belt, no major adjustments to the conveyor belt are required. This means that existing systems can also be retrofitted without any problems.

The Contour2D sensor system can be

commissioned in three simple steps: First, the LiDAR sensor and the MSEU are installed on the conveyor belt. The appropriate connection cables are already included in the scope of delivery. The system is then configured via an intuitive Windows application, which allows the detection

range to be adjusted according to the conveyor belt. After a zero scan, during which the contour of the conveyor belt is taught, the system is ready for operation. During operation, the Contour2D detects the occupied part of the conveyor belt as well as the average and maximum height of the con-

veyed material. In addition, a height profile is calculated. Objects outside the configured detection range are reliably ignored. The output data can be integrated into existing customer systems via TCP/IP, while the Windows application displays the results and visualizes the scan data.

Since the sensor system is based on a flexible software platform developed by Pepperl+Fuchs, customer-specific adaptations can be implemented in a short time. In this way, the Contour2D meets the individual requirements of different applications.

efficient detection of conveyor belt utilization with only a single 2-D LiDAR sensor

effort without major adjustments to the machine—even for retrofits

- Reliable shadow effect correction due to highest angular resolution of 0.042° and scan rate of up to 50 Hz
- Minimal installation

- Fast commissioning in three simple steps with intuitive Windows application
- Customer-specific adaptations possible due to flexible software platform.



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Revolutionising safety and efficiency with innovative electrical solutions

FOR over 70 years, the MARECHAL ELECTRIC Group has been a trailblazer in the field of industrial electrical equipment, showcasing unparalleled expertise in Low Voltage electrical connection systems. Established in 1952, this French family-owned enterprise has evolved into a global leader, catering to industries requiring top-notch solutions, and notably excelling in environments laden with challenges such as harsh environments and explosive atmospheres.

Unmatched Expertise

With a strong foundation in manufacturing low voltage electrical connectors ranging from 5A to 1250A, MARECHAL ELECTRIC has been a reliable partner for industries that demand safety, durability, and energy efficiency. This commitment extends to their TECHNOR® brand, which delivers electrical solutions tailored for potentially explosive atmospheres. The company's workforce of around 500 individuals worldwide encompasses research



and development, manufacturing, and commercial expertise, ensuring excellence at every stage.

Pioneering Electrical Safety and Compliance

MARECHAL ELECTRIC is also renowned for its steadfast commitment to electrical safety. The acquisition of Technor in 2013 bolstered the company's position as a market leader in industrial and ATEX environment electrical safety. Rigorous compliance with safety standards and the company's dedication to IEC and IECEx ensure the superior quality and performance of their

technologies.

Sustainable Commitment and Value Creation

MARECHAL ELECTRIC's dedication to commitment and value creation is evident through its team of professionals who continuously innovate to meet customer needs. This commitment to excellence extends to an eco-friendly approach, ensuring measurable paybacks throughout a product's lifecycle. From purchase to maintenance, MARECHAL ELECTRIC's solutions not only enhance operational efficiency but also contribute to a greener

planet by minimising waste and pollution.

Innovative Technology Meets Hygiene

Introducing a groundbreaking advancement, MARECHAL ELECTRIC's technology now comes with an added layer of protection. The incorporation of AG+ silver ions in the new poly handles provides an effective shield against bacterial growth. This innovation holds significant implications for industries like food processing, where contamination risks are high. The technology's durability, compliance with biocide regulations, and robust mechanical performance underscore its effectiveness in maintaining a hygienic environment.

A Legacy of Excellence

With its rich history spanning decades, MARECHAL ELECTRIC Group has solidified its reputation as a purveyor of top-tier electrical solutions. Over the years, the company has amassed patents, design models, and product certificates, driven by a com-

mitment to continuous research and development. The company's culture of collaboration and innovation, ensures a seamless experience for partners, customers, and employees alike.

A Future Built on Quality

The company's commitment to quality is reflected in its ISO certifications across multiple manufacturing sites. ISO 9001 standards are upheld with the objective of enhancing processes, maintaining high-quality manufacturing, and ensuring the training and motivation of employees.

In conclusion, MARECHAL ELECTRIC Group stands as a beacon of excellence, offering innovative electrical solutions that redefine safety and efficiency in industries where uncompromising quality is a prerequisite. With a rich history, a global presence, and an unyielding commitment to advancement, MARECHAL ELECTRIC continues to shape a future where technology, safety, and sustainability converge for a brighter tomorrow.

Powerful all-rounder - IIoT controller

THE IIoT controller is a powerful, communicative, and flexible PLC solution in machine and plant digitalisation. Powerful, because at ambient temperatures of up to 55°C, the 1.3 GHz quad-core processor works at high performance level. Communicative, because it is a true language and translation talent with its various protocols, regardless of whether it is a matter of connections to the IT world or the integration of automation technology I/O data. In addition, even a Plug & Work connection of IO-Link devices is possible – including IODD interpretation. Flexible, as the IIoT controller is freely programmable via CODESYS V3.5.

Managing the device remotely? No problem, the CODESYS Automation Server enables remote debugging and remote web visualisation.

Connection to different clouds

The IIoT controller allows for transmission of the recorded



and prepared data to the most common cloud platforms such as AWS, Microsoft Azure and AnyViz. Furthermore, the IIoT controller speaks the common standard digitisation languages such as OPC UA and MQTT. Whenever data is to be recorded and processed in real-time, I/O's can be read and controlled by using Industrial Ethernet protocols such as Profinet, EtherCAT, EtherNet/IP or Modbus TCP.

For further information from ifm South Africa, visit: www.ifm.com or call 0861 436 772.

Get all the benefits of Marechal® Technology + Antibacterial Protection!

The World Health Organization confirms that it is becoming harder and harder to treat bacterial infections. Regardless of the environment or industry, bacteria are everywhere to be found.

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NEW poly handles, treated with AG+ silver ions, provides a protective barrier and inhibits the growth of bacteria.

BENEFITS

- Broad scope. Applicable to all industries.
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BEYOND CONNECTIONS

Unlocking the puzzle: Decoding the world of DMP

DIRECT Part Marks (DPM) is the intricate language of industry – codes, symbols, and text etched or printed directly onto parts, defying the limitations of labels. Often taking the form of Data Matrix or QR codes, DPMs play an important role in traceability across various sectors, particularly in the automotive and electronics manufacturing industries.

The selling point of DPM codes lies in their permanence, as it is a permanent mark that resists removal, obscuring, or damage. Their usefulness comes to the forefront where traditional labels fail – on textured surfaces that reject adhesion or miniature parts where labels fail to find footing. Their beauty lies in the fact that they are permanent, and they endure as long as the parts themselves, embracing the principle of “cradle-to-grave” traceability.

Beneath their charm, lies the challenge. Unlike their bold counterparts, the traditional black

barcodes on white backgrounds, DPM codes dance in low contrast, etched into the very core of the part. With DPM codes various variables can affect readability, how they appear and then of course, the surface they appear on.

Think of this: DPM codes etched onto curved or uneven surfaces, gleaming with reflections that confuse barcode readers. The surfaces they are placed on are most often riddled with imperfections – granules, stripes, streaks, each adding a layer of complexity to their deciphering and reading. It's exactly here that the brilliance of the new imager-based OMRON V450-H reader steps in, using algorithms created for decoding DPM codes reliably. In this dance of shadows, low-angle lighting and vivid LEDs choreograph the perfect contrast, a spectacle that elevates code visibility.

In this intricate tapestry of industry, DPMs are the woven threads that connect the past,



present, and future. As we seek permanence in traceability, we unravel these codes that can stand the test of time, tracing the lineage of every part. It's a quest that beckons technology to decode the imperfect, the imprinted, the permanent – the silent storytellers of the industrial landscape. OMRON has unveiled its latest breakthrough - the V450-H ultra-rugged handheld scanner. Tailored specifically for industrial direct part mark (DPM) reading, this innovative device sets new industry standards for durability

and performance. With a focus on reliability and ease of use, the V450-H is poised to revolutionize DPM scanning across various sectors.

OMRON's V450-H introduces a cutting-edge solution designed from the ground up to tackle the challenges of industrial direct part mark reading. With its advanced X-Mode decoding algorithms, the scanner ensures consistent readability of even the most damaged, distorted, or complex directly marked codes, achieving remarkable decode rates. The

out-of-the-box performance of the V450-H eliminates the need for extensive setup in most applications, providing users with unparalleled convenience.

For more intricate scanning tasks, the V450-H offers the WebLinkPC user interface, a user-friendly and intuitive configuration tool. This interface streamlines the setup process, making it effortless to optimize the scanner for challenging applications. Whether it's high-density codes or specialized requirements, the V450-H is

ready to adapt with ease.

Equipped with an IP65-sealed charging station, the V450-H guarantees seamless data transmission and reception over Bluetooth within an impressive range of up to 100 metres. The cordless scanner boasts an exceptional capacity of over 50,000 scans per full charge, enhanced by the onboard battery gauge that optimizes operational efficiency. This high level of connectivity and endurance ensures uninterrupted productivity in demanding environments.

In the realm of industrial environments, the V450-H doesn't just meet expectations; it surpasses them. Its robust housing is engineered to endure the harshest conditions, including 2.45-metre drops and exposure to a variety of industrial fluids and chemicals, such as motor oil and brake fluid. Meeting the IEC-60068-2-31 drop-and-tumble standard and the ISO-16750-5 chemical resistance standard, the

V450-H is purpose-built to thrive in the most challenging manufacturing settings.

The versatility of the OMRON V450-H DPM handheld scanner positions it as a game-changer across numerous sectors, including manufacturing, logistics, and automotive. Its ability to decode even the toughest direct part-marked codes, combined with its rugged design, empowers industries to achieve enhanced efficiency and reliability in their processes.

The OMRON V450-H ultra-rugged handheld scanner represents a milestone in industrial DPM reading. With its cutting-edge technology, durability, and user-friendly design, this innovation is set to reshape the landscape of direct part mark scanning. OMRON's commitment to pushing boundaries in automation technology is evident in the V450-H, which will undoubtedly become an indispensable tool across various industries.

Separating Wet Waste from Dry Waste: A Key to Successful Recycling

Do you know what happens to your waste after you've disposed of it? If not, you're not alone. The majority of people tend to toss everything into a single bin, a habit that significantly hinders the recycling process. One vital aspect of effective recycling management is waste separation, which plays a crucial role in enhancing recyclable quality and reducing municipal solid waste (MSW) volume.

In an ordinary trash bin, you'll find all sorts of waste but have you ever wondered what happens to these unseparated wastes? Can they be recycled? The truth is that contaminated waste, such as paper smeared by a greasy plastic bag loses its value. Contaminated waste becomes difficult to recycle, as it becomes costlier, and requires more resources to process.

Once contaminated, waste items end up in a landfill, contributing to environmental degradation and resource wastage. Waste separation, whether it's at home, the office, school or even festivals, is a key component in the effort to divert waste from landfills and maximise the recovery of recyclables.

Fibre Circle, an organisation committed to achieving zero waste-to-landfill, underscores the importance of waste separation at the source. "Our main mission here at Fibre Circle is zero waste-to-landfill, and to make that happen we encourage recycling as much waste as possible. One of the critical ways to achieve this is to separate waste so no recyclables are contaminated," says a representative from the organisation.

Persuading people to separate their waste remains a challenge. However, the number of concerned citizens is on the rise, recognising that waste separation at the source is crucial on multiple fronts. It empowers individuals to connect with the products and packaging they consume while creating a more efficient system for recycling.

To ensure the maximum recovery of recyclables, here are some guidelines to follow:

- These paper products are recyclable: cardboard boxes, food and beverage cartons, office papers, newspapers, magazines, books, catalogues, tissues, receipts, envelopes, paper bags, paper cups, and other paper-based waste.
- Remove straws, and plastic caps and rinse and flatten milk beverage cartons for easier sorting.
- Clean plastic water bottles by removing the cap, neck, and label to expedite the sorting process.
- Rinse plastic bags, cans, and glass whenever possible to prevent contamination.
- Absolutely NO food scraps should be mixed with recyclables.

By following these guidelines, we can all contribute to a more efficient recycling system, reduce landfill waste, and protect our environment. It's not just about segregating trash; it's about building a sustainable future for generations to come. It's time to separate, not contaminate.



Why separating dry waste from wet waste at the source is crucial for the environment and economy

A legacy of quality, innovation, and adaptation



Robin Uys (Group MD).

IN the heart of the Western Cape, Cape Bag Group has stood as a testament to resilience, innovation and unwavering commitment for nearly nine decades. Since its inception in 1935, the company has evolved from its humble beginnings into a leading force in the bag manufacturing and packaging industry, serving diverse sectors with a comprehensive range of products. To understand Cape Bag Group's journey, it's essential to delve into its history, values, and the

array of offerings it provides today.

Roots and Growth:

The story of Cape Bag Group began in 1935 when the first seed of entrepreneurship was planted. What began as a small bag manufacturing plant has now blossomed into a conglomerate comprising several companies, each contributing uniquely to the group's success.

Throughout its history, Cape Bag Group has consistently focused on producing quality bags that cater

to various industries' specific needs. Reflecting on the journey, Robin Uys, Group Managing Director, shares, "We've come a long way from our beginnings. Our journey is a testament to our team's dedication and our ability to adapt to changing market dynamics."

Diverse Offerings:

Cape Bag Group's offerings are as diverse as the industries it serves. The group comprises several companies, each specializing in differ-

ent areas to fulfill an array of requirements:

- Cape Bag (Pty) Ltd: The manufacturing division and the cornerstone of the group. Known for its bag manufacturing prowess, Cape Bag supplies an extensive range of bags to sectors such as agriculture, construction, mining, and more. From off-the-shelf options to tailored specifications, Cape Bag delivers solutions that meet the unique demands of each industry.

- Cape Twines & Packaging: Operating since 1969, this division has grown to become a trusted name in the packaging sector. With a product range catering to local, national, and international markets, Cape Twines & Packaging offers tarpaulins, woven polypropylene material, canvas, shade cloth, and more. This division's commitment to quality and innovation aligns seamlessly with the group's ethos.
- Cape Bulk Bags (Pty) Ltd: Acknowledged for its expertise in bulk bags, this division adds another layer of diversity to Cape Bag Group's portfolio. From FIBC bags to specialized bulk solutions, Cape Bulk Bags ensures safe and efficient transportation of bulk materials, contributing to industries' smooth operations.
- African Bag and Hessian (Pty) Ltd: A testament to the group's reach, this subsidiary serves as an importer and stockist of industrial and agricultural bags, canvas, hessian fabric, jute, and more. This division's offerings highlight the global network Cape Bag Group has established over the years.

As the group continues to evolve, Robin Uys emphasizes, "Our journey is ongoing. We're adapting to changing market dynamics, exploring innovative solutions, and expanding our offerings to remain at the forefront of the industry."

A Unified Future:

With its rich history, diverse offerings, and commitment to excellence, Cape Bag Group is poised for a promising future. The ability to adapt, innovate, and provide tailored solutions has been the cornerstone of its journey. As the global landscape evolves, Cape Bag Group stands ready to continue its legacy of quality, innovation, and dedication to its clients and industries at large.

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New data shows major SA brands are meeting plastic collection and recycling targets

NEWLY released data shows that several major South African brands are meeting targets when it comes to collecting and recycling the plastic packaging in which their products are sold, and keeping it out of the environment.

“The results we’ve achieved are due to the commitment of our members. We appreciate their partnership and inputs in navigating this new EPR space together.”

The audited data was released on June 8 by the country’s longest-standing producer responsibility organisation (PRO, PETCO. It represents 2022 collection and recycling rates for the products its members have registered with the organisation, comprising mainly PET bottles, jars and their labels and closures.

These members include Pick n Pay, Woolworths, Unilever, Tiger Brands, Twizza, The Beverage Company, Coca-Cola and

PepsiCo, among others. This comes one year after the promulgation of the Section 18 amendment to the National Environmental Management: Waste Act. Outlining now-mandatory extended producer responsibility (EPR),

the sustainable design of product packaging and supports the nationwide collection and recycling of PET bottles and their associated plastic closures and labels that end up in the same waste stream.

In 2022, PETCO members placed 121 369 tons of packaging on the South African market, comprising mainly PET beverage bottles, home and personal care bottles, edible oil bottles, food bottles and jars, plus their associated labels and closures, as well as minor volumes of PET strapping, shrink sleeves and thermofoms.

Of this volume, 69%, or 83 967 tons of post-consumer packaging, was collected for recycling, with a total recycling rate of 66% achieved.

In addition, PETCO’s financial support for one of its contracted recycling partners facilitated the availability of 25 000 tons of food-grade recycled PET (rPET) for inclusion in new product packaging, helping the broader sector to meet

its recycled content targets.

The data also reveals that PETCO helped its members surpass Year 1 government targets for collecting:

- PET beverage bottles
- plastic PET oil bottles
- single-use PET products – covering home, food and personal care
- polyolefin rigids

PETCO chief executive officer Cheri Scholtz said she was proud of the role the organisation played in driving change across the packaging value chain towards a circular economy in which “packaging can be repurposed back into packaging”.

While PROs struggled to come to grips with the Year 1 reporting requirements set by the Department of Forestry, Fisheries and the Environment, Scholtz said the organisation had used its 17 years of experience operating under a voluntary model to assist its

members in transitioning to the mandatory EPR environment.

“The results we’ve achieved are due to the commitment of our members. We appreciate their partnership and inputs in navigating this new EPR space together.”

Scholtz said PETCO had developed a new, more robust EPR declaration system to simplify the reporting process for members.

“In order to report more accurately on the various identified products for which we’ve enabled the collection, PETCO undertook a bale characterisation study to better understand the typical composition of a PET bale which is purchased by our contracted recyclers.

“In combination, through our member declarations, regular recycler audits and bale sampling assessments, we are able to report with greater granularity. This assists us to meet our DFFE reporting requirements and shows our diverse membership how we are tracking their particular identified products,” said



Cheri Scholtz

Scholtz.

This year, PETCO also introduced an EPR scheme for liquid board packaging (LBP), which will be included in the reporting for Year 2.

“In offering an EPR scheme for LBP, we see immediate synergies for a number of our members that already sell products in both PET and LBP. We also know that the waste streams within which we work are not exclusive to PET and, as such, expanding our focus to include LBP is relatively simple for

our teams in the field.

“In Year 2, we will continue with our member engagement workshops and work closely with our members for higher impact.

“PETCO remains committed to working with our members and all tiers of government to achieve EPR regulatory targets and to enable our members to meet their reporting requirements, both Section 18 EPR requirements and their own. We’ll continue to lead the implementation of EPR in South Africa,” said Scholtz.

WESSA partners with eWASA to ‘Transform Waste Management’

THE EPR Waste Association of South Africa (eWASA) has announced its strategic partnership with the Wildlife and Environment Society of South Africa (WESSA). WESSA is dedicated to advocating for sustainable solutions, conservation, championing policy initiatives, and promoting environmental awareness that leads to a healthier planet.

At the core of this partnership lies a shared commitment to mitigating the environmental impact of waste and promoting sustainable practices within communities. eWASA, renowned for its championing responsible waste management practices across the Electrical and Electronic Equipment (EEE), Lighting, and Paper and Packaging sectors, recognises the potential to effect lasting change through education and awareness.

eWASA will support and assist WESSA in the implementation of comprehensive environmental education initiatives that target learners, teachers, and communities through its Eco-Schools Programme across ten schools in the Western Cape and ten schools in Gauteng.

“This partnership underscores our commitment to ushering in a future where responsible waste management and circular economy principles thrive,” states Helena Atkinson, CEO of WESSA. “We firmly believe that empowering our youth

with environmental knowledge and instilling a deep-rooted ethos of sustainability is pivotal to achieving this vision.”

Cindy-Lee Cloete, Head of Programmes and Projects at WESSA, said, “This initiative will lay the groundwork for comprehensive environmental education, fostering a profound understanding of the importance of sustainable practices and environmental stewardship. We are proud to be associated with

eWASA in taking this project to our communities.”

One of the primary objectives of this project is to engage schools actively, as well as local small, medium, and micro enterprises (SMMEs) operating within the recycling sector, with a specific focus on the regions of Cape Town and Gauteng. This endeavour aims to establish robust collaborations and provide support for waste management initiatives and recycling depots.

“By combining the expertise of eWASA and WESSA, we embark on a journey towards a more environmentally aware and resilient South Africa,” comments Keith Anderson, CEO of eWASA. “Our collective efforts will serve as a catalyst for meaningful change, enriching the lives of individuals, schools, and communities alike. “This alliance not only underscores the influence of strategic partnerships in effecting change

but reinforces South Africa’s commitment to global sustainability objectives. Through eWASA’s visionary approach, coupled with the expertise of WESSA, the nation is poised to make tangible strides in curbing waste, bolstering circular economy practices, and ensuring a greener tomorrow.”

The eWASA and WESSA Waste Management project began on 01 August 2023 and will end December 2027.



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Pick ‘n Pay set to roll out more RVMs

By Sue Segar

ON the back of the success of the reverse vending machines (RVMs) which the Pick ‘n Pay Group has set up on 11 sites in the Western Cape and Gauteng, the group is set to roll out another 50 machines nationwide over the next six months.

The rollout is in the planning phases whilst awaiting to secure funding, according to Steffen Burrows, head of Group Sustainability for the Pick ‘n Pay Group.

Reverse vending machines allow consumers to insert used or empty bottles and other items in exchange for a reward, so that they can be recycled. The machines enable customers to be rewarded for recycling waste products, including plastic, cans, coffee cups, Tetrapak, glass and refillable items.

Burrows said the project has been a



Steffen Burrows.

success since the first machine was set up 18 months ago at Pick n Pay’s flagship store at the Nicol Shopping Centre in Sandton. Since then, machines have been installed at stores in the V & A Waterfront in Cape Town, at Camps Bay, as well as in Constantia, the Kenilworth Centre, the Douglasdale Pick n Pay; the Pick n Pay Expo and the Plastic Collo-

quium.

“There are three machines at Nicol Shopping Centre and two at the Waterfront – one at the Pick n Pay and another at the V & A Waterfront Breakwater Parking site,” said Burrows.

“Our annual figures for the last 12 months are good and we are now ready to expand.”

In a nutshell, the machine works as follows, Burrows



explained: “The consumer arrives at the RVM location. The consumer inserts their recyclable waste into the RVM. The consumer enters their cellphone number for identification. The rebate for their deposit is paid into their digital wallet. The consumer qualifies for rewards and circular coupons. The consumer cashes out with in app rewards partner.”

Providing data on the success of the recycling project, Burrows said so far the machines have had 22 000 users over the 11 sites.

“Close to 280 000 units have been recycled; we have had nearly 20 000kg of recycled material; and we have paid out our customers over R5 800 for the recycling materials. While the financial numbers are small,

it’s the fact that people are actively making an effort to recycle that is important.”

Burrows said 56 percent of the users were women, 35 percent not assigned.

“The most prominent users (40 percent) were aged between 21 and 40; with the second biggest user group (33 percent) aged 41 to 60; while 15 percent of the users were over

sixty.”

Burrows said, in the rolling out of the next machines, the Pick n Pay group will link the machines to its Smart Shopper programme. “This will mean that customers who use these machines can receive Smart Shopper points and discounts on certain products.

Pick n Pay partners with Imagined Earth, the company which makes the machines for the project, through a rental arrangement, and is currently in negotiations with a number of companies with a view to setting up sponsorship deals whereby the companies sponsor the rentals and get advertising space on the machine in return.

Burrows said that, currently the machines can only be used by people with smartphones.

“We are looking at a USSD solution for those without smartphones going forward,” he said.

The SA Plastics Pact

What it is; how it started; and how its member companies are striving to create a circular economy for plastic packaging in South Africa?

CBN talks to Roan Snyman, expert analyst in the Circular Economy team at GreenCape; and stakeholder lead of the SA Plastics Pact.

QUESTION: What is the South African Plastics Pact?

Roan Snyman: The SA Plastics Pact is a collaborative initiative that brings together key stakeholders from the local plastics value chain, including businesses, the government, Producer Responsibility Organisations (PROs), NGOs and other key players to tackle plastics waste and pollution at its source. The business members rep-

resented include resin producers, packaging manufacturers, brand owners and retailers, converters and recyclers.

What is the aim of the SA Plastics Pact?

The SA Plastics Pact aims to stimulate industry-led innovation and dialogue to work towards a circular economy for plastic packaging, with improved economic, environmental and societal outcomes. It also aims to come up with new business models and to generate jobs.

The SA Plastics Pact aligns with the Ellen MacArthur Foundation’s New Plastics Economy vision, a global vision which aims to encourage collaboration so that plastic never becomes waste or pollution. It also works towards a set of four targets by 2025 aimed at a circular economy for plastics in SA.

delivery models;

- To ensure that 100 percent of plastic packaging is reusable, recyclable or compostable;
- To ensure 70 percent of plastic packaging is effectively recycled or composted;
- To ensure a 30 percent average of recycled content across all plastic packaging.

When was The Plastics Pact launched in SA and how did it come about?

The SA Plastics Pact was launched in January 2020 and the development of the SA Plastics Pact was facilitated by WWF-SA together with the Ellen MacArthur Foundation (EMF), an international NGO, as well as the South African Plastics Recycling Organisation (SAPRO). The SA Plastics Pact is part of a global network of 14 Pacts, led by EMF and WRAP (a climate action NGO working around the globe).

Recently, five new members signed up, including Food Lovers’ Market, Naspers and Sir Fruit as new business members, as well as the Consumer Goods Council of South Africa (CGCSA) and the City of Johannesburg (CoJ) as supporting members. Other retailer members include Pick ‘n Pay, Woolworths, SPAR, Takealot, Mr Delivery and Clicks.

What role do supporting members play in the Plastics Pact?

Supporting members, such as the CGCSA and the CoJ play a vital role in enabling circularity for plastic packaging through industry-wide actions, research to support an evidence-based approach to circularity, and education and awareness.

The CGCSA acts as a representative body for the entire consumer packaged goods industry and has more than 9 000 member companies across the packaged goods value chain, representing retail, wholesale and manufacturing sectors and can play a significant role in helping to engage with more brand owners, retailers and manufacturers and

in facilitating growth in a circular economy for plastic packaging in SA.

The CoJ is the second metropolitan municipality to join the SA Plastics Pact after the City of Cape Town. Metropolitan municipalities can play a key role in South Africa’s recycling economy, particularly in terms of separation at source.

What have been some of the achievements, to date, of the SA Plastics Pact?

Key highlights published in the 2021 annual report include:

- Target 1: 34.7 million fewer problematic or unnecessary items were sold/distributed by members in 2021
- Target 2: 81.2% of plastic packaging placed on the market by members is currently recyclable in South Africa, compared to 80.7% in 2020.
- Target 3: The amount of plastic recycled in South Africa in 2020 was 43.2% of the total plastics placed on the market in 2020, with a 35.4% recycling rate for plastic packaging.
- Target 4: 20.8%



Roan Snyman.

We value your input

Only through your input can we continue to improve.

- Comments
- Suggestions
- What would you like to hear about

editor@cbn.co.za

What are the four targets for 2025?

- Taking action on problematic or unnecessary packaging through elimination, redesign, innovation or alternative (reuse)

How many members are in the SA Plastics Pact – and who are they?

To date, there are 48 member organisations.

Average recycled content across consumer/primary packaging is 11.7% with retailer/secondary and logistics/tertiary packaging remaining largely the same at 37.1%.

What is GreenCape – and what is its role in the SA Plastics Pact?

In terms of the Plastics Pact, GreenCape is the secretariat. GreenCape is a non-profit organisation that drives the widespread adoption

of economically viable green economy solutions from South Africa.

Many companies want to be part of a green economy but don’t have the information or don’t understand the regulations or they don’t know how to focus efforts to ensure success. We are there to help.

Any organisation interested in joining the SA Plastics Pact, please reach out to Roan on roan@green-cape.co.za

Uptake of Coke's 1,5 returnable PET bottles is growing

By Sue Segar

MORE than 30 years ago, the Coca-Cola Peninsula Beverages Company (CCPB) – a franchise bottler of the Coca-Cola Company which operates in the Western and Northern Cape – introduced a 1,5 (litre) Returnable PET bottle to contribute to returnable portfolio.

Today, the uptake of this returnable initiative is getting better all the time, said John Joubert, the Commercial Director of CCPB.

Interviewed by Cape Business News, Joubert said CCPB has existed for more than 80 years and has always had returnable packages in their portfolio.

"Originally we had 175 ml and 300 ml returnable glass bottles. Then, 31 years ago, we launched the 1,5 returnable PET

bottle, which we call REF-PET, a refillable plastic bottle which is a very big part of our portfolio.

"At the moment it makes up about 11 percent of the contribution to our total sales. It's the second biggest pack within our portfolio and doing exceptionally well for us," Joubert said.

"Currently we have a 200 ml returnable glass bottle for pubs, clubs and restaurants which is only in brand Coke, as well as a 300 ml returnable glass bottle which is in brands Coke, Fanta, Sprite, Stony and Coke No Sugar.

"Another big pack of ours which does really well in the Western Cape and is exclusive to the Western and Northern Cape, is a 500 ml returnable glass bottle which is in Coke, Coke No Sugar, Fanta, Sprite and Stony. This



John Joubert.

bottle is seven percent of our total contribution to sales, together with the 1,5 litre REF-PET containing Coke, Coke No Sugar, Fanta, Sprite, Stony, Lemon Twist and Granadilla. Twist makes up 18 per-

cent of our mix."

Joubert said the total contribution of returnables to their portfolio is 20 percent. "By global standards, this is high and is part of our commitment to a world without waste.

We want to create a situation whereby we are recycling more virgin packaging material that we put into the trade on an annualised basis. "That target has been set for 2030, and we are well on our way to achieve that, where the 1,5 REF-PET plays a significant role. The use of the returnable, refillable, 1,5 litre bottle means we can get between 15 and 18 cycles of that bottle, meaning we are collecting, washing and refilling it 18 times which obviously reduces the solid waste we are putting into the environment.

"We target it as the most affordable way to purchase one of our beverages on a rand per litre basis. The 1,5 litre returnable REF-PET sells for R15 and there's a R3 deposit on the bottle so people would return it to buy a new bottle and only pay

for the contents (R15) or they return the bottle and get the refundable deposit of R3. By incentivising the consumer we ensure the bottles are returned.

"As a scheme this has worked very well for us."

Joubert said the uptake of the REF-PET bottles has grown at a compounded annual growth rate at 3 to 5 percent over the years, and contributes eleven percent to its total portfolio.

Turning to another recycling development, Joubert said: "We replaced the ACL printed ink label on the plastic bottles, two years ago, allowing the use of generic bottles, but now with a paper label. We now have the flexibility to use one generic bottle for different brands by simply applying an easily removable paper label. "The paper label

communicates the contents to the consumer but importantly when you remove the paper label the bottles are much easier to recycle.

"A further advantage is when it comes to end of its life span after 15 to 18 trips it is much easier recycling a clear PET bottle into some other form of usable product."

Joubert said Coca-Cola Beverages SA (CCBSA) which has the bottling franchise for Coke in the rest of South Africa, launched a two-litre returnable PET bottle about three years ago although it isn't available in the Western and Northern Cape. "With our commitment to a world without waste, we aim to increase the contribution of returnable glass and PET bottles, believing we can make a difference to the environment that really matters, he concluded.

Combating illegal e-waste dumping: a call to action

THE global surge in technology adoption has brought about numerous benefits, but it has also led to a concerning rise in illegal e-waste dumping. This dangerous practice not only harms the environment but also poses health risks to communities.

The producer responsibility organisation (PRO) Circular Energy is taking a strong stance against this growing issue and is calling on government, industries, and consumers to collaborate in eradicating

illegal e-waste dumping.

Consumer behaviour crucial in the fight against illegal dumping E-waste, consisting of discarded electronic devices, is a complex issue, exacerbated by the hazardous components within these items. Improper disposal techniques used in illegal e-waste dumping frequently have negative effects on the environment and human health.

Patricia Schröder, spokesperson for Circular Energy emphasises that Illegal e-waste dumping has

far-reaching implications. "It poses a threat to the health of communities that are already susceptible. It also contaminates soil, water, and air. To deal with this threat, fast action is required. For instance, government and businesses can work together to close regulatory gaps and impose severe fines on those responsible for illicit e-waste dumping. This will send a clear message that these actions will not be tolerated."

According to Schröder, consumer be-

haviour also plays a pivotal role in combating the issue. "Our choices as consumers hold immense power. By disposing of our electrical and electronic products responsibly, we can create a shift towards responsible recycling and discourage illegal dumping."

Proper disposal as easy as making one call or drop-off drive To facilitate responsible disposal, Circular Energy has partnered with Woolworths to establish drop-off points across the country, with

containers for small portable batteries and household lamps.

"This initiative aims to make it easier for consumers to dispose of these items properly," Schröder explains. "By utilising these drop-off points, consumers can contribute to responsible waste management and help prevent the escalation of illegal e-waste dumping."

To make matters even easier, consumers can also request collection through Circular Energy's website, ensuring that responsible

disposal is within everyone's reach. (<https://circular-energy.org/request-collection/>)

"This service empowers consumers to be part of the solution without compromising convenience," she explains. "For instance, we recently received a call from a concerned citizen, informing us of illegally dumped fluorescent tubes in a roadside rubbish bin in Gauteng. Our team responded swiftly to remove these tubes and recycled them in a responsible manner."

She concludes by pointing out that Circular Energy's comprehensive approach encompasses not only consumer education but also industry collaboration.

"We advocate for extended producer responsibility, urging manufacturers to take accountability for the entire lifecycle of their products. By promoting responsible manufacturing, usage, and disposal, Circular Energy aims to close the loop on the e-waste issue."

Using art and song to help tackle South Africa's plastic waste crisis

A new collaboration aimed at changing behaviours through art, song, comedy and practical measures, has resulted in the successful diversion of seven tons of plastic waste from the environment in Mpumalanga.

Researchers from the University of Portsmouth's Revolution Plastics team and the Department of Agriculture, Rural Development and Environmental Affairs (DARDLEA) partnered with UK-based charity WasteAid to run a pilot study in Mpumalanga's Thembelesane Local Municipality. They combined creative ways to educate peo-

ple about the dangers of dumping and burning waste with on-the-ground action to increase waste recycling, including supporting informal waste collectors and introducing community drop-off points for recyclables.

The pilot study has made promising strides in combating the problem of plastic waste; with two-thirds of local people reporting a positive change in their environment as a direct result of the project. A survey of local residents showed that arts-based methods - in particular the creation of murals - were significant drivers in the success of the project.



Murals sensitised 86 percent of those who saw them on how to separate waste; and changed the attitudes and behaviours of 80 percent of those who saw them, the study found. By the end of

the project the amount of waste managed by burning or dumping had fallen by 27.7 percent.

The uncontrolled disposal of plastic waste in the area poses a severe threat to

the environment and human health, with waste often burned, contributing to climate change and poor air quality.

WasteAid worked closely with the community to implement

strategies to enhance plastic waste collection and boost the revenue for local collector groups. The project focused on both supply-side factors, such as educating households on better waste separation and providing collection bins, and demand side factors, including training collectors on the types of plastics with value and promoting good business management. Additionally, the project facilitated connections with off-takers committed to purchasing plastic waste regularly from collectors.

The University of Portsmouth created a sensitisation campaign to support the pilot

scheme. Collaborating with local stakeholders including artists, musicians, and waste collectors, the campaign aimed to demonstrate the value of waste and raise awareness about the harmful impacts of dumping and burning waste on human health.

The campaign resulted in nearly 21 percent of community members surveyed saying that they now use the community bins for better waste separation and segregation. Two-thirds of respondents noted a positive change in their environment, with nearly half attributing the transformation to the presence of community bins.

Ifm's speed monitoring technology for conveyor belts



CONVEYOR belts are the unsung heroes of various industries, ensuring the smooth and efficient movement of materials, products, and components throughout the manufacturing process. However, the reliable operation of conveyor systems relies heavily on accurate monitoring and control, particularly when it comes to maintaining appropriate belt speeds. Ifm, a globally recognised leader in

industrial automation and sensor technology, has introduced innovative speed monitoring solutions that address the critical need for precision, safety, and efficiency in conveyor belt operations.

Conveyor belts are the circulatory system of industries, transporting goods with unmatched efficiency and speed. The optimal operation of conveyor belts hinges on maintaining the appropriate speed.

Irregularities in speed can lead to a cascade of issues – from decreased productivity and compromised product quality to potential safety hazards. This is where Ifm's speed monitoring technology comes into play, offering a comprehensive suite of solutions tailored to various industries and applications.

One of Ifm's standout offerings is its non-contact inductive sensing technology. This method involves using sensors

that can detect metallic targets without any physical contact. In the context of conveyor belts, this technology can be employed to monitor rotational speed. A small metal target is affixed to the rotating component of the conveyor system, and the sensor detects the target's passing frequency to calculate the speed. The non-contact nature of this technology ensures minimal wear and tear, reducing maintenance needs while maintaining accuracy.

Accuracy is of utmost importance when it comes to speed monitoring, especially in industries where precision is non-negotiable. Ifm's technology boasts impressive accuracy levels, often reaching deviations of less than 0.1% from the actual speed. This level of precision translates to enhanced quality control, reduced material wastage, and improved overall efficiency.

However, accuracy

alone is not enough to ensure the seamless operation of conveyor belts. Reliability and real-time monitoring are equally crucial. Ifm's speed monitoring solutions offer continuous data transmission, enabling operators to have a real-time view of the conveyor's speed. This instant access to critical data empowers operators to make informed decisions promptly. Furthermore, Ifm integrates its sensors with automation systems, allowing for automatic adjustments to maintain the desired speed and prevent deviations.

Safety is paramount in industrial settings, and conveyor belts are no exception. Inadequate speed monitoring can lead to accidents, equipment damage, and even personnel injury. Ifm addresses these concerns with its safety-oriented features. Emergency stop systems can be integrated with ifm's

sensors, ensuring that if an abnormal speed is detected, the system can be halted instantly to prevent any potential mishaps.

Adapting to the diverse needs of various industries, our speed monitoring technology offers a range of sensor options. From inductive sensors to magnetic encoders, each technology has its unique advantages, making it suitable for different conveyor systems and environments.

A notable feature of our technology is its user-friendly interface. Setting up and calibrating the sensors is intuitive, thanks to well-designed interfaces and clear instructions. This ease of use minimises the downtime associated with installation and ensures a smooth integration process.

Environmental conditions can pose challenges to many industrial technologies; however, IFM's speed

monitoring solutions are engineered to withstand harsh conditions. Dust, moisture, and temperature variations are common in industrial settings, with ifm's sensors these challenges are handled without compromising accuracy or reliability.

In conclusion, Ifm's speed monitoring technology for conveyor belts emerges as a crucial innovation in the realm of industrial automation. Its non-contact sensing technology, coupled with exceptional accuracy and reliability, positions it as a frontrunner in the market. The focus on safety features and the adaptability to diverse industrial contexts further solidify its value proposition. As conveyor belts continue to be the backbone of industries worldwide, Ifm's speed monitoring technology ensures that this backbone remains sturdy, efficient, and secure.



To meet the rise in demand, Steinmüller Africa has expanded its Middelburg depot to accommodate over 24 000 items for hire.

Plant and equipment hire services expanded

STEINMÜLLER Africa, a solution provider and manufacturer of equipment to the power and process industry, has expanded its plant and equipment hire services through its Middelburg depot. The company now offers a pool of over 24 000 items, including cranes rang-

ing from 5 to 400 tons, trailers, tractors, welding machines, generators, rigging, grinding, and drilling equipment.

The Middelburg depot serves clients in the power generation, petrochemical, chemical, mining, renewable energy, pulp and paper, construction, and general indus-

trial sectors. To date, the depot has handled plant projects in Sasolburg, Rustenburg, Newcastle, Richards Bay, and Eskom power stations in Mpumalanga.

"We are committed to providing our clients with the best possible service and ensuring that their high standards

are upheld. With our hire solutions, clients can get their projects up and running quicker while mitigating equipment ownership costs," said Mpho Muvhango, Corporate Communications Specialist at Steinmüller Africa.

The company has simplified its equipment hire process. Muvhango pointed out that its equipment hire agreements are tailor-made to each client's requirements and are subject to availability. All equipment complies with nationally recognised safety standards and is issued with safety certificates. The company additionally has a devoted Lifting Machine Inspector, ensuring the utmost quality for clients.

Muvhango added that the company also offers expert advice to their clients on equipment selection: "Our team assesses our clients' projects and provides them with a comprehensive and optimised solution," she said.

Steinmüller Africa is a manufacturer and provider of comprehensive solutions, products and services throughout the lifecycle of plants in the power and process industries. In addition to the planning, maintenance and repair of complete power generation plants, the company also designs and manufactures power plant components, at its workshop in Pretoria.

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River Club development takes shape

By Sue Segar

WITH the first major high-rise blocks visibly nearing completion – windows installed on all levels and cranes and pile-driving machines now operating on a neighbouring piece of land, signalling the beginnings of another major building to be constructed – CBN requested a progress report on the River Club development in Cape Town.

The R4,3-billion development, being built in Observatory by Liesbeek Leisure Property Trust (LPPT), will have e-commerce giant Amazon as its anchor tenant on the 15 ha plot. Who the other tenants will be has yet to be revealed.

A legal battle to halt construction of the development ended in a settlement with the City of Cape Town earlier this year.

Asked for a construction update, Tracé Venter, the chief operations officer at public relations firm Resolve Communications (who are handling the development's PR), provided an update across a number of areas in the development. Venter said construction work is well under way on the site.

"On Phase One, the developer work has been completed, with tenant internal fit in progress. Occupation is expected in the third quarter of 2024," she said. "due to confidentiality and the Promotion of Access to Information Act (POPIA), LLPT cannot share any information on prospective tenants and their plans for the development."

"Phase two, the development of a retail shopping centre along with further corporate offices for blue chip tenants, is under construction and is expected to open December 2024," she added.

"The residential component: including inclusionary housing units will be launched at the end of 2023.

"The Heritage Centre: construction will commence in January 2024 with the building plans currently with the City of Cape Town for approval. The plans were finalised following ongoing consultation with, and inputs received, from the Western Cape First Nations Collective (WCFNC) and a specialist architect recommended by the WCFNC. Leaders of the WCFNC are currently on a road-



Artist's impression of part of completed campus.

show visiting First Nations groups who are members of the Collective (including leaders of the San and Bushman in the Northern Cape and Namibia) to update them on the development and plans."

In terms of the gardens and ecological corridor, Venter said that over 1 million plants are currently under propagation with planting and landscaping expected start in the upcoming drier seasons.

In terms of infrastructure: "Work on roads, water and electricity infrastructure is also well under way including the completion of a power substation with all sewerage works expected to be completed by September 2023. The new road and bridge linking Berkley Road in Nda-beni to Liesbeek Parkway will be completed in July/August 2024.

Asked to elaborate on the residential component, Venter provided background on the current affordable housing policies governing the development and the plans for the residential units.

"The development is subject to agreed City of Cape Town Zoning conditions on Affordable housing."

In terms of these conditions, at least 20% of the residential floor space should be set aside for affordable housing, as defined in the MSDF applicable at the time of submission of the building plans containing affordable housing residential units.

"The affordable housing component will be integrated with and constructed simultaneously with the open-market residential component. The scale of the total residential floor space is approx. 31 900 m² and as such that the residential units will be accommodated in one or more buildings which will be devel-

oped in stages.

"The intention is to sectionalize the buildings in this Precinct into a mixed use scheme with residential, offices and retail buildings (to be built in phases). The Affordable dwelling units will be incorporated into the sectional scheme. Buildings Plans are almost completed with the inten-

tion to submit the 1st phase plans in September/October 2023 to the council for approval. "The phasing will be determined by the demand for the open-market units. The developer is going to the market in the last quarter of this year to determine market demand (pre-sales). Once pre sales targets are met,

construction will proceed after building plan approval."

Venter said that, at this stage it is projected that between 500 to 600 units will be developed. "As a result, approximately 100 to 120 units will be allocated as affordable dwelling units - based on the 80:20 ratio. The maximum rental per

month for the Affordable Units will therefore not exceed R 8 160 p.m. (30% of R27 200) at 2023 pricing levels and will be annually adjusted.

"The affordable dwelling units will be let to any person who falls within the Affordable Housing target group definition. Preference will be given to qualifying tenants who are employed by any of the businesses within the development. Given the proximity to the Valkenburg, Groote Schuur and Vincent Palotti Hospitals, as well as the many schools and universities nearby, it would also be ideal accommodation for qualifying health care and education workers and support staff."

Meanwhile, the City of Cape Town has welcomed the development of the property, saying it will hold huge heritage, environmental, economic, infrastructural and other benefits

to Cape Town and its residents.

The City has said, the benefits the development would bring include:

- The rehabilitation of a portion of the Liesbeek River
- The creation of a high-quality green open space
- The establishment of heritage infrastructure in partnership with First Nations groups
- The creation of 5,200 construction jobs and approximately 19,000 employment opportunities
- The establishment of further public transport infrastructure
- An R4.5-billion direct investment injection into the local economy; and
- The delivery of new residential accommodation, including affordable housing

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Terraforce supplies large-scale retaining wall project in India

TERRAFORCE® has supplied over 110 000 L12 blocks for the construction of retaining walls on both sides of Terminal Boulevard, a newly constructed 10-lane thoroughfare which feeds directly into India's Kempegowda International Airport at Bengaluru. Completed in November 2022, Terminal Boulevard has been widened from an existing 2+2 lanes to 5+5 lanes to cater for the addition of a second airport terminal and an

anticipated increase in traffic. Approximately 1.2km of the road has been lined with retaining walls on both sides which cover a total surface area of 9,000m². Running on an east-west axis, the new road was constructed by cutting a corridor, which at its deepest, is nine metres below existing ground level. This has enabled the new road to pass under the airport forecourt roads to facilitate junction-free traffic flows. The excavated corri-

dor resulted in embankments which varied in heights of between 0.5m to 9m and in slope angles of 52° to 77° off the horizontal. After considering various retaining wall options, the Bangalore International Airport Limited (BIAL) project team comprising, Prasenjit Biswas, General Manager Landside Planning, Monnappa BC, General Manager Projects, and Prasannamurti Desai, Vice President Landscape, chose the Terraforce retaining wall system for several reasons, aesthetics having been a major consideration. The blocks also allowed the planting of flowers and other vegetation and the inclusion of hume pipes facilitated the planting of trees. In addition, the Terraforce option required less soil excavation and was more cost-effective than either reinforced concrete or reinforced earthen walls would have been.

The slopes were cut to allow for the insertion of 5m hume pipes to facilitate planting of trees on the vertical slope at every 4 m. Placed on concrete foundations, the pipes were filled with soil and the bottom ends of the pipes were kept open to allow for root penetration into the soil below. Where additional cutting was required, for instance, near bridge abutments or the retaining wall ends, these sections were backfilled with gabion blocks and clad with Terraforce blocks to maintain the required slope angles.

One of the main challenges of this project was the fact that additional cutting into the embankments for the installation of geogrid reinforcement was not possible. This was because the top sections of the excavated embankments were only 2,00m from the upper-level roads and there was no space for the additional cutting. Moreover, most of these sections were operational areas. In addition, the required loading on these roads was up to 45 tons for fire-brigade trucks and other heavy vehicles. Therefore, soil nailing was specified as an alternative to geogrid to keep the slope stable. This involved drilling 115mm diameter holes of up to 9m in length, perpendicular to the slope of the embankment. Nails, 28mm in diameter, were inserted into the holes and grouted with a non-shrinkable cement slurry. Once the nails had been inserted, PVC drainage pipes up to 2.5m long and wrapped in a geotextile membrane were installed - in pre-drilled holes in the embankment at a slight upward incline to the horizontal plane. The drainage pipes were installed in a grid of 3 m by 2m to release



Completed embankment.

entrapped water and to reduce the hydrostatic pressure in the embankment. The slopes were then covered with layers comprising a geodrain membrane, two layers of 8mm steel mesh and 100mm of shotcrete. The geodrain membrane was installed to prevent the leaching of soil and fine material. Steel plates with metal hooks were bolted to the nails and tied to the 8mm steel mesh layer with 100 mm shotcrete. The hooks were used for tying to a second layer of steel mesh after which a second 100mm layer of shotcrete was applied. The steel plates ensure the nails are affixed firmly to the steel mesh and

the shotcrete layers to form a monolithic structure and to prevent the nails from penetrating through the wire mesh and the shotcrete layers. Reinforced concrete shear-key blocks, which arrest both the vertical and lateral forces acting on the Terraforce blocks, were cast to form the foundations of the Terraforce walls. Steel rods were inserted into the hollow portion of the blocks for interlocking between each vertical layer of blocks and the spaces between the block facades and the shotcrete layers were filled with lean concrete.

The bottom block rows followed the slope of the road, and simi-

larly, the top rows were adjusted to match the profile of road or the ground at the upper level. This was done either by stepping the top row or by adding a concrete layer to match the required road or ground profile.

The sections between the top of the Terraforce walls and the upper-level road kerbing was paved with precast concrete paver blocks to prevent water ingress into the retaining wall structure and the soil behind it. However, any water trapped within the embankment structure will drain through the PVC drainage pipes.

The construction of these embankments required a mock-up section to identify constraints in the installation process and to improve the installation methodology and sequencing during the actual installation.

Some of the other challenges were the varying friction coefficients of the embankment soil which was the deciding factor in determining the length of nails. And managing the levels of the walls when both the top and bottom roads sloped at different angles, was another.



L13, L18, L22, M10, M15



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L11, L12, L15, L16

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Leading-edge labs propel R&D, QA

CHRYSO Southern Africa, located in Jet Park, Johannesburg, maintains two state-of-the-art laboratories that form the backbone of its operations. These facilities, the Quality Control and Research and Development Laboratory and the Concrete and Cement Laboratory, support the company's customer across all industries by ensuring quality, safety and efficiency. Mpumi Mlalazi, R&D Manager at CHRYSO Southern Africa, explains that the Quality Control and Research and Development Laboratory has a multifaceted role. "Firstly, it ensures quality assurance and compliance with industry standards and by doing so, strengthens our reputation of reliability and trust."

"The laboratory also offers problem-solving expertise to our customers, ensuring issues are quickly identified and rectified, adding value to their bottom line." The Concrete and Cement Laboratory also has several functions. It conducts comprehensive material testing and analysis, ensuring the quality of cement and concrete chemicals used in industry. Mlalazi explains that by evaluating strength and durability properties, CHRYSO Southern Africa ensures that the materials used can withstand the demanding conditions of the particular application where these materials are being used. "Our team also performs chemical analysis for compliance and optimal performance, and

the laboratory engages in research and development for new chemicals and formulations. We also explore specialised applications and sustainability considerations, and doing this ensures our operations remain environmentally conscious," she says. By harnessing the capabilities of these laboratories, CHRYSO Southern Africa reaffirms its commitment to delivering a customer focused service, meeting the highest quality standards and addressing the specific needs of its customers in Africa. Mlalazi affirms that the CHRYSO laboratories undergo annual audits to maintain its ISO certifications, further demonstrating commitment to quality, environmental respon-



A CHRYSO technician evaluating chloride content.

sibility and safety. "Our ISO 9001 certification is a testament to the emphasis we place on quality management principles such as customer focus, the involvement of top management, a process-driven approach and continuous improvement. Our

ISO14001 certification emphasises our dedication to measuring and actively improving our environmental impact, demonstrating to company management, employees and external stakeholders our commitment to environmental responsibility."

Saldanha IDZ access road - boosts economy

By Sue Segar

IN a development which is set to greatly benefit the Saldanha Industrial Development Zone (IDZ), the Western Cape Provincial Department of Infrastructure recently completed the access road to the IDZ, at a cost of R24 million. The project, which was launched by the Western Cape Minister of Infrastructure, Tertuis Simmers, started in September 2022.

The access road is expected to boost economic activity and revenue for the area, according to Matlhodi

Maseko, the DA Western Cape spokesperson on Infrastructure.

The IDZ project falls under the Infrastructure department's allocation of an overall budget of R2.25 billion over the medium-term to West Coast District municipalities towards a total of 96 multi-year projects which are either currently under way or planned by the department across the region.

Maseko said the early completion of the project further highlights the department's commitment to service delivery for jobs and economic opportunities to the benefit of communities. "The

department recognises that investment in infrastructure can be a catalyst for economic development in the region.

"The Saldanha Industrial Development Zone (IDZ) access road will provide a more direct road for industrial traffic to the IDZ with improved mobility and safety. The design will ensure a smoother and more quality transportation of heavy industrial traffic," she told Cape Business News. "This will ultimately increase economic activity and revenue for the area."

The Saldanha IDZ was established in 2013 through a partnership between the Western

Cape government, the Saldanha Bay municipality and Transnet and is one of four designated IDZs in South Africa.

"The IDZ is crucial for the economic development of the Western Cape, given its location. The area has been specifically designated for new investment by export-oriented industries and related services and will contribute significantly to economic growth, trading and manufacturing as well as access to job opportunities, not only for the Western Cape but also for the national economy," Maseko said.

Premier Alan Winde set up the department of Infrastructure as a

separate ministry to deal with the backlog of infrastructural needs in the province on roads, public buildings, hospitals and schools in the province.

Besides the IDZ access road, the multi-year projects include R529 million for the Malmesbury bypass project; and two fast-tracked projects which include repairs to the R303 in Citrusdal, a road that was reopened to traffic within 10 days after being washed away by recent flooding, and the Middelpos Primary School project which will accommodate over 1 800 learners.

Maseko said the

Malmesbury Bypass Project, involves the construction of a new seven-kilometre-long road that will bypass the town of Malmesbury. "The new road will connect the R45 road corridor between the N7 and R46 roads. Budgeted against R529 million, the project is earmarked to create nearly 220 job opportunities and 37 small, medium, and micro enterprises opportunities. The project is set to be completed at the end of 2025."

"The purpose of the project is to reduce traffic congestion in Malmesbury and improve safety. The current road through

Malmesbury is heavily congested, especially during peak hours. The bypass road will reduce congestion and improve safety."

Maseko said the Standing Committee on Infrastructure will embark on oversight visits to engage with all involved stakeholders to assess the progress of all projects that are presently under way or in the process of implementation. "These multi-year projects are projects that will instil dignity and hope in our communities. Infrastructure investment is crucial for sustainable development outcomes and key to economic growth."

Construction mafia – call it as it is - extortion



Deon van Zyl, WCPDF chairperson

UNLOCKING fixed-capital infrastructure projects and aligning legislation should be non-negotiable to all spheres of government if it is serious, not only about battling site disruptions but about building South Africa out of economic crisis. The same applies to upholding law and order as defined in the relevant legislation when it comes to site disruptions and the construction mafia.

So says Deon van Zyl, WCPDF chairperson: "Construction sites are the very foundations on which our economy is built, and stagnation of construction activity, in whatever form it takes, is the bellwether that indicates how the economy is faring. If South Africa is serious about recovery, then we need to flood the construction market with opportunities and, while these seem to exist in abundance in theory, probably no more than one in ten potential projects ever sees the light of day. The impact and further delays caused by the construction mafia has a direct impact on both service delivery

and delayed job creation."

The Construction Mafia was the final straw says Van Zyl, with the property development and construction industry already having suffered for decades under often contradictory legislative processes and red tape.

The property development and construction industry in the Western Cape has also been calling for legislated early community engagement to ensure all development projects incorporate proactive community participation from the time such developments are conceived to ensure that projects are 'community insulated' against construction mafia opportunism.

"We cannot leave disruptions by the construction mafia or local business forums to a contractor on site to deal with right at the end of the development process. The development process is a marathon, and construction is what happens only during the last, final sprint of the project lifecycle."

However, it is also time for communities

themselves to step up: "These disruptions don't take place in isolation. It's time that we also call on civil society – and not just on the contractors who are being disrupted – to report what they know to SAPS."

A recent seminar organised in the Western Cape by SAFCEC, between high-ranking members of SAPS and industry members explained the numerous ways in which site disruptions could be reported.

"For the South African justice system to work, there needs to be comprehensive reporting to SAPS, and it's essential that the right terminology be used: specifically, in this case, the word 'Extortion'," says Van Zyl.

He elaborates further that 'extortion' was immediately recognized within the SAPS system as a Schedule 5 Crime: "In other words, where the onus rests not on the person reporting the crime but on the person allegedly accused of the crime to prove, for example, why bail should be granted. Using any other words – 'disruption', 'bribe', 'vandalism' or even 'theft' – are simply not effective. The South African legal system needs key words to trigger reaction."

It was pointless for the industry to claim site disruptions to be a massive problem if these were not reported to law enforcement agencies: "A huge fear of intimidation exists, but an important takeaway from the recent Western Cape SAFCEC/SAPS meeting was that incidents can be reported to any SAPS station; not necessarily to the station closest to the disruption."

Western Cape Emergency SAPS Numbers

At the recent SAFCEC/SAPS meeting, Western Cape indus-

try members were informed of the dedicated emergency numbers, manned 24/7, that can be phoned to report such crimes in the province, and

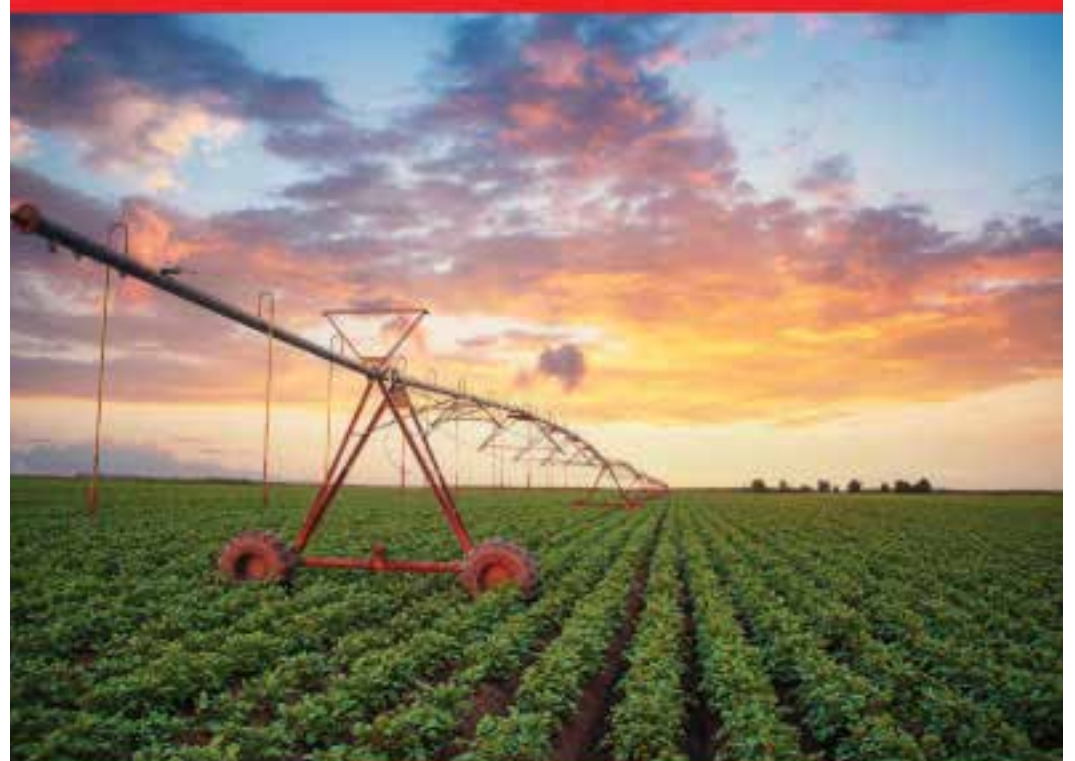
from which resources can be dispatched immediately to the site of disruption. These are as follows:

- Provincial Extortion Hotline –

080 031 4444

- Provincial Serious Violent Crime – 082 222 6744
- Provincial Organised Crime – 082 567 5670

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from an energy point of view, was to be net positive. To generate more energy than it consumes over the course of a year and to be entirely self-sufficient in water consumption, provided by integrating rainwater storage within the design parameters.”

Special pre-cast experience

Cape Concrete as the pre-cast suppliers, entrusted the specialised skills required to meet the architectural concepts, tolerances and the element’s flush connections to Peikko SA, whose experience and range of pre-cast connecting elements ensured a perfect fit between columns, beams and decks by the precise positioning of anchor bolts within the pre-cast mould.

“We were contacted by Cape Concrete to assist in the construction of this unusual project,” said Daniel Petrov, Managing Director at Peikko SA. “Unusual, as most of our work involves more traditional uses of pre-cast concrete in industrial and commercial buildings and structures such as bridge design. There was something of a learning curve for all the professionals involved in the Rugby Road project and we were pleased we could assist in fully meeting the architect’s design narrative.”

Petrov added that the company has been designing, manufacturing and supplying a wide selection of concrete connections and composite beams for both precast and cast-in-situ solutions in a variety of applications, since 1965.



WHAT is thought to be the first luxury home to be constructed in South Africa utilising pre-cast concrete elements, is nearing completion in Rugby Road, Oranjezicht, Cape Town.

Supplying the special concrete connections and composite beams for both precast and cast-in-situ applications is Peikko South Africa (SA) – a speciality construction products company - whose innovative solutions aim to make pre-cast construction faster, safer, and more sustainable.

The project was originally conceived as far back as 2017 and construction began in earnest post-COVID. The striking design strives to implement sustainable architectural design

derived from the Living Building Challenge, a very stringent green certification design founded by the Living Future Institute. It provides the owner with amazing views in all directions yet incorporates elements of sustainability, energy and water conservation.

Design

The dwelling is one single envelope comprising two - four storey units, each with four bedrooms and a total living space of 425m² per unit positioned on a 900m² erf.

“We chose the pre-cast method due to a number of factors: speed of construction, ability to cast intricate shapes repeatedly –

necessary for capturing solar energy and rainwater retention – quality of surface finish and of course cost,” explained project architect Anthony Svelto, Architectural Designer at A-I-R Inc. in the USA.

“The striking visual concept of the project lends itself to the use of pre-cast concrete, which is the desired effect in this upmarket elevated location, which will not only provide the owner with amazing cityscape, mountain and sea vistas,” he said.

“But we’ve also ensured that we could optimise water and energy collections better with a precast concrete design than with conventional construction. The intent,

Luxury development for Constantia



ENCOURAGING for the Western Cape economy is that Belgian-based construction group Squareturn sees potential in commercial and high-end residential developments, which has piqued this international investor’s interest in Cape Town’s environs, fuelled no doubt by the widely publicised ‘semigration’ phenomenon.

Squareturn is based in its own development - Devonbosch, in Stellenbosch, a mixed use residential, retail and commercial development on an 18 ha site with 10 000m² of new builds being targeted annually over the next 5 – 10 years.

Its Botanica development in Constantia however, located on the corner of Brommersvlei Road and Hohenort Avenue, involves the creation of four luxury dwellings in a bespoke security eco-estate setting measuring approximately 8 000m² with expansively landscaped areas and established trees. The dwellings are architecturally sculptured offering floor areas up to 500 m² per dwelling with extensive luxury finishes and

hi-tech service offerings.

Squareturn’s project manager Andrew Hoeks, provided further details the project’s characteristics:

“The Estates’ infrastructure, landscaping and architectural design are all informed by environmentally responsible decisions. The estate has a particular aesthetic which is both contemporary and to some degree ‘naturalistic’. The conceptual idea ‘places in nature’, sums up the design ethos that is expressed through green spaces, ambiguity between inside and outside space, the extensive use of glazing and the use of natural materials. The ‘broken down’ architectural massing, whereby the houses are not monolithic but comprise a collection of built elements, forms part of the blending together of the architectural and the natural that is so central to the identity intended for the estate.

“Construction started in mid-2022 on the first dwelling that provides a refreshingly modern take on that which is typically available in the

area, but still respects the environment and the natural attributes of Upper Constantia comprising large established oak trees and green open spaces with beautiful mountain views.

“The external enclosure of the first house, ARCA is complete and will be finished in accordance with the requirements of a purchaser (with the integration of solar PV panels together with inverter and battery back-up systems to counter grid power loadshedding.)

“The remainder of the houses are now also being constructed (ARIA, ASH and AVA) with a target of having all four houses completed in the latter quarter of 2024” he explained.

“While emphasis has been placed on the construction of the houses there has also been a drive to integrate new soft landscaping and garden features into the building process to ensure that verge planting, greening elements and the active stream that runs between the houses is fully established on completion of construction” said Hoeks.

CCSA’s YCRETS 2023 wins praise

YCRETS 2023, the second biennial Young Concrete Researchers, Engineers and Technologists Symposium organised by Cement & Concrete SA (CCSA), has been lauded as “remarkable” and “rewarding”.

CCSA, which has committed itself to presenting YCRETS biennially, staged the YCRETS 2023 event at, and in collaboration with, the University of Stellenbosch (US) from July 12 to 14 this year.

Twenty-two research papers were presented by young individuals at YCRETS 2023, described by CCSA as “an investment in the future of young researchers to ensure succession

planning”. In addition, keynote addresses were presented by Prof El-sabé Kearsley, of the Department of Civil Engineering at the University of Pretoria (UP); and Emeritus Prof Leslie Petrik, of the Department of Chemistry at the University of the Western Cape (UWC).

The symposium’s overall theme of “circularity” emphasised the quest among young researchers to find innovative ways to minimise the impact of cement and concrete on the environment, while still meeting the demands for sustainable and resilient infrastructure.

Clint Wicomb, GM Sales & Marketing at

PPC Cement, the main sponsors for the event, commented: “The symposium was well attended which shows there is still a huge demand for concrete and innovation and the work being done by the scholars in their respective research topics. The SA industry is losing talent to other countries so it is comforting to see that there is young concrete talent in the making coming through our tertiary institutions.”

CCSA, the custodians of YCRETS, worked closely with a committee comprising academic staff of Stellenbosch

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Bridge contract awarded on Lesotho Highlands Water Project

Lesotho-South African joint venture wins US\$26.7 million contract.

By Liz Bains

CONSTRUCT Africa's Liz Bains reports that the Lesotho Highlands Development Authority (LHDA) has completed the construction procurement for the remaining two major bridges to be built under phase two of Lesotho Highlands Water Project (LHWP), awarding a M511.5 million (US\$26.7 million) contract to the ConcorNthane Brothers M&K Bridges Joint Venture in late August.

Work on the contract commenced on 29 August and the two bridges across the Mabunyaneng and Khubelu rivers are expected to be completed by the end of October 2025.

The joint venture comprises main partners Concor Construction (South Africa) and Nthane Brothers (Lesotho) and subcontractors Post Tensioning and Structural Solutions (South Africa) and Bridge Joints and Rehabilitation Contractors (Lesotho).

The M2 billion (US\$104.4 million) contract for Senqu Bridge, the largest of the phase two bridges, was awarded in late 2022 to the WRES Senqu Bridge Joint Venture. The primary partners are Webuild (Italy), Raubex Construction (South Africa), Enza Construction (South Africa) and Sigma Construction (Lesotho).

Subcontractors include EXR Construction (South Africa), Gleitbau-Gesellschaft (Austria), Post Tensioning and Structural Solutions (South Africa), and Freyssinet International et Cie (France).

The three bridges will provide access to Mokhotlong town across the Polihali reservoir even at full supply and will maintain connectivity to the national road network along the A1, the main road between the Mokhotlong district in the mountainous north-east of the Lesotho and the capital, Maseru.

"The impounding of the Polihali reservoir will submerge existing roads and tracks, affecting communities in the valleys and tributary catchments of the Senqu, Khubelu, Mokhotlong, Moremoholo and Sehonghong rivers," said Gerard Mokone, manager of the LHDA's Polihali branch. "The major bridges along with a network of feeder roads and the main access roads to the project

area all contribute towards minimising this disruption and help to restore community access to healthcare facilities, schools, shops and markets."

For the Senqu Bridge project, construction of the temporary site facilities is well advanced and excavations have

started for the pier and abutment foundations necessary to support the 825m-long and 90m-high bridge.

The Khubelu Bridge will be approximately 270m long with nine 30m spans and two abutments. The Mabunyaneng Bridge, the smallest of the three

bridges will be approximately 120m in length and has four 30m spans and two abutments. The bridges will both be 13.55m wide.

"The trio of bridges will not only form part of the safe and efficient road infrastructure network constructed under Phase II but will be a

major tourist attraction contributing to long term benefits in stimulating sustainable economic growth," Ntsoli Maiketso, the phase II divisional manager, stated.

Work on the design of the Mabunyaneng and Khubelu bridges started in 2018, led by

Zutari, formerly Aurecon Lesotho. Zutari also designed the Senqu Bridge and is supervising the construction of the three bridges.

Phase two of the LHWP entails the construction of the Polihali dam, the 38km Polihali transfer tunnel, the associated infrastruc-

ture and a hydropower plant at Oxbow. It builds on the successful completion of phase one in 2003.

To view the original article visit: <https://www.constructafrica.com/news/bridge-contract-awarded-lesotho-highlands-water-project>

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Small Bay Bloubergstrand sea wall upgrade progressing



RESIDENTS of and frequent visitors to Small Bay in Bloubergstrand will be only too aware of the major construction project under way and the closure of the Small Bay Park and the adjacent access road.

CBN reached out to the City to determine the nature of the project and Gregg Oelofse, Manager: Coastal Management in the City's Environmental Management Department, obliged with the details of this R55-million coastal protection project.

Project timeline:

The upgrade of the sea wall at Small Bay, and the work to relocate the sewer main along this stretch of the coastline, started in February 2023. If all goes as planned, the work should be complete by September 2024.

Background information:

The City's Coastal Management Branch commenced with the upgrade of coastal infrastructure and reconstruction of the sea wall at Small Bay in Bloubergstrand to protect coastal properties and important services infrastructure from wave overtopping and flooding. The existing sea wall will be reconstructed from the Small Bay Park, along Pelegrini and Popham Streets to Ferguson Street – all-in-all, a section of about 190m. In addition, the existing sewer line will be rerouted landward, away from the sea wall, from the park to the De Mist ablution building and a portion of Pelegrini and Popham Streets along the seawall will be reconstructed.

Motivation for the project:

The existing concrete seawall and walkways which extend from the play park in Small Bay to the Popham and Ferguson Streets intersection, have been undermined for a number of years, leading to collapse, resulting in

damage to the adjacent road infrastructure. This was due to the age of the infrastructure, as well as the historical development footprint which resulted in hard infrastructure and services located in the tidal- and wave breaking zone. Of specific concern was the exposure of the sewer line which was located within the existing seawall along Popham and Pellegrini Streets and the resultant risk of ongoing sewer spills.

Due to the close proximity of the seawall and other infrastructure (roads and services) in relation to the high-water mark, as well as the physical and coastal characteristics of the site, the only feasible long-term solution to protect the existing infrastructure and mitigate wave overtopping was to replace the derelict seawall with a robust coastal protection structure.

Project constraints and mitigation measures:

The project has significant constraints which had to be considered to ensure the most feasible solution in terms of coastal protection, recreational use and constructability in such a dynamic environment. Some of the key constraints and mitigation thereof included the following:

Constructing a robust seawall defence structure on a very small existing footprint:

Due to the emergency nature of the project and to mitigate any potential negative impact on the natural environment and coastline, it was essential to ensure the reconstructed seawall footprint shall not encroach seawards. In order to work within the allowable footprint, the existing beach access and configuration were maintained (like for like). A great and important addition is to ensure that the new ramp access has a flatter gradient – thus, once reconstructed, it will allow for better wheelchair access

to the beach. The pedestrian walkway makes allowance for universal access along its length.

Allowance for pedestrian movement and seating:

The old seawall configuration comprised a “stepped landscape area” along a portion of Popham Street. Unfortunately, this stepped landscape will be lost when the new seawall is constructed. The key issue that the City faced is that by allowing historic development to encroach so far seawards, we now have reached a pinch point where there is so little space left that our choices for coastal protection have become severely limited. The lesson from Small Bay is development and services must be set back.

After completion of the project, the formal

beach access will remain at the beach adjacent to the park, where the ramp will remain in place to provide access to the beach.

Given the urgency of the work, the severe consequences of a sewer line failure that will have wider impacts beyond Small Bay, and the presence of other beaches accessible to the public in close proximity, the City is of the view that access to the beach adjacent to the Park via the ramp is sufficient and appropriate.

Height of new seawall:

The existing seawall is only +2.5 m Mean Sea Level and therefore high wave overtopping volumes shall occur during storm events, which pose a significant risk to the landside essential services, infrastructure and safety of pedestrians and vehicles. Complete prevention of wave overtopping would require a seawall height of greater than +5 m Mean Sea Level, which would result in a new wall of 2 to 3 meters higher than the existing seawall. However this would have significant impacts on views, public sense of place and private properties. As such, a measured approach was accepted that protects key infrastructure from inundation, allows for some overtopping while minimising visual impacts in order to mitigate wave overtopping and protect

the sewer line. In order to address the above, a 900 mm high cope (concrete unit on top of the seawall which is curved to deflect waves) is required along the wall, meaning that the top level of the hard structure will be 900 mm higher than present. However, it will not affect public access to the beach via the access ramp provided. Thus, formal access to the beach is in no way inhibited.

Flooding during storm events:

The new seawall will not provide full protection to the infrastructure or properties behind the seawall. There will still be significant wave overtopping and flooding behind the seawall during storm and high-water conditions even with the cope units. Periodic flooding will take place behind the seawall due to the relatively low road and property levels behind the seawall and the flooding will increase in time due to the effects of sea level rise. However, if the increase of 900mm to the top of the coastal defence structure is not installed along the entire new seawall, as well as the portion of the play park section, then the level of coastal protection will be compromised in this area, resulting in:

- More frequent and higher levels of flooding events over the play park;
- Greater potential for

damage to the park, park facilities and sewer pump station;

- More frequent clean-up operations and maintenance would be required after significant storm events;
- Poor design and implementation not aligned to the City's approach to climate change; and
- Wash out or erosion of park area.

Design requirements:

A very important consideration in this project is the requirement to implement a capital project that meets the City's commitment to a resilient future. The City has acknowledged climate change as one of the key risks. Due to the very high cost of building coastal infrastructure as well as the extensive lead up time required for these kinds of interventions, this project (like all coastal infrastructure projects of this nature) is required to be designed and meet the minimum following requirements in terms of structural design:

- A minimum 50-year horizon. In other words this seawall must remain effective and functional all the way until 2080. This 50-year horizon makes the project cost effective. A shorter design life duration would not meet cost-effective

budget expenditure.

- Expected/predicted sea level rise and climate change must be a key informant to the final design in terms of design loads and flooding events.
- Key infrastructure must be protected. This includes accounting for future risks. In this case this key infrastructure includes the sewer line, pump station, public road and public park
- The new seawall foundation must be designed with enough structural stability to allow for raising the wall height in future if required.

Due to this very complex project, a highly professional team was appointed and comprised:

- Scoping and Feasibility studies: Coastal Management Coastal Engineers (in-house)
- Technical assessment: Feasibility phase: KZR Consulting and WSP Coastal
- Conceptual & Detail design of preferred solution: HHO Consulting engineers (road and sewer) & PRDW Consulting
- Main contractor: CSV Construction
- Specialist marine sub-contractor: Southern Oceanengineering.

Challenges belie modest project value

Coastal infrastructure construction always has the underlying challenge of the elements, which has a direct bearing on sea conditions. For projects such as this - demolition and reconstruction of a sea wall, realignment of the sewer line and other services, and rehabilitation of the adjacent roadway means that work can generally take place for six hours during low tide. To conform to strict environmental standards, extensive use is made of geo containers to protect the works by dispersing the energy of the waves, which buys time, while preventing the washout of construction debris into the ocean.

Vital sequencing

So sequencing the work within a very constricted work space has been a vital consideration, with the project divided into five manageable sections. The decision was taken to start work on section five first – perhaps the most complicated - in front of the Play Park and pump station, followed by section four, both of which will be completed before the December shutdown.

An added complication on this project is the location of the sewer pump station located 5m below mean sea level which is the collection point for properties located both to the north and to the south and has been subject to flooding from ground water ingress.

Furthermore, while remedial work was carried out on the south sewer line during a previous sea wall protection contract, the northern line, which was encased in the buttress of the old sea wall, had to be temporarily rerouted due to the collapse of a portion of Pelegrini Street (see below), which could have caused catastrophic spills.

Safety paramount

The Small Bay beach area is popular with residents and visitors and the control of inquisitive and curious onlookers has been a constant issue to ensure their and our own personnel's safety, especially during inclement weather where high tides overtopping is a frequent occurrence.

The new sea wall comprises 73 concrete panels mounted on a concrete platform and fixed to the bedrock by 10m long prestressed steel anchors. One hundred and three precast coping units will be grouted to the panels. Aesthetic considerations dictate that the new wall and coping have a high quality concrete finish.

The aggressive environment, confined working area, unpredictable weather conditions, proximity of residents and curious onlookers means a high priority of site safety has to be applied and thus far, we have completed 25 000 injury free hours.

Pelegrini Road collapse

On Friday 23 June 2023 a section of the concrete road pavement in Pelegrini Street collapsed under the wheels of one of the contractor's delivery vehicles, fortunately without injury to anyone. This portion of road is the only vehicle and pedestrian access to the park area and private properties – with significant impact on local residents. However, the incident was resolved quickly – the contractor evacuated residents immediately and repaired the broken road.

On investigation it was found that the underlying fill had been severely eroded, leaving a chasm approximately 8m long and up to 4m wide under the concrete slab where the remaining slabs in that area had no support at all. Further to that, a 100mm asbestos-cement water main, immediately below the slab was equally suspended and vulnerable.

The decision taken was to tackle the situation immediately with materials available on site to mitigate further disruption to residents on Pelegrini Street.

Staff from the CoCT water and Sanitation Department end-capped the vulnerable water main to allow repair works to proceed. The undermined section of roadway was demolished, and the rubble cleared away. The excavation was back-filled using soil and rockfill and compacted in layers. The entire fill was enclosed with geofabric to prevent loss of fine material under wave action. A 150mm thick gravel layer was laid and compacted as a temporary riding surface. The roadway was reopened at 22:00 on 23 June 2023.

Bespoke hoist for fast pre-sink

CONDRA is to manufacture a high-lift, high-speed, heavy-duty kibble hoist of complex design as the key component of a 15-ton pre-sink portal crane.

Lifting height will be 150 metres – unusually high and needing careful calculation of drum dimensions and winding sequence. Kibble hoist capacity will be 10 tons less than two 25-ton pre-sink portal cranes previously manufactured as turn-key projects for mines in Asia and Africa, a consequence of smaller mineshaft diameters specified by the new customer.

The order for the kibble hoist points to Condra's experience in specialised pre-sink cranes to its already widely accepted leadership in the high-lift arena.

In Africa, Condra has pioneered the concept and development of portal pre-sink design, the result being cranes that facilitate application of advanced mining techniques to dramatically fast-track the pre-sinking phase. Condra's cranes have

previously completed shaft pre-sinking to depths of 100 metres in just 120 days, work that usually takes up to eighteen months.

The pre-sink design combines rapid lifting speeds with optimised cross-travel via a crab-mounted hoist to transfer the loaded kibble to waiting dump trucks. Rails allow the portal frame to move aside from the shaft during blasting. This configuration is radically different from the level-luffing crane traditionally used for presinking, where lifting speed is much lower and the crane's jib is used to move the kibble to the trucks.

By contrast, Condra's pre-sink portal uses a high-speed, high-lift main hoist to quickly remove excavated spoil vertically by means of the kibble through an opening in the centre of the drilling stage incorporated as an integral part of the crane. The crab-mounted hoist then moves horizontally to waiting dump trucks. Separate stagewinders mounted on the portal



Condra's 25-ton pre-sink portal cranes, on site at a mine in Asia during the shaft-sinking phase.

frame are used to position the drilling stage within the shaft.

The lifting speed of Condra's latest kibble hoist will be a very fast 30m/min, or half a metre per second: almost ten times faster than hoist lifting speeds found in standard mine workshop applications.

The hoist will feature improved drives, gearboxes and safety devices, and enhanced operation by remote control.

Commenting on the

new kibble hoist order, a Condra spokesman noted that the lifting height of 150 metres is just four metres short of the company's high-lift record, held by an overhead crane servicing the Mohale Dam sluice gate. Lifting height there is 154 metres.

"The challenge of this particular design was not its lift height, which, at 150 metres, is in any case something noteworthy, but more in the calculations we had to carry out to

perfect the design of the hoist drum," the spokesman explained.

"Shaft diameters meant that a wide drum to accept simple storage of rope windings for a full lift of 150 metres was not possible.

"The shafts restrict lateral movement of the hoist ropes within them, so design had to coordinate drum width with a dimension that would precisely control and restrict lateral movement of the four ropes moving verti-

cally. All four ropes have to remain within the shaft at any point of the kibble's lift without fouling the sides," elaborated the spokesman.

"So, the design process was complex because the 18-millimetre ropes wind onto or unwind from the drum in opposite directions as the drum rotates. At the same time, drum diameter had to be coordinated with motor design so that load placed on the electric motor will remain manageable throughout the non-stop nature of pre-sink work."

The spokesman added that company management viewed the kibble hoist order as confirmation of the market's faith in Condra's ability and willingness to customise high-lift hoist design to any specific requirement that a customer might have.

In central and southern Africa, Condra has, for many years, been widely acknowledged as the market leader in high-lift cranes, a reputation resting largely on the

durability and reliability of the company's K-Series hoist range.

Manufactured since 1972 and installed worldwide under a wide variety of operating conditions, Condra's robust K-Series has proved particularly dependable under the conditions of increased mechanical strain associated with high lift.

K-Series hoists are produced in three main configurations: foot-mounted, monorail and double-rail crab. Lifting and reeving arrangements include centre-lift. Fully covered hoists provide lifting capacities to 32 tons, while open-drum units have capacities in excess of 250 tons.

Features on all models include electromagnetic DC disc brakes, standard frame-size motors with parallel rotors, double-acting limit switches, solid bronze rope guides and totally enclosed splash-lubricated gearboxes.

Visit Condra's website for more information: www.condra.co.za



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Quality lubrication helps ensure safety at sea



Corrosion on anchor chain and mooring winch.

ONE of the biggest problems with seaborne vessels is that corrosion leads to exponential damage that often causes dramatic breakdowns. In ski boats, components like the beaching kit become susceptible to water over time, and once any water enters, it can cause the failure of gearbox oils or further damage – which could be anything from a broken shaft to an entire gearbox being snapped off.

So how can recreational sea-sport lovers take care of their assets? Lubrication Engineers (LE) South Africa's National Sales Manager Llewellyn Owen says that it can be challenging for people because it's about more than walking into a hardware store or parts store and taking the first option. "People think oil is just oil, and that's not the case," he adds.

LE South Africa has been a sponsor of the Shelly Beach Ski-Boat Festival since 2018 and part of why the company became involved with the Shelly Beach

Ski-Boat Club was to be able to more actively help the club's members understand what types of lubrication work best for their vessels. "If you're spending money on something, you need to make sure that you're looking after it properly with regard to what products can be used and how they can further protect your assets," says Owen.

Long-term protection

Three of the products that LE has which work well for coastal applications are its Duolec Gear lubricant, its Monocal bearing grease, and the CorrosionX product that LE supplies in South Africa.

"For our clients at the coast, CorrosionX has been very, very effective in the protection of the inside of the cowlings on motors and for electronics inside ski boats," says Owen.

CorrosionX uses a technology that causes it to stick to metal almost like a magnet. This 'polar bonding' technology means Cor-

rosionX is attracted to metal, and physically displaces any moisture and electrolytes that accelerate the corrosion process, including saltwater. CorrosionX then leaves an ultra-thin, self-healing film that actively seals metal from the environment and stops corrosion. CorrosionX is also electronics safe – it won't short sensitive circuits or interfere with electrical connections.

The Monocal grease is excellent at protecting gearbox bearings because it is able to resist salt, which is a significant benefit in marine applications. "I've got two or three trailers from the ski club that have now been running on Monocal grease for four years; where historically they were replacing bearings every year," says Owen. The Duolec Industrial Gear Oil product is also producing reliable long-term results for clients who use it on their gearboxes.

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

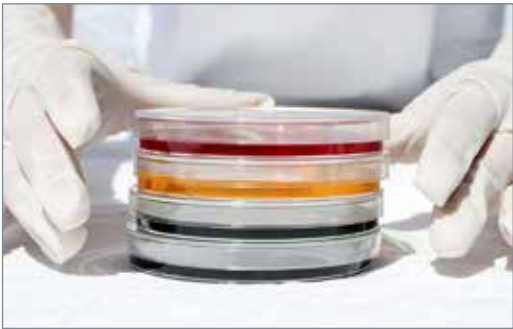
Silver nanoparticles for antimicrobial powder coated surfaces

RESEARCHERS have described the activation of silver nanoparticles by hydrophilic encapsulation for antimicrobial powder coated surfaces.

Silver nanoparticles (AgNP) are known as an antimicrobial agent, but they cannot be efficiently converted to active silver ions due to the lack of hydrophilic reaction environment when incorporated into a dry powder coating film. To make these agents effective in the powder coated surface, a novel encapsulation approach was proposed. Silver nanoparticles were first synthesised on the surface of synthetic zeolite A by in-situ chemical reduction method was followed by the addition of copper ions through ion exchange. The functionalized zeolite was then encapsulated with different water-soluble

hydrophilic polymers to facilitate the generation of silver ions from nanoparticles.

The encapsulated additives were incorporated into the resin system for making the antimicrobial powder coating film. The properties of the additives and films were carefully analysed, and results show that appropriate loading of silver guarantees a high concentration and uniform distribution of silver nanoparticles on the zeolite surface. The strength of the encapsulation with the additive is found to depend on the cations present in the additives. Anionic polymer encapsulation is the most effective solution for releasing silver ions from antimicrobial coated surface. Excessive hydrophilicity is not beneficial to antimicrobial ability and



Microbial growth, especially in medical and food industries, is a big concern, thus there is an urgent need for developing effective coating strategies to fight against microbial infections via surface transmission. Image source: branislavp - AdobeStock (symbol image).

brings cracks on the surface. Additives with non-polymeric hydrophilic encapsulation made from the precipitation of calcium nitrate and sodium phosphate also show acceptable antimicrobial efficiency. According to the researchers, the proposed hydrophilic encapsulation method can well facilitate the activation of silver nanoparticles and ensure an effective antimicrobial property of the powder coating film.

Article reprinted from europeancoatings.com The study has been published in *Progress in Organic Coatings*, Volume 182, September 2023.

UV-curable epoxy acrylate composite coatings with high performance

A recently published study introduces UV-curable epoxy acrylate composite coatings with high flexibility, super-hydrophobicity, wear-resistance and self-healing properties. Photo-curing coating has the advantages of environmental friendliness, short curing time, high produc-

tive efficiency and low energy consumption. However, it is also a challenge to overcome the weakness of brittleness, water vapour damage and repairing difficulty.

Researchers now have prepared a flexible and self-healing epoxy acrylic coating by introducing



The preparation of epoxy acrylate coating with excellent comprehensive properties is a new challenge in current research. Image source: Shawn Hempel - stock.adobe.com (symbol image).

dynamic disulphide bond and dangling chain into the resin system, furthermore, sprayed nano-SiO₂ to construct the micro surface structure to endow the coating with super-hydrophobicity.

Three birds with one stone

The introduction of dynamic disulfide bond has endowed the coating with self-healing ability, while the diluent as dangling chain has promoted the mobility of molecular chain, more importantly, which not only improved the self-healing efficiency of the coating, but also reduced the brittleness, three birds with one stone. Moreover,

saline coupling agent was used to modify the nano-SiO₂ particles to enhance the abrasive resistance of the coating. The coating exhibits outstanding comprehensive performance: the water contact angle can reach 155°, the self-healing efficiency can reach 97 %, wear-resistance greatly increases by 40 %. These results are expected to provide some references for developing UV-curable coating with high performance.

The study has been published in *Progress in Organic Coatings*, Volume 182, September 2023.

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G6 Materials launches new thermally conductive epoxy product line

A high-tech company with expertise in advanced materials and developing innovative composites for a wide range of industrial uses, has launched a new thermally conductive G6-EPOXY® product line (the "New Product Line"). The first two products of the New Product Line are now available for purchase by consumers on the G6-EPOXY® website via the following link: <https://g6-epoxy.com/collections/thermally-conductive> and on the Graphene Supermarket website via the following link: <https://www.graphene-supermarket.com/collections/thermally-conductive>.

The first new product is named "G6E-TSHV" and is a high thermally conductive, non-electrically conductive epoxy, while the second new product is named "G6E-TSAL" and is a thermally conductive, non-electrically conductive, low viscosity epoxy. Both new products are available in various size formats.

The New Product Line expands G6-EPOXY®'s reach into a new area of the epoxy market. All of the research and development for the New Product Line was done internally by the Company, and seven more products are being prepared for launch in the near future.

Epoxy resins for thermal management

Epoxy resins play a vital role in thermal management due to their exceptional thermal conductivity and insulation properties. These versatile materials efficiently dissipate heat, making them essential in electronic devices, power modules, lithium battery heat management, and LED lighting applications. By efficiently transferring heat away from sensitive components, epoxy resins enhance the performance, reliability, and longevity of devices, ensuring they operate optimally even under challenging conditions.

The growing demand

for compact and high-powered electronics further highlights the significance of epoxy resins in addressing thermal challenges and promoting technological advancements.

G6-EPOXY® Resins

The company's G6-EPOXY® resins have a variety of uses that include bonding, sealing and coating. Particularly, they can be used when soldering is not practical or when soldering requires heating adhesive material. G6-EPOXY® resins have the following unique properties:

The ability to work in broad temperature ranges, including reli-

bility up to 600 degrees Fahrenheit;

Reliable adhesion to a variety of materials including plastics, metals, glass, and ceramics;

A reduction in overall density, weight and cost;

The ability to resist moisture, solvents and oxidants with exceptional durability; and they do not require a heating oven during curing time and can be used in the bonding of sensitive components at room temperature.

More information about G6-EPOXY® can be found on the Company's website: <https://g6-epoxy.com/>.

120 years of corrosion protection

WINN & Coales (Denso) Ltd has established an international reputation for the reliability of its corrosion prevention and sealing systems. The company was established in the UK in 1883 and has been at the forefront of corrosion prevention, waterproofing, and sealing technologies for over 120 years. Its trusted Denso™, Premier™, Protal™, Steelcoat™, Archco™, SeaShield™, Archco™, Premier Shrink Sleeve™, Viscotag™ and Bore-Wrap™ systems are supplied to the petrochemical, process, offshore, water, gas, telecoms, renewables, civil engineering and do-it-yourself industries internationally.

With eight following subsidiary companies worldwide, Winn & Coales (Denso) Ltd is able to draw upon a wealth of experience in producing products to deal with corrosion and sealing problems in many different environments. The acquisition and creation of subsidiary companies specializing in the many sectors of this technology is an ongoing activity for parent company Winn & Coales International.

Winn and Coales supplies Denso Products in over 40 coun-

tries, including the traditional long-established markets of the UK, Ireland and North America, important Middle East markets such as Saudi Arabia and the UAE and the newly expanding markets in the Far East and the southern hemisphere such as China, Malaysia, Thailand and the Philippines.

The sharing of knowledge and new technology, plus extensive R&D facilities, enables the company to maintain its policy of producing high-quality, effective products around the world, backed by prompt and efficient service. Denso South Africa (Pty) Ltd has a well-established manufacturing facility in Dur-

ban, and manufactures products for the South African, African, and international export markets. All the products are made to Winn & Coales (Denso) Ltd specifications. The full range of products are manufactured to comply with the strict quality standards of ISO 9001:2015 (quality management standard). The products are designed for longevity, with solutions that, when applied correctly, can offer up to 30 years of maintenance-free service.

Zinc is the perfect recyclable material



The life of zinc-containing products is variable, with power transmission towers able to endure for over 70 years.

THE most common application of zinc is to protect steel from corrosion by hot-dip galvanizing. The zinc-steel combination has significant economic benefits in terms of lifecycle costs. Improved air quality in many industrialised countries, with diminishing levels of sulphur dioxide (SO₂), means zinc coatings provide even longer protection for steel.

"Steel is one of the most widely used materials on the planet. Thanks to zinc, steel's durability can be prolonged," says Simon Norton, International Zinc Association (IZA) Africa Executive Director. Both steel and zinc are 100% recyclable indefinitely without the loss of chemical or physical properties.

In fact, steel is the most recycled material in the world, with virtually 100% of all structural steel reclaimed for repossessing and nearly 94% of structural shapes built from recycled steel. The reclamation rate for zinc is more than 80%, which means the majority of zinc available for recycling is indeed recycled.

At present, about 70% of the zinc pro-

duced originates from mined ores and 30% from recycled or secondary zinc. The level of recycling is increasing in step with progress in zinc production and zinc recycling technologies. Zinc is recycled at all stages of production and use, from the production of galvanized steel sheet to scrap generated during manufacturing and installation processes and from products at their end-of-life.

The life of zinc-containing products is variable and can range from ten to 15 years for cars or household appliances and to over 100 years

for zinc sheet used for roofing. Street-lighting poles made from zinc-coated steel can remain in service for 50 years or much longer, while transmission towers can endure for over 70 years.

"All these products tend to be replaced due to obsolescence, not because the zinc has ceased to protect the underlying steel. For example, zinc coated steel poles placed in the Australian outback a hundred years ago are still in excellent condition," reports

Norton.

The presence of zinc coating on steel does not restrict steel's recyclability. All types of zinc-coated products are recyclable. Zinc coated steel is recycled along with other steel scraps during the steel production process, during which the zinc volatilises and is then recovered. The supply of zinc-coated steel scrap is expected to double over the next five years, as more zinc-coated products enter the recycling stream.



				
				
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The crucial role of corrosion prevention in mining



IN the world of mining, where heavy machinery and equipment are the backbone of operations, corrosion is a relentless adversary that threatens to undermine efficiency, safety, and profitability. The mining industry's complex and harsh environments expose equipment to corrosive agents such as moisture, chemicals, and varying temperatures, making corrosion prevention an imperative.

MontiPower Bristle Blasters have emerged as a cutting-edge solution in the fight against corrosion. These innovative tools combine mechanical and abrasive action to remove rust and old coatings from metal surfaces, exposing a clean substrate. What sets them apart is their ability to simultaneously create an anchor profile compatible with ISO8501-1Sa2½-3 and roughness levels of up to 120µm that reinforces the bond between the equipment's surface and protective coatings—a textured surface that improves coating adhesion. This dual-action process not only restores the integrity of the equipment but also

prepares the surface for effective corrosion-resistant coatings, ensuring long-term protection. Bristle Blasters from MontiPower offer a unique solution, their complete range include the popular, Pneumatic, Electric & Cordless models.

Creating an anchor profile is a vital step often overlooked in corrosion prevention. A smooth surface might seem ideal, but coatings adhere poorly to it, leading to premature delamination and failure. MontiPower Bristle Blasters eliminate this concern by generating a controlled surface roughness that enhances the bond between the substrate and protective coatings. The result is a robust barrier that shields mining equipment from corrosive elements, extending its service life and minimizing the need for frequent touch-ups.

In an era where sustainability and operational efficiency are paramount, MontiPower Bristle Blasters offer an environmentally friendly solution. By removing corrosion and old coatings without relying on harmful

chemicals, these tools contribute to reducing the environmental footprint of mining operations. Additionally, the extended service life of equipment resulting from effective corrosion prevention aligns with the principles of responsible resource utilization.

In conclusion, the mining industry's battle against corrosion is a critical one. With the potential to compromise safety, disrupt operations, and incur substantial costs, corrosion demands proactive and innovative solutions. MontiPower Bristle Blasters have emerged as an indispensable asset in this endeavour, offering a powerful approach to removing corrosion and creating anchor profiles that ensure the longevity, safety, and efficiency of mining equipment. By embracing these tools and integrating corrosion prevention as a core component of their operations, mining companies can fortify their foundation for success in an ever-challenging industry.

For further information visit: www.bamr.co.za

Anaerobic microbial iron corrosion due to conductive pili

By Wiley

IRON is well-known for rusting, but this doesn't just happen on contact with oxygen and water. Some bacteria are also able to decompose iron anaerobically in a process referred to as electrobiocorrosion.

The sediment-dwelling bacterium *Geobacter sulfurreducens* uses electrically conductive protein threads for this purpose, as a team of researchers reports in the journal *Angewandte Chemie*. They produce magnetite from the iron, which promotes further corrosion in a positive feedback loop.

Bacterial biofilms are the cause of microbial metal corrosion, a destroyer of metals which causes more costly damage than all other biofilm-related damage put together. Electrobiocorrosion is often caused by bacteria such as those found in river sediments, for example, the anaerobic genus *Geobacter*.

Geobacter does not use atmospheric oxygen for respiration; instead, it draws energy from the transfer of electrons from iron, forming

magnetite in the process. Thus far, the way in which *Geobacter* corrodes iron metal has been something of a mystery.

The exact mechanism of action of electrobiocorrosion has now been investigated more closely by Dake Xu and colleagues from Northeastern University in Shenyang, China.

The team worked on the assumption that electrically conductive pili, thin filaments which grow out of the bacteria, could play an important role in this mechanism. *Geobacter* forms "e-pili" from conductive proteins, and these e-pili act like electric wires, conducting electricity. Before this study, it was unclear whether the e-pili could withdraw electrons directly from metal surfaces.

In order to prove the team's suspicions, namely direct electron withdrawal, they left two strains of *Geobacter* to grow on a stainless-steel surface until biofilms formed. One of the two strains formed conductive e-pili, while the other still produced pili, but had been genetically modified so that the pili



Credit: Pixabay/CC0 Public Domain

were formed from less conductive proteins.

The researchers observed that the bacterial strain that grew e-pili fared significantly better on the steel plate. It grew more and made deeper pits in the metal, demonstrating how much metal it was consuming. The team also measured a corrosion current, a direct sign of the oxidation of iron.

The team concluded that the bacteria with the e-pili formed a sort of "electrical connection" to the metal. Bacteria located further away in the biofilm, not in direct contact with the metal, were also able to supply themselves with electrons using e-pili.

Because magnetite is formed during the corrosion of iron, and this mineral also conducts electricity, the team

also investigated its influence on microbial corrosion. They noted that not only did adding magnetite to the biofilm increase the growth of *Geobacter*, it also led to a stronger corrosion current measured at the surface of the metal.

"The finding that magnetite, a common corrosion product, facilitates electrobiocorrosion has significant corrosion implications," the team emphasize. For future attempts to improve corrosion protection, therefore, they recommend taking the propensity of materials to form magnetite into consideration.

Reprinted from: <https://phys.org/news/2023-08-anaerobic-microbial-iron-corrosion-due.html>



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Astron Energy supports DMRE science project competition

THE Department of Mineral Resources and Energy (DMRE) hosted the 2023 Learners Focus Week (LFW) programme in Cape Town recently to encourage the next generation of mining and energy specialists.

“Programmes such as the Learner Focus Week are key to encouraging and growing a pool of young talent...”

The 2023 LFW took place at the University of Cape Town and saw over 250 high school learners from across South Africa gather for the programme which ran across seven days. Astron Energy was among a number of corporates which had a presence at the LFW in order to share knowledge and expertise through its involvement in these sectors.

A major focus of the week was to encourage learners to pursue Science, Technology, Engineering and Mathematics (STEM) to help address the shortage of critical skills required to ensure the sustainability of the mining and energy sectors.

Learners were also informed of and exposed to various career opportunities within the mining and energy sectors and a number of them were taken on a site visit of the Astron Energy refinery in Milnerton which was recently brought back online.

The LFW was open to high school learners from Grade 10-12 at public schools interested in subjects in the STEM field.

The competition element of the week required learners to “identify problems and challenges affecting the mining and energy sectors in their school, community, or environment”. The participants were then asked to undertake research and develop a model which depicts a solution that will address these challenges.

Under the energy sector, learners had to look at Hydrocarbons, Electricity, Renewable Energy, Nuclear and Clean Energy and Environment. The Mining and Minerals category included Open Cast/ Surface Mining, Underground Mining, Deep-Sea Mining and Environment Management.

According to the DMRE, the South African mining indus-

try contributes between 7-8% to the economy, whilst the electricity, gas and water sector contributes an added value of approximately R64.6 to the country's gross domestic product (GDP).

Representatives from Astron Energy formed part of the adjudication panel and

also provided industry insights to learners. Astron Energy's Transformation Manager, Vuyelwa Sono said: “As a major player in the fuel industry supporting amongst others, the mining sector, we understand the importance of the energy and mining sectors to the economic well-being of

our country as engines of job creation and economic growth.

“Programmes such as the Learner Focus Week are key to encouraging and growing a pool of young talent to address the shortage of critical skills in our economy, including across mining and energy.”

Astron Energy has invested significantly in science, coding and robotics as part of its approach which it calls STEAM – Science, Technology, Engineering, Arts and Maths – to help improve literacy levels, develop problem-solving skills, and give young people the tools to succeed in

a future and increasingly digital future.

“Increasingly we are seeing the intersection between traditional industries such as mining and new technologies. We have to prepare and equip young people with the necessary skills to help address the critical skills gaps in our

economy and build a pipeline of talent for a sustainable future,” Sono added.

Astron Energy has invested over R21 million in future skills programmes, and via strategic partnerships, reaches more than 30 000 learners, youth and educators across South Africa each year.



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Supply chain training expertise for 23 years

BIZZCO's rich history of delivering service to the supply chain industry began in 2000; the past 23 years has provided us with tried and tested world-class operational applications for enabling and delivering effective solutions to our customers. Through our knowledge base, our customers have been able to enhance their competitive advantage and streamline their business operations. Enabling people to perform at their best in the Supply Chain is what we do. Our tools are designed to achieve this. We assess, train, empower and measure to give you and your team the best opportunity for success through our MerSETA and TETA registered Learnerships, Skills Programmes and short courses.

It is no secret that people in blue-collar jobs play a critical role in aiding people in white-collar jobs, either directly or indirectly. Blue-collar workers are the backbone of any industry or corporation since they perform a considerable amount of manual labour. BIZZCO provide certified training from level NQF3 – NQF5 for blue collar and white collar workers.

If workers are to retain their worth in current times and remain

relevant, they must be trained and upskilled, this is the only sure strategy to keep them employed, increase their worth and expand their networks.

Blue collar employees are no longer viewed as a replaceable labour sector, but rather as a long-term investment. It is critical to fill skill gaps and offer timely training to make them efficient. As the nature of professions changes and becomes more tech-driven, workers will need to be upskilled by receiving basic training on the fundamental operations of the company's and service quality requirements and legal compliance.

An important aspect of skills development is training the right person on the right programme. Imagine if you could identify the areas of strength and weakness for a specific job role, along with the steps that could be taken to improve those areas of weakness. You can, with our Skills Gap Analysis tool. Using our web-based analysis tool, areas of strength and weakness for popular job roles in the supply chain management environment are highlighted. We use a best practice approach to identify interpersonal and foundational skills which is based on the



international OMBOK -Operations Management Body of Knowledge.

Bizzco also works with industry leaders and international partners to streamline service implementation in the supply chain and provide quality training with our partners SAPICS and CILT International.

SAPICS was created to represent the interests of supply chain and operations management professionals in Africa as an integral part of the global supply chain. SAPICS strives to have a meaningful impact on individuals, organizations, and the profession as a whole, by being

able to recommend high-quality educational programmes and provide world-class events that are relevant and up-to-date, and unsurpassed in value and quality. Bizzco is an Authorised Education Partner offering SAPICS and ASCM educational programs and has a selection of accredited online skills programs which are endorsed and certified by SAPICS.

The Chartered Institute of Logistics and Transport (CILT) supports the professionals who plan the routes, drive the trucks, bring in the raw materials, and store the goods safely. Transport and logistics

are key enablers for the world's economic development and prosperity. They dictate how you get to your destination, how you get your products, how you meet your customer order, how you do your business.

The endorsement of Bizzco's online Logistics and Transport learning materials by CILT international has made this offering very attractive to those seeking international certification.

Bizzco offers a customised approach to our product offering, including flexible starting dates, client specific training interventions as well as a suitable delivery method such as online,

facilitated or a blended approach.

Access, train, empower and measure

Enabling people to perform at their best in the Supply Chain is what we do. Bizzco will access, train, empower and measure to give you and your team the best opportunity for success through our range of products:

- Skills Gap Analysis (SGA)
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- SA Locally Accredited MerSETA & TETA Courses:
 - o Learnerships
 - o Skills programmes
 - o Short courses

Bizzco offers a customised approach to our product offering including flexible starting dates, client specific training interventions as well as a suitable delivery method such as online, facilitated or a blended approach.

Comprehensive range

Bizzco is focused on developing skills for the supply chain and logistics industry. Our product range includes:

- Skills Gap Analysis (SGA)

- CILT International Accredited Qualifications
- SAPICS Endorsed Skills Programmes
- SA Locally Accredited MerSETA & TETA Courses:
 - o LEARNERSHIPS
 - o SKILLS PROGRAMMES
 - o SHORT COURSES

Bizzco has almost 100 courses to choose from including the following topic areas:

- Supply Chain Principles
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- Procurement in the Supply Chain
- Logistics in the Supply Chain
- Quality Management
- Effective Business Communication
- Using Maths and Statistics in Business
- Importance of Customer Service
- Effective Teams

Picup opens driver training centres countrywide

PICUP, the on-demand logistics and delivery platform, has launched its state-of-the-art Driver Training Centres in Cape Town, Johannesburg, and KwaZulu Natal. These new facilities will enhance the quality of services provided by Picup by offering comprehensive face-to-face training and onboarding programs,

including motorbike and vehicle inspections.

Picup recognises the critical role that well-trained drivers play in ensuring seamless and top-notch delivery services, especially as the demand for efficient and reliable last-mile logistics solutions continues to grow. With this announcement, the company aims to equip

its drivers with the necessary skills, knowledge, and expertise to excel in the fast-paced and competitive delivery landscape.

Picup's Driver Training Centres will offer comprehensive training programs tailored to meet the unique requirements of Picup's delivery operations. Drivers will receive in-depth training

on customer service, safe driving practices, package handling, and efficient route planning.

Furthermore, the company believes in the value of face-to-face training, allowing for personalised instruction and real-time feedback. By fostering direct interaction between trainers and drivers, the company ensures a hands-on

learning experience, setting the stage for exceptional performance.

Understanding the critical role that vehicles play in the delivery process, Picup's training centres will conduct vehicle inspections. This step ensures that all delivery vehicles are maintained at the highest standards of safety and performance, guar-

anteeing a smooth and secure delivery process for customers.

"We are excited to introduce our Driver Training Centres countrywide," said Stacey Bailey, the Head of Driver Operations at Picup. "We believe that our drivers are the backbone of our service, and we are committed to investing in their growth

and professional development. Through these new training centres, we aim to strengthen our delivery network and provide an even better experience for both our drivers and customers."

The training centres are located in Paarden Island, Bryanston Johannesburg with a KwaZulu Natal location coming soon.



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THE NEXT GENERATION

Internships, Skills & Development Programmes

YES programme yields long-term results

By Sue Segar

A young woman, from a household where nobody has worked before, joins a programme as one of 20 black women trained to become commercial drone pilots. Soon she will be running her own drone business, servicing an ever-growing demand. A young man – identified as a talented youth – joins Nedbank as an intern. A year or so later, he is appointed full-time engaged in business analytics in the bank's IT division. A young person from a Western Cape community known for gangsterism, is part of a group of 150 youths to be trained as a barista. His future looks bright.

All these youngsters are part of the fast-growing Youth Employment Services (YES) programme, a national business-led movement of South African companies, which, in collaboration with the government, aims to address South Africa's biggest socio-economic crisis – unemployment.

117 851 young people placed in first job experience

The YES programme – the country's biggest social impact programme for jobs that is fully funded by the private sector – is growing from strength to strength, said YES CEO Ravi Naidoo.

Naidoo said that, as of last month (August) a total of 117 851 young people had been placed in their first private sector job experience.

The programme is proving to be a "game changer" in South Africa where the low economic growth rate means that the unemployment trend is not reversing. More than 400 000 job-seekers come into the market annually, but, over the past ten years, only about 150 000 jobs have been created each year.

The YES programme, an initiative of CEOs from organisations countrywide, kicked off, operationally, in 2018. The programme formally got going in 2019, but had to virtually shut down during COVID-19.

"Since COVID, the programme has rocketed. Most of these 117 000 jobs have come in during the last two years. Last year the number increased by about 30 percent in terms of the number of people joining the programme.

"A lot of companies are joining now: we have 1 549 companies sponsoring these interns," Naidoo said.

The programme is open to talented black South African youth between 18 and 35 years old, with a matric qualification, and who are currently unemployed. About 61 percent of YES participants are from social grant-recipient households.



Taking to the skies – budding drone pilots benefit from YES programme.

12 month internship

The learners sign a 12-month contract with businesses to gain experience in the workplace. During the programme, they are equipped with practical knowledge and skills in future-facing sectors, so as to encourage entrepreneurship and improve their chances of finding employment. It is also an opportunity for them to demonstrate their abilities, embrace a work ethic, and prove their worth. They receive a stipend to cover basic expenses.

"Typically, these youths come from very disadvantaged backgrounds. We give them their first work experience ... in jobs and opportunities that can stick in the economy. The youth will, hopefully, go on to develop a career, become absorbed into a private sector job ... or start their own business and become the employers of the future. We give them the skills, work experience, and social networks needed to help them become change makers who contribute to the country's economic prosperity."

"We want as many of these people as possible from these backgrounds to get these opportunities they otherwise would never get because that's how you build a broader economic base. Many of these youths will continue to interact with their old communities, and to have an impact there.

"What we need are jobs and initiatives that have a multiplier effect down the line. If South Africa is to succeed over the next 10 years, we need to get as many of our talented youths as possible into meaningful roles in the economy," Naidoo said. Renewables and tourism present many opportunities

The YES initiative is now part of the sector plan for the renewables sector plan for SA, where there is a dearth of skills. "We want to get many more youths to learn the technical skills to build capacity in that industry."

He added that the programme is currently also partnering with the Western Cape government. "The premier announced a partnership with YES in May, during the state of the province address. We are already putting people into programmes in the Cape."

Naidoo commended the corporate sector for buying into the YES programme, adding there are a number of benefits to do so, in terms of BEE and other benefits. "We find that BEE level 1 companies still work with us because they can use our programme for their sustainability reports."

Asked about future plans, Naidoo said they hope to get more companies to join the YES programme.

"We had our best month ever in June, when 5 298 youths were sponsored. In terms of our collaboration with the Western Cape government, we intend to assess the growth opportunities in the province and then channel some of the youths into these growing sectors. In the Cape, a key sector we are interested in is Tourism. We currently have a number of young people working in that sector already. We also plan to place more youths into renewables and solar PV-type work because there are huge opportunities, countrywide, in that sector. There is a huge opportunity for us to grow our capacity as a country while we fix loadshedding ... and, in the process to become the experts in the world, because there is going to be loadshedding all over the world – they just don't know it yet!"

IoDSA wins major award for innovative training

THE Institute of Directors in South Africa (IoDSA) has been named Most Innovative Corporate Governance Training Institute for 2023 (UK) by Global Brands magazine.

Sherma Malan, Executive Director: Certification and Member Services at the IoDSA, says the award is a welcome recognition of the quality of training the Institute offers, and thus its contribution to creating and expanding the country's directorial talent pool.

"We are particularly proud of our designation as an innovative training provider because we have put so much effort into offering directors and would-be directors training that really does prepare them for what has become a very fast-moving and demanding profession," she says.

"The IoDSA is 60 years old, but that legacy is built on our forward-looking stance. As the ultimate custodians of corporate governance within an organisation, directors have an incredibly tough job and a heavy responsibility—it's up to us to ensure they can access the

best possible training to prepare them for their important role."

The IoDSA is the only professional body for directors in South Africa that is recognised by the South African Qualifications Authority, which means that its training not only meets stringent quality controls but can also earn delegates CPD (continuous professional development points). The IoDSA has been spearheading the professionalisation of directorship in response to the key role directors play in guiding organisations to success and their potential exposure to personal liability for breaching their fiduciary duties.

The IoDSA has introduced two professional director designations, Certified Director and Chartered Director, to provide an objective, rigorous framework within which directors can obtain and maintain the necessary corporate governance skills, aligned with the IoDSA's Director Competency Framework.

Malan says that as a non-profit, the IoDSA can plough all its profits back into the organisation, ensuring it main-

tains standards and can play a significant role in advocating for corporate governance and directorship in South Africa. It also owns the King Report on Corporate Governance for South Africa and provides secretarial services to the King Committee. The King Reports are recognised as global standard bearers for corporate governance.

An important differentiator for the IoDSA's director training is that it is provided by a world-class faculty that comprises only serving directors with local and international board experience. The majority of the faculty are Chartered Directors.

"As the Zondo Commission's reports clearly showed, directors are in the frontline of the fight against corruption, and an organisation's performance directly correlates to the quality of its board," Malan concludes. "The IoDSA's training and its Directorship Competency Framework, along with its two professional designations, offer directors and would-be directors the best possible training to achieve their potential."

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Going for a prosperous alternative

YES! Yes! Yes!" gasped Luke the Dude as the wind blew him into the Local Pub and Grill. It was one of those gusty late-winter days when trees get blown over and block our Main Street. Inside it was warm and relaxed as the convivial conversationalists congregated to ponder the state of our town and the world.

Having received his pint from the Governor, Luke looked around to locate The Prof. "A ha!" he addressed the learned one, "Prof, what do you make of this Multi-Party Charter for SA and their plan to govern SA after next year's elections?"

"Well," puffed The Prof under the No Smoking sign, "at first glance their ideas are admirable, of course, if not somewhat heroic. But I suggest you ask young Steven here; he takes a keen interest in politicians – seeing that statesmanship is such a scarce commodity."

"I do indeed, my learned friend," responded Stevie the Poet, who practices law in his spare time. "The Charter developed from a realization by the DA lead-

ership that an opportunity to replace the ANC – in the country as well as a number of provinces – is presenting itself for the first time since 1994. Polls are showing ANC support trending lower and then lower again.

"The Charter parties 'recognise' that the ANC will slide below 50% of the vote next year. Of course that remains to be seen, but given the mere possibility, it is commendable that they are rolling up their sleeves and going for it."

"Wait a minute," interrupted Big Ben, "What will they do better than what the ANC is already doing? Look at us here, happily drinking beer without a care in the world. The ANC makes that possible!"

"Useless!" roared Jon the Joker. "The Breweries make that possible! The ANC is a party of promising and pretending. Blackouts will be gone in six months, how long ago was that? And how many times? The rest of our infrastructure – water, sewage, roads, harbours, hospitals, schools, the lot, everybody can see for themselves."

"Sorry Ben," comforted Miss Lily, "But

you do sound like those Trump suckers in America: refusing to believe or even see the facts, while fighting to defend the lies. No offence intended."

"The underlying infection in our body politic," diagnosed Bill the Beard, "at the root of it all, is corruption and its sibling, theft. Current Pretoria mayor Cilliers Brink has the herculean task of rebuilding a city sacked by the ANC and partners – while still fighting a running battle against the sackers, who want the city back. He summed it up thus: 'They don't want to run the city; they want to get their hands on the keys to the safe.' His opinion, based on his first-hand experience."

"All good and well, Boyo," wondered Colin the Golfer, "but say this new coalition gets to form a government next year, what are they going to do for business, eh?"

"For one," resumed Stevie, "rebuild our infrastructure – to enable you to do your business profitably. The first priority listed by The Multi-Party Charter is 'growing the economy and creating jobs'.

OPINION

ON THE CONTRARY

The columnist is a journalist and editor based in Onrusrivier. His awards for journalistic excellence include the Mond and the Sanlam Awards.

Pieter Schoombee



A growing economy requires a thriving business sector. Ditto most of their eight priorities, such as restoring law and order and, as a governing principle, an open-market economy.

"As for me, having read their charter, I wish them well."

And so said all of us, with Big Ben abstaining.

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How microplastics end up in the marine atmosphere

By Carl von Ossietzky Universität Oldenburg

MICROPLASTIC particles are present in the marine atmosphere even in remote parts of the world. These tiny particles come from land sources but are also re-emitted into the atmosphere from the sea, a study by a team of German and Norwegian researchers led by Dr. Barbara Scholz-Böttcher of the University of Oldenburg has shown.

The scientists analysed air samples taken from various sites along the Norwegian coast all the way up to the Arctic region. The results have now been published in the scientific journal Nature Communications.

"Microplastics find their way into seawater via rivers, but also through the atmosphere - particles are washed out of the atmosphere by rain, for example."

"With our study, we present data on the mass load of different types of plastic in the marine atmosphere for the first time," said Isabel Goßmann, a doctoral candidate at the University of Oldenburg's Institute for Chemistry and Biology of the Marine Environment (ICBM) and first author of the paper.

The research team collected the samples during an expedition with the Research Vessel Heincke in 2021. The northernmost destination was Bear Island, the most southerly island of the Svalbard archipelago which lies halfway between the mainland and the archipelago's largest island, Spitsbergen. The team used two different devices to collect air samples. The devices actively pumped in air and were mounted on the bow of the research vessel at a height of twelve meters.

Different types of plastics identified

The scientists analysed the air samples



During stormy weather, sea spray can carry microplastics into the air. The photo was taken during a trip of the research vessel Heincke off the Norwegian coast in June 2021. Credit: Alvise Vianello.

using pyrolysis-gas chromatography-mass spectrometry. With this method they were able to identify and quantify the different types of plastics in the atmosphere through thermal degradation and selective analysis. They then performed model calculations and reconstructed the sources and distribution paths of the particles, each of which is just a few thousandths of a millimetre in size.

The analysis revealed the omnipresence of polyester particles. Polyethylene terephthalate particles, which presumably entered the atmosphere in the form of textile fibres, were detected in all samples. Other plastic types were also present, including polypropylene polycarbonate and polystyrene. Tire wear particles, the tiny debris abraded from tires during driving and especially braking, were identified

as another major source of microplastics.

The researchers measured concentrations of up to 37.5 nanograms (one nanogram = one-billionth of a gram) of microplastics per cubic metre of air. "These pollutants are ubiquitous. We find them even in remote polar regions," Goßmann stressed.

Until now, little was known about microplastics pollution levels including tire wear particles in the marine atmosphere. "There are only a handful of studies on the concentration of these pollutants in the air," said team leader Scholz-Böttcher.

"Our model calculations indicate that the microplastics in the marine atmosphere come from direct sources on the land as well as from the sea," she added. The team posits that plastic particles floating near the sea surface enter the atmosphere via

sea spray and bursting air bubbles produced during stormy weather, for example.

Ships are also a source of microplastics

Microplastics find their way into seawater via rivers, but also through the atmosphere - particles are washed out of the atmosphere by rain, for example. Another potential source is ship traffic: in an earlier study, a team led by Scholz-Böttcher demonstrated that in the open North Sea, the paint and coatings used on ships is the main source of microplastics. In the current study, chemicals such as polyurethanes and epoxy resins typically used in paints and coatings for ships were also found in the air samples.

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