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## Eastern Cape government to roll out public EV charging stations

By Sue Segar

IN anticipation of the burgeoning uptake of electric vehicles on South African roads, the Eastern Cape Provincial Government has contracted the technology company, Rubicon, to install thirteen 150 kW EV public charging stations within the province.

Rubicon's director for Energy and E-Mobility, Greg Blandford described the development as a "pioneering initiative, and a real first" from the Eastern Cape government, to ensure the future sustainability of SA's automotive sector.

"We need to ensure we have collaboration between the public and private sectors when it comes to electric vehicles and e-mobility in SA. That's key. If we can get that right, it will be better for all," Blandford told Cape Business News.

The public chargers will be owned and funded by the Eastern Cape government, and operated in collaboration with the Eastern Cape branch of the Automotive Industry Development Centre (AIDC).

They will be placed in strategic points, roughly 100 to 150 km apart.

"So people will, quite easily, be able to travel in an electric car anywhere within the Eastern Cape Province. It will also help bridge the gaps between the Eastern Cape, KwaZulu-Natal, and the Western Cape," said Blandford.

"The more these chargers there are along national routes, the more it will enable drivers to get in their cars and drive anywhere in the country without suffering range anxiety. The networks are getting stronger all the time."

Blandford said South Africa's EV market is growing rapidly, with the current number of EVs at about 4 000 and expected to quadruple by the end of 2026. This growth is not only going to create numerous opportunities, including jobs, but is also a positive move towards energy efficiency in the country. Other provinces would do well to follow the Eastern Cape example, he added.

"The AIDC is funded by the provincial government to develop the automotive sector in the Eastern Cape."

The awarding of the AIDC contract is part of Rubicon's expansion of its existing



Greg Blandford.

network of 90 EV chargers to 250 by the end of next year. Rubicon is also collaborating with vehicle manufacturers including Volvo and Audi.

Rubicon is an industrial automation solutions supplier to the manufacturing sector and related system integrators in South Africa, importing and distributing cutting-edge technology from around the world with the aim of providing a "complete industrial technology basket". They specialise in renewable energy, electric mobility, lighting, building automation and power solutions. The company also supplies bank-backed solar energy systems to homes and businesses. It is also the official partner for Tesla's battery systems, and the first company to introduce a Tesla vehicle to South Africa (the Model X).

### Launch date imminent

The installation of the first two charging stations (which recently arrived from Spain) will be completed within the next few weeks in Umtata. "The balance of these charging stations will be installed by the end of April next year," Blandford said. "The locations of the balance of the installations are still under review. It takes time to establish a site, because these are high-powered chargers, capable of delivering up to 600 km of charging range in an hour for an electric car. The challenge is to find sites that are able to supply the power to the charger."

"We are also looking at sites that have roof top solar energy installed, to make maximum use of green energy. For sites that don't have the ability to provide green energy, we are discussing a greening agreement with one of the license holders in SA to provide renewable energy to the site."

### New skills and job opportunities

Blandford said the skills sets required for the initiative is similar to those currently offered at universities and training institutions. "We met with some of the universities specifically to discuss e-mobility, the future of the technology and to equip them to be able offer courses that align with these programmes. EV charging networks provide job opportunities for civil engineers, electrical engineers, service technicians and there are refined skills sets within each discipline, such as programming the charging units."

"It's an exciting venture; with access to new technologies and supporting skills that we are bringing from Europe - the development of EV charging infrastructure will offer career enhancements to our local population, enriching skills."

Blandford said if the Eastern Cape initiative catches on, he believes other provinces will follow and provide similar investments into EV infrastructure.

"Much of the infrastructure in South Africa is public so it makes sense that provincial governments provide either suitable locations for these charging units or directly fund these initiatives. The more electric vehicles there are - and we know there will be thousands and thousands of them, maybe millions on our roads in the future, it makes sense for us to deploy the infrastructure now."

He said SA currently has the best EV charging network ratio - one of the best - in the world. "We have roughly 4 000 EV's on our roads - and 500 public charging stations in total but that number will rapidly grow in step with the amount of cars that come into the country."

"There is a lot of potential for EV charging stations. I envisage that we will have somewhere between 20 to 30 000 of these eventually across the country plus you will still have EV owners having charging units in their own homes, to provide a daily top up. There will also be incentives in place at that stage within municipalities."

## Growth for Jobs strategy well on track



By Sue Segar

THE Western Cape Government's Growth for Jobs (G4J) strategy, launched in July this year, is now in full implementation, and already showing potential to build an economy even larger than the trillion rand anticipated in the original formulation of the strategy.

This was the positive view put forward by Mr Velile Dube, HOD: Economic Development and Tourism for the Western Cape Government when he delivered the keynote address at a client event for the infrastructure development group of companies, the Bigen Group.

The ambitious strategy has, as its stated goal, to "build a trillion rand, jobs-rich, inclusive, sustainable, diverse and resilient provincial economy." It has set a target of achieving between 4% and 6% growth a year in real terms by 2035 and could potentially create over 600 000 jobs. Core to the plan is that the private sector creates jobs, while the role of the Western Cape Government is to ensure ease of business - ensuring the private sector has sufficient access to energy, water, infrastructure, skills and technology.

Dube said when the strategy was developed, the GDP of the Western Cape in rand terms was about R642 billion. "That is where the target of

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## Growth for Jobs strategy well on track

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a trillion rand came in and we think there is even more potential. So far this first quarter, on the back of this strategy we've seen R6,72 billion new investment into the Western Cape Province. We are starting to think that that number is actually far less than what the real potential is for the province.

"Our job is to enable the private sector and then step out of the way and let them do what is best ..."

Dube spoke about the seven pillars of the strategy, which include:

1. Driving growth opportunities through growth and investment: "The goal is that private sector investment will be 20 percent of regional GDP, translating to R200 billion, by 2035";

2. Stimulating market growth through exports and domestic markets: "The goal is for the value of Western Cape exports of goods and services (including tourism), to triple by 2035";

3. Energy resilience and transition to net-zero carbon: "The goal is to reduce reliance of energy from Eskom of

between 1 800 to 5 700 MW by 2035, estimated to attract between R21,6 billion and R69,4 billion in related investment";

4. Water security and resilience: "The goal is to double the amount of water available for secondary and tertiary economic sectors (primarily from non-productive use) by 2035 and honour existing allocations to agriculture";

5. Technology and innovation: "The goal is, by 2035, for research and development expenditure to increase by 300% in real terms, reaching R35 billion and venture capital deals will total R20 billion";

6. Infrastructure and connected economy: "The goal is that, by 2035, the Western Cape economy will have the infrastructure required to support and enable a R1 trillion economy and public sector capital investment in the Western Cape will be 10% of regional GDP; and

7. Improved access to economic opportunities and employability skills; "The goal is that all citizens who want to be economically active have improved access to economic opportunities and employability through at least one pathway."

Dube said the Western Cape is doing better on many fronts, than other provinces, "but compared to our peers globally we're still far short of what is possible."

Mr Luthando Vutula, Group CEO of Bigen, said the group, along with the Western Cape Government, are united by a common purpose – the development of infrastructure in the Western Cape.

"The importance of infrastructure cannot be overstated. It is an enabler of progress, a catalyst of innovation and a gateway to new horizons. It's the foundation on which we build the economy, communities and the future."

"It's the roads that connect us, the schools that educate us, the hospitals that heal us and the services that power our homes and businesses."

Mayor, Geordin Hill-Lewis spoke about the massive economic opportunities for the Western Cape as a province.

"We know we are growing faster than the rest of the SA economy, which is why we have 21 % compared to (the national) 36% unemployment rate. But to decrease unemployment, we have to have economic growth. It is our obsession in this province. Everything we do is about that, because we are obsessed with bringing people out of poverty; that is what is holding our people back."

He stressed that infrastructure development is the "engine room of economic growth"

"You can't have economic growth without infrastructure investment."

According to the latest census figures, Hill-Lewis said, the Western Cape has gone from the fifth to the third most populous province in SA; with Cape Town having moved from the third most populous city to the second, just behind Johannesburg

which is suffering population shrinkage.

"In a couple of months, Cape Town will cross over the 5 million person mark, so we are booming from a population perspective which puts huge pressure on existing infrastructure."

He said if even four or five of the pillars envisaged in the province's growth strategy are achieved, the province and the city will enjoy an "unprecedented economic boom".



Velile Dube.  
Photo credit Sue Segar.



Luthando Vutula.

## Takeover deals (and economic growth) are on the rise across Africa – KPMG report

About two-thirds of respondents in a KPMG survey expects M&A activity to increase over the next two years. *By Larry Claasen.*

BUSINESS leaders in Sub-Saharan Africa not only expect to see a rise in mergers and acquisitions (M&A) but are also optimistic about the prospects of accelerated economic growth in the region over the next few years. This is according to KPMG's maiden Doing Deals in Africa Report, which said: "68% of respondents expected deal activity to increase over the next two years."

This positive outlook followed a 21% increase in M&A deals, rising to 297 in 2022 from 2021. This figure is double that in 2020, showing a recovery from the Covid-19 pandemic. The recovery can also be seen in the value of the deals, which increased from \$8.6 billion in 2020 to \$19.2 billion.

"Overall, it represents an impressive increase and reflects the dynamism and immense growth potential of Sub-Saharan Africa."

The biggest driver for investment in Africa is the region's "abundant natural

resources" and attractive asset valuations compared with more developed, lower-risk markets.

This can be seen in about a third of deals by domestic investors in the mining and energy industries, saying their most recent acquisition only ranged between \$5 million to \$15 million. A further 35% of domestic investors said their deals were valued between \$15 million to \$50 million.

There is a similar story with international respondents, who reported that 49% of their deals also fell within the smaller ranges.

Another key driver for investing in Africa was that it offered good deals in terms of valuations. This was one of the reasons an Australian company invested in a business in Senegal.

"Our objective was to acquire a company that was priced well and had good future prospects. We reviewed the potential integration challenges before completing the deal and most of them

were manageable," said the Australian group's head of strategy to KPMG.

### Positive prospects for South Africa

The optimism on the part of decision-makers came despite the difficult economic performance in South Africa, which has been hamstrung by its inability to maintain a constant supply of electricity.

Despite this, respondents were optimistic when it came to the country's prospects when it came to M&A.

"South Africa and Nigeria are expected to see the lion's share of this, being the top two destinations for future investments among those planning an acquisition in the region, as cited by 50% and 30%, respectively."

KPMG said the economic prospects for the region was expected to grow on the back of a rapidly growing population, which according to the United Nations, was expected to reach 4.2 billion by 2100.

"In concert with

rising urbanisation, industrialisation and the increasing significance of free trade reform on the continent, Africa is likely to grow into the foremost engine of global growth over the coming decades."

### Be cautious

Though Africa's prospects are improving, KPMG warns there were still hurdles to overcome when doing business on the continent. It noted issues like economic volatility, currency risk and political volatility were cited as the biggest challenges faced by respondents.

It also pointed out that 22% of domestic respondents, cited transparency issues and lack of information when completing due diligence as the biggest challenge. It warned: "Investors must tread carefully when analysing target companies' financials since any reluctance to disclose information could indicate potentially fraudulent activities."



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# Cape Town Cruise Terminal set to enhance passengers' experience

By Sue Segar

AS Cape Town prepares for a bumper cruise season, the V & A Waterfront is determined to ensure that passengers arriving in the City on cruise ships have a world class experience from the moment they leave their ship.

Cape Business News recently visited the Cape Town Cruise Terminal for a tour of what visitors arriving in the City can expect when they disembark from the ships at the Terminal.

The cruise industry, which is seasonal, runs from October to May. Recently, an economic impact study conducted by Wesgro found that cruise tourism injected R1,2 billion into the Western Cape economy between November

2022 and May 2023 which was the 2022/2023 cruise season. The study found that the Port of Cape Town welcomed 70 ship calls, carrying 145 000 two-way passengers and 42 000 crew members, marking the biggest cruise season the terminal has experienced. The study also found that for every 30 cruise passengers that arrive, the cruise industry creates one full-time job – resulting in about 1 800 local jobs created in that season.

Donald Kau, head of Communications for the V & A Waterfront said that, since December 2015, when Transnet handed over the operation of the cruise terminal to the V&A Waterfront in a Terminal Operator agreement, the V & A Waterfront authori-

ties had gone all out to upgrade the building, and, in turn, the passengers' experience. Since signing a 20-year agreement to operate the cruise terminal, the area – which was originally a small industrial building which served as a precooling facility for fruit exports – has become a state-of-the-art facility.

Kau said the cruise ship industry is a crucial part of Cape Town's ocean economy, adding that if a passenger's experience on arrival is unsatisfactory, it can affect their perception of the whole city, recent research from the Cruise Lines International Association (CLIA) showing that 63% of cruise passengers are likely to revisit a destination they first encounter through a cruise ship. The cruise processing

facilities have been set up to make the disembarking process as user friendly and enjoyable as possible.

An "ecosystem of businesses", set up at Makers Landing in the Cruise Terminal area has expanded its offerings to welcome passengers with a shared incubator kitchen, and a food market offering a variety of food businesses, beverage experiences and shops focusing on South African flavours and culture – thus offering tourist experiences as well as creating jobs for local people, he added.

The passenger experiences include; Afrikoa, the first bean-to-bar company in South Africa to produce chocolate made from cocoa sourced directly from African farmers and hosting a chocolate studio mak-



ing truffles and other confectionary; Charms Kitchen, which boast Indian inspired meals; Conscious Meat Merchants, specialising in sustainable meat, Emazulwinie a restaurant run by Mmabatho Molefe inspired by Zulu heritage; Fuzzy's Koesters, offering one of the Cape's

famous delicacies, the koeksister, Pienaar and Son, a small craft distillery showcases local gin, while Pitso's Kitchen serves South African cuisine and Ukhamba Beerworx, the first black-owned beer brewery in Cape Town, that gives a taste of local beer.

The Cape Town

cruise terminal was recently awarded Africa's Leading Cruise Port at the World Travel Awards. "The cruise terminal is up and running to welcome passengers to Cape Town for this season and for future cruise seasons as the terminal continuously improves its services."

# AWS helps boost water availability in Cape Town



AMAZON Web Services (AWS), which recently announced it will launch its online shopping service in SA next year, is to renew a strategic investment in a watershed restoration project in partnership with the Greater Cape Town Water Fund (GCTWF), led by The Nature Conservancy, towards water sustainability in the region.

The GCTWF has been working towards creating a healthier, more water-secure future for the Cape Town region since 2018. The AWS-backed

initiative has impacted Cape Town by applying a nature-based solution to droughts affecting nearby communities, with these works set to continue until 2030.

The Fund enables watershed restoration activities that remove thirsty invasive plants from the main catchments that supply Cape Town's water. On the outskirts of the city, invasive non-native trees such as pines have been soaking up 55 billion litres of water a year, and threatening one of the world's rarest

est habitat types, the Cape Floristic Region.

Taking a nature-based approach to some of the worst recorded droughts in South Africa, the GCTWF brought in specialist local teams to remove these invasive pines from 130,000 acres.

This work is now actively conserving native vegetation, reducing the severity of wildfires, and increasing the volume of water flowing into the city's depleted reservoirs.

"The Greater Cape Town Water Fund

stands as a testament to the power of nature-based solutions and the power of partnership," said Louise Stafford, TNC's South Africa Country Director.

Already nearly 15.2 billion litres of water are being released back into the Greater Cape Town region every year as a direct result of the GCTWF's activity, and this figure is projected to grow as work continues until 2030.

Water security is a major concern for the City of Cape Town, which came close to reaching "day zero" in residential areas in 2018. Cape Town's population is growing fast. With climate models showing decreased rainfall coupled with increased temperatures in the future, nature-based interventions are now an essential and proven step to take in order to ensure the City's residents can continue to readily access water.

Support for this project is part of AWS' wider water-positive commitment to return more water to communities than it uses in its direct operations by 2030. AWS will meet this com-

mitment through four key strategies: water efficiency, sustainable sources, community water reuse, and water replenishment.

"The partnership between AWS and The GCTWF marks another significant step in AWS' ongoing commitment to achieving our water-positive objectives, and our first contribution to improve water

security for the City of Cape Town," said Will Hewes, Global Lead, Water Sustainability at AWS.

With water scarcity becoming a growing environmental concern worldwide, AWS also supports projects in Brazil, India, the US and the UK, providing nearly 2.4 billion litres of water each year to the communities where AWS operates with

much more to come as AWS continues toward the 2030 goal.

The City of Cape Town has integrated nature-based solutions into its municipal water strategy as a result of the success of the GCTWF project. Over the next two years, the Greater Cape Town Water Fund will transition towards its goal of becoming an independent, locally-led entity.

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# DoHA dragging its feet on ‘nomad’ visa – losing vital skills

By Sue Segar.

THE Western Cape’s Minister of Finance and Economic Opportunities, Mireille Wenger has vowed to continue to “fiercely agitate” for the urgent introduction of the long-awaited digital nomad visa – a specific type of visa that enables applicants to work remotely in foreign countries.

Interviewed by Cape Business News, Wenger said the “unnecessary delay” in introducing the visa means that South Africa and the Western Cape continue to lose digital nomads to competitor destinations, including South Africa’s neighbour, Namibia. “They have moved with speed and urgency to attract this new market,” Wenger said.

Digital nomads are able to earn a living by



Mireille Wenger.

working online from locations they choose globally, as opposed to staying in a fixed location for work. The

visa means workers are free to explore different countries without having to apply for long-term visas.

The digital nomad option has taken off among many workers, especially individuals working in the tech sector.

Numerous countries already offer digital nomad visas and this has resulted in a growth in foreign visitors, which brings revenue into the countries.

It is common cause that the digital nomad visa would benefit South Africa, and, in particular, the Western Cape because it would mean that tourists extend their visits. According to the department of Home Affairs, the Immigration Act needs to be amended to allow for the introduction of these visas.

Despite President Cyril Ramaphosa announcing, during his State of the Nation address in 2022, his intention to launch a digital nomad visa,

it has still not got off the ground, and, in August, the department of Home Affairs announced that South Africa had missed a deadline to implement it by the end of the year because of the failure to amend the Immigration Act to include the provision for digital nomads.

The Western Cape Government submitted proposals to the department of Home Affairs in 2021 and in September 2022, which included recommendations which would enable introducing this category of visa without having to amend the Act.

“The Western Cape Government’s constructive proposal to the Department of Home Affairs, first submitted May 2021 and again in September 2022, sets out clear recommendations that would enable the introduction of this visa within the existing legal framework, through amendments to Immigration Act 13 of 2002 regulations – without needing to amend the Immigration Act,” Wenger said. “There is a clear proposal on how to swiftly introduce a remote work VISA. The continued failure to introduce it is costing our economy and compromising job creation, when we should be supporting sectors that have shown resilience and significant job-creating potential, such as tourism.”

Wenger added that the longer the visa is delayed, the more opportunities South Africa and the Western Cape will lose in terms of foreign investment and growth in sectors such as tourism.

She called on the department of Home Affairs to consider the proposals by the Western Cape government.

“The introduction of a remote Working VISA is a clear win-win solution to boost long-stay tourism in the Western Cape and South Africa and is very much in line with South Africa Tourism’s drive to get tourists to stay longer.

“I will continue to fiercely agitate for the urgent introduction of the VISA by engaging with Minister Motsaledi and investigate all routes to ensure its long-overdue introduction, for the benefit of both the provincial and national economy,” Wenger said.

# Excellence awards for developing student accommodation



GROWTHPOINT Properties’ purpose-built student accommodation developments excelled at the recent SAPOA Property Awards in Innovative Excellence, winning two prestigious categories that recognise development distinction within the real estate industry.

Peak Studios in Observatory, Cape Town, was awarded top place in the Heritage category and Apex Studios in Braamfontein, Johannesburg, won the Student Accommodation Award.

These esteemed awards by the South African Property Owners Association (SAPOA) highlight the ingenuity of the winners’ vision, passion and dedication in South Africa’s modernised property industry.

The two award-winning student residences were Growthpoint’s first foray into developing purpose-built student accommodation.

Both Apex Studios and Peak Studios are part of the Thrive Student Living by Growthpoint portfolio. They opened for the 2023 academic year and have surpassed expectations, achieving 100% and 98% occupancy rates respectively, demonstrating instant commercial success as well as quality development.

“With strong demand, we have acquired a further three sites that Growthpoint’s multi-award-winning development team will complete for the 2025 and 2026 academic years, two near Wits University and one at the University of KwaZulu-Natal,” reports Amogelang Mocumi, Fund Manager of Growthpoint Student Accommodation Holdings.

## Heritage Award

Peak Studios houses 563 students in a new nine-storey residence that repurposed a heritage building to serve the surrounding University of Cape Town and other private institutions of higher education. The property comprises two buildings: a new, multi-storey residential building inspired by the older heritage building facing Main Road. The new residence building reflects a contemporary interpretation of the existing building’s geometry to create a unique addition to the area.

The offices, communal areas, gym, laundry and study areas are in the heritage building, which seamlessly ties into the new residential building on the ground floor. The main circulation area spills out onto an interior courtyard, extending the space for exercise and relaxation to the outside. Hugging this larger green area, the new building creates various safe, inspiring interior and exterior spaces for studying, gathering and living.

## Student Accommodation Award

Apex Studios houses 901 students over 13 storeys in a new residential building which consists of a variety of unit types, each with a private shared bathroom and kitchen lending itself to an apartment style of living. As part of its development, an existing heritage building on the site was restored externally and extensively refurbished internally to house all the unique common spaces such as the study centre, lounge areas, games room and gym.

A standout feature of Apex Studios is its prime position directly opposite the main University of the Witwatersrand campus.

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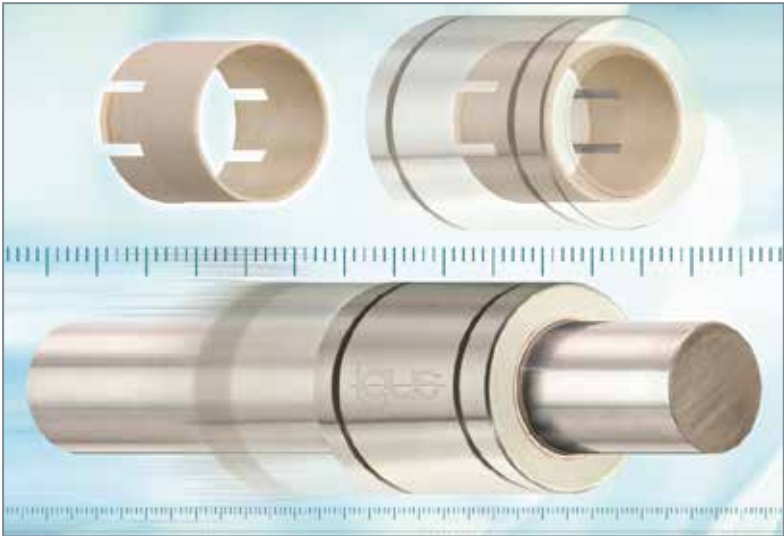
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# Stronger than steel polymer materials



GERMAN polymer manufacturer, igus, is slowly changing the way we do things by replacing metals and other everyday materials with stronger, longer lasting polymers that can stand up to almost any challenge.

In South Africa igus is gaining a reputation for its innovative plastics that can outlast even the strongest traditional materials hundreds of times over and are best known for their exceptional performance, durability and low friction properties.

Among these materials, iglidur stands out as a versatile choice for various applications across many industries. Here are some examples of its most successful uses.

**1. Bearing Applications**  
igidur materials are extensively used in bearing applications. These self-lubricating materials offer low friction, long service life and resistance to wear and tear, making them ideal for applications in automotive, aerospace, and industrial machinery.

**2. Food Processing**  
In the food and beverage industry, iglidur materials are a preferred choice due to their FDA compliance, low moisture absorption and corrosion resistance. No lubricants are required for these materials used for various applications, including conveyor systems, bottling equipment and packaging machinery.

**3. Medical Equipment**  
The medical sector benefits from iglidur materials in equipment such as patient beds, medical

robots and diagnostic devices. iglidur's biocompatibility, chemical resistance and low particle emission characteristics make them suitable for this critical industry.

**4. Automotive Seating**  
Automotive manufacturers use iglidur materials in seat height adjustment systems. These materials provide silent, low-friction operation and reduce maintenance requirements, contributing to a comfortable and reliable driving experience.

**5. Material Handling**  
Conveyor systems, sorting machines and automated warehouses depend on iglidur materials for their low wear and quiet operation. These materials enhance the performance and longevity of the equipment in material handling applications.

**6. Packaging Machinery**  
The packaging industry relies on iglidur materials for various applications, including pick-and-place systems, labelling machines and filling equipment. The self-lubricating properties of iglidur materials reduce downtime and maintenance.

**7. Agriculture**  
In agriculture, iglidur materials are used in applications such as crop protection equipment, harvesting machinery and irrigation systems. The materials' resistance to dirt and dust, combined with their durability, ensures reliable performance in harsh outdoor conditions.

**8. 3D Printing**  
Iglidur materials are employed as 3D printer bushings, providing smooth and precise

motion. Their self-lubricating properties eliminate the need for additional lubrication, simplifying the printing process.

**9. Furniture**  
igidur materials find applications in furniture design, particularly in drawer slides and pivot joints. Their silent operation, resistance to humidity and longevity enhance the quality and functionality of modern furniture.

**10. Offshore and Marine**  
For the offshore and marine industries, iglidur materials are employed in winches, cranes, and other machinery used in harsh saltwater environments. Their resistance to corrosion and long service life makes them a reliable choice for these demanding applications.

igus product specialist, Juan-Eric Davidtz says engineers from a wide range of industries regularly enquire about igus polymers to improve processes and enhance the durability of products that they manufacture.

"In most instances they choose iglidur which offers remarkable versatility in applications across various industries. From the automotive sector to medical equipment, packaging machinery to agriculture, these materials have proven their worth in diverse applications. As industries continue to evolve and demand more from their equipment, igus iglidur materials remain a trusted choice for improving performance and reliability.

# Manufacturing Indaba 2023: It's a Wrap!

THE Manufacturing Indaba 2023 has concluded, leaving a trail of innovation, collaboration, and industry transformation in its wake. As the premier event for the manufacturing sector, the Indaba once again exceeded expectations, bringing together leaders, manufacturers, innovators and enthusiasts to shape the future of manufacturing.

Highlights from Manufacturing Indaba 2023:

- **Industry Insights:** Attendees were treated to a wealth of knowledge, with industry experts sharing valuable insights into the latest trends, technologies, and best practices in manufacturing.
- **Networking:** Delegates, exhibitors and sponsors had the opportunity to connect with fellow professionals, forge partnerships, and expand their networks, creating opportunities for



- growth and collaboration.
- **Innovation Showcase:** The exhibition hall buzzed with innovation, featuring cutting-edge technologies, financial packages and solutions that promise to redefine the manufacturing landscape.
- **Thought Leadership:** Keynote speakers and panel discussions delved into critical topics, from sustainability and automation to our manufacturing

- future and digital transformation.
  - **Success Stories:** Success stories and case studies from across the manufacturing spectrum provided inspiration for attendees to implement change and drive progress in their own organizations.
- As we wrap up Manufacturing Indaba 2023, we extend our gratitude to all our participants, sponsors, speakers, and attendees who contributed to the

event's success. Your passion for manufacturing excellence is what makes this event truly exceptional.

We are already looking ahead to the future, planning for an even more remarkable Manufacturing Indaba in the years to come. Stay tuned for updates on Manufacturing Indaba 2024, to be hosted from the 22 – 23 October 2024 at the Sandton Convention Centre, where we will continue to shape the future of manufacturing together.

# Jhb vs CT: Which brands are the wealthiest prepared to splash out on?

DID you know that Johannesburg is the wealthiest city on the African continent with 14,600 high net-worth individuals (HNWIs), 30 centimillionaires and two billionaires? In Cape Town, the continent's third most affluent city, there are 7,200 HNWIs, 26 centimillionaires and only one billionaire. With the latest State of Luxury in Africa report produced by Luxity revealing an uptick in interest for the rarest and most exclusive pre-owned luxury pieces amongst this market, Michael Zahariev, the company's co-founder explores what the elite are looking for in each city.

The top two most searched for brands amongst the well-heeled

in both cities are Louis Vuitton and Gucci. "Not only do they dominate in terms of search curiosity but also lead in both purchases and sales – meaning that this segment is clearly undeterred by these brands' frequent and substantial price increases," he notes. "However, an individual in Johannesburg is approximately 1.2 times more inclined to search for goods from Gucci than someone in the Cape."

But that's not the only difference. "Capetonians seem to be making more savvy investment decisions than their Joburg counterparts when it comes to the categories of their pre-owned purchases," shares Zahariev. "For example, they

are twice more likely to search for TAG Heuer watches, which trade at a relatively high discount compared to the retail price. They are also 1.8 times more likely to show interest in items from Chanel, particularly with the brand's handbags being renowned investment pieces that not only outperform those from other design houses but even gold – the hallmark of stable investment in terms of returns."

Luxury jewellery brand Cartier also features on Cape Town's top 10 luxury brands list but is noticeably absent from the Johannesburg list. "This is presumably driven by the perpetual magnetism of Cartier's iconic pieces and their return on investment," he

highlights. "In contrast, Joburg consumers are more likely to be interested in shoes from the likes of Balenciaga and Dolce and Gabbana," points out Zahariev. "While both brands enjoy the highest resale values in the footwear category, selling at 67% and 63% of original prices respectively, this category yields the second-lowest investment return, with clothing having the worst."

"What these findings indicate is that regional preferences and cultural differences significantly impact the appeal of certain luxury brands not only among HNWIs, but the broader population too," he concludes.

*Not news but a bit of light relief! Ed.*



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# iTek moves towards accreditation

INVERTEK Drives, the UK-based designer and manufacturer of Optidrive variable frequency drives for electric motor control, has begun training technical staff from South African sales partner, iTek Drives, ahead of anticipated accreditation as an Optidrive full service and repairs centre.

Accreditation will reinforce iTek's position as a leading supplier of variable frequency drives (VFDs) in sub-Saharan Africa, the service and repairs centre removing any need to send product back to England, reducing costs and helping to contain prices under pressure from exchange rate fluctuations and inflation.

VFDs, also known as inverters, are electronic controllers that change motor speeds by adjusting electric frequencies and voltages. They are commonly fitted to fans, pumps, compressors and lifting equipment where fully adjustable speeds during start,

stop and machine acceleration are advantageous.

The well-established Optidrive VFD range enjoys a reputation as a high-technology, high-quality variable speed drive offered at prices that have remained remarkably competitive despite inflationary and other pressures.

"We have managed to keep our prices well below those of rival products, in most cases by about twenty-five percent," said Ryan Bisnath, iTek Drives sales director.

"We have optimised logistics by ordering in bulk to minimise freight costs, and we have absorbed some of the unavoidable input increases directly. This has helped keep our price increases down, generally at somewhere between five and eight percent," Bisnath explained.

"Optidrive has, through iTek Drives, without question become South Africa's lowest priced premium range of high-tech-

nology VFDs. Our ultra-competitive pricing strategy remains a major contributor to increasing sales volumes, up by 25 percent year on year on small drives, and 30 percent on drives of 50kW and above."

After iTek opens its service and repairs centre, the company will extend its bouquet of end-user training

programmes.

The previously established training centre, opened in May, already runs thrice-monthly modules on lifting applications. These will become weekly in Q4 to accommodate the increasing number of new customers. Training modules for pump and air-conditioning applications are being developed

for introduction in early 2024.

The service and repairs centre will be ready for inspection, audit and accreditation by Invertek Drives in November of this year, a stringent process that Bisnath says iTek is confident of passing.

"Repairs accreditation is an important step in our expansion plans," he said.



*Invertek's Optidrive Eco range of variable speed drives.*

own customers, mainly for applications in irrigation and air-conditioning," said Bisnath. "The more they understand Optidrive, the more likely they will be to incorporate it into the panels they put together."

Asked about geographic expansion, Bisnath noted that Optidrive VFDs were represented at an October trade exhibition targeting Zambia's mines.

"We hope to conclude negotiations with a sub-agent in Zambia soon," Bisnath said, "and we are in separate talks with a Namibian company. The first country in our African network will probably be Kenya, where negotiations are currently being finalised."

"The intention is to expand our footprint internationally within Africa, delivering top-quality drives to countries south of the Sahara, and supporting them with technical service via our newly accredited service and repairs centre," Bisnath said.



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## THE BEE IN MY BONNET COLUMN

# Fiddling while Rome burns

“TO do something trivial and irresponsible in the midst of an emergency; legend has it that while a fire destroyed the city of Rome, the emperor Nero played his violin, thus revealing his total lack of concern for his people and his empire.” – www.dictionnaire.com

Well that just about sums up the apparent approach government takes in running the economy, in the opinion of this observer.

Whichever branch of government one looks at, with the possible

exception of SARS – surprise, surprise, they collect all the money which the cadres squander – there is near complete collapse.

The latest example is Transnet - its freight rail operations are the backbone of the nation's economy, a monopoly that should be heaving in money but alas, it's heaving in debt of R130 billion and now requires R100 billion of taxpayers money to 'restructure'. Every branch of this behemoth is in trouble.

Its incompetent

board and management personnel have been leaving on mass, like rats leaving a sinking ship, with no accountability and no doubt with hefty multi million rand bonanzas.

Transnet's request from the Treasury for this 'bail out' is mired in gobbledegook – but they have a turnaround plan – how often have we heard that phrase and it's supposed to make us think that someone within the organisation with intelligence has had a lightbulb moment which is

the solution to all that ails the conglomerate.

Part of the turnaround plan, according to *Daily Maverick's Ray Mahlaka*, involves splitting Transnet's biggest unit in two – Transnet Freight Rail Operating Company and Transnet Rail Infrastructure Management. That involves more positions available for incompetent cadres to occupy adding millions of rands more in salaries when the business is in dire straits, but hell, who cares – certainly not the Minister responsible.

The gobbledegook continues with the suggestion that R47 billion of the 'equity injection' can be converted into shares if the plan succeeds which will provide the government with dividend payments. But the government already owns Transnet and all its dysfunctional subsidiaries such as the National Ports Authority and PRASA, so should be getting 'dividend' payment already.

A future part of 'the plan' is that R61 billion of Transnet's debt

would be 'taken over' by the government, in a similar move arranged for Eskom, which is also broke.

Calls for the private sector to help clean up this mess have been dismissed as it would amount to privatisation – an anathema to communist ideology, but the government would welcome the injection of private sector funding without any form of management or control. Yeah, right.

With the failure of all SOE's (except possibly SARS) it is little

wonder why international investors (bar one – China, but that's a different story) are reluctant to lend money to our multinationals with such an atrocious record of mismanagement and corruption. It is also a contributing factor in our roller coaster exchange rate, which penalises every citizen from every imported commodity, the largest being petrol and diesel, every time you fill up your car or truck.

Eish.

## Siemens Energy sponsors Eskom Expo for Young Scientists

By Thabo Molekoa,  
Chairman & Managing Director, Siemens Energy Southern Africa (m/)

THE 43rd instalment of Eskom Expo for Young Scientists was held at the Birchwood Conference Centre in Johannesburg 3–6 October 2023. Each year the Expo finds the top young innovators and scientists across South Africa and internationally, bringing these students together to compete against, and engage with, like-minded individuals on a platform that promotes innovation and scientific excellence. This year the Expo hosted 330 young scientists from 35 regions across South Africa, alongside 20 international students from 10 countries including Mexico, Namibia, Mozambique, and Turkey.

The Expo plays a pivotal role in promoting and sustaining the youth's interests in Science, Technology, Engineering, Mathematics, Innovation (STEMI)



Siemens Energy bursary winners.

subjects. It provides budding scientists with the opportunity to showcase and demonstrate their problem-solving skills, innovative capabilities, and creative thinking to solve some of the world's biggest challenges.

We saw students demonstrate power generation through an electrolysis system using lead pencils and water; we saw them improve the energy generation capacity of solar panels by using mirrors to direct sunrays throughout the day; as well as to identify how we can generate electricity by using the gas released from biodegradable substances. Platforms such as this also give

corporate organizations and educational institutions the opportunity to support the growth of STEMI subject skillsets and training, by providing the youth with the necessary tools to pursue scientific and engineering careers.

Siemens Energy was proud to participate as one of the main sponsors of this initiative, sponsoring students from Namibia and Mozambique to travel to South Africa and showcase their inventions. We also sponsored laptops to nine rural and underprivileged schools across the country, with two young scientists each receiving full bursaries to study engineering

at a university of their choice.

The Expo was an insightful and inspiring event that demonstrated the impressive capabilities of today's young scientists. It allowed the students to showcase their knowledge and skill, in a fun, exciting, and supportive environment.

As global economies rush to enable a shift in energy systems; we need to encourage innovation, knowledge, and continuous revolution in training and education to facilitate progress. Involving the youth in challenges like these, provides the next generation of energy professionals with opportunities to learn and lead in the energy transition.

Siemens Energy recognizes the role of the youth in tackling this problem, our Just Energy Transition Hackathon, held last year is another example of how Siemens Energy is assisting in exposing the youth to a passion for STEMI subjects and energy in an engaging and rewarding format.

## Grindex's Magnum pump offers heavy-duty drainage capability

IN the two decades since its launch, Grindex's Magnum pump has emerged as a popular choice for heavy-duty drainage tasks across myriad applications in the construction, mining and quarrying sectors.

Available from Integrated Pump Technology, the Southern African distributor for this quality international pump brand, there are three distinct configurations – the Magnum L for low head, Magnum N for normal head and Magnum H for high head applications.

Justin Bawden, Key Account Manager at IPT, says despite its robust industrial strength, a notable feature of the Magnum pump is its surprising portability. “The ergonomic design of the pump facilitates easy and straightforward handling which aids ease of installation and movement from site to site.”

Further, its streamlined construction, characterised by fewer components, simplifies



maintenance inspections and servicing, making these not only quicker but also more cost effective. Grindex has incorporated a cutting-edge hydraulic design into the pump, ensuring it not only provides high wear resistance but also minimises performance decline after prolonged use.

Significantly, according to Bawden, this pump boasts up to three times the wear resistance of its competitors, thanks to this optimised hydraulic design. Adding to its resilience, the Magnum pump features an

air valve specifically designed to prevent overheating by cooling the equipment during dry runs. This innovative measure ensures prolonged pump life and uninterrupted performance, even under challenging conditions.

The Magnum pump's dependable design combined with its ease of maintenance has earned it a favoured position among hundreds of customers worldwide and is available in both 50Hz and 60Hz variants.

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# Msikaba bridge project builds communities

THE localised upliftment of local road infrastructure connected to the Msikaba bridge Project is an example of how infrastructure can be a catalyst for community transformation.

### Bridging Gaps

Laurence Savage, Project Director for the Concor Moto-Engil Joint Venture (CMEJV) – the main contractor – says the primary intention behind this project was to provide secondary access routes to and from the Msikaba Bridge for the CMEJV. While this was a pivotal logistical move for the construction phase, it bore more profound implications, he says. “Firstly, these routes provide seamless access for the local communities, eliminating previous barriers and promoting integration. Secondly, they pave the way for potential economic upliftment.

With enhanced connectivity, sectors like tourism now stand to gain immensely, opening the region to new possibilities.”

### Scope and Span

The upliftment projects were divided between the North Bank and South Bank of the Msikaba Bridge Project, embracing a wide spectrum of road types. From the rehabilitation of surfaced roads on the R61 to re-graveling existing sandy terrains, the need for these improvements was apparent. Beyond the physical work, the incorporation of stormwater facilities in multiple areas denotes meticulous planning. However, Savage says, the real triumph lies in the project’s socio-economic impact. “Over 40 local subcontractors were involved, illustrating an unwavering commitment to integrating local expertise and manpower.”



### A commendable effort by SANRAL

The South African National Roads Agency Limited (SANRAL) deserves recognition according to Savage who says the involvement of SANRAL and the CMEJV brought hope to a place where economic activity has been bleak. “SANRAL

has not just driven the development of roads but have also actively contributed to job creation in a region that needs it.”

### Key Achievements

The R61 stretch from Port St Johns, passing through Lusikisiki and Flagstaff to the Bazana turnoff, spanning nearly

100 km, has seen transformational change. From immediate pothole repairs to complete

surface replacements in sections, the road has been revamped from a hazardous path to a user-friendly roadway. Between Lusikisiki and the Msikaba Bridge, a combination of re-graveling and innovative usage of geo-cell concrete roads has made travel safer. Taxi routes that were previously inaccessible in unfavourable weather conditions are now approachable. Similar advancements can be observed on the Msikaba Bridge’s North bank, where re-graveling, geo-cell installations and stormwater systems have been integrated to better serve the rural communities. Savage says an environment-friendly approach was adopted with bush clearing activ-

ities, again involving local SMMEs, further pushing the agenda of job creation. “It is significant that through these projects over 400 jobs have been generated, especially in the geo-cell projects domain. Furthermore, the CMEJV’s approach to training, mentoring and uplifting SMMEs is commendable,” he says. “This initiative not only imparts technical skills but also fosters a culture of quality, financial responsibility and adept project management.” The Msikaba Bridge Project and its ancillary developments are still a work in progress. Over the past two years, the region has seen infrastructure development and the laying down of a foundation for a more connected future.

## CCP reopens De Aar plant



COLOSSAL Concrete Products, a Level 1 B-BBEE company and the largest manufacturer of railway sleepers in Southern Africa, reopened its mothballed De Aar factory in October. This follows the recent conclusion of a one-year contract with Transnet Freight Rail (TFR) to supply precast concrete railway sleepers for the parastatal’s national freight rail network upgrade. The De Aar facility is strategically located in the Northern Cape, near one of the arterial railway junctions connecting the Cape Town, Johannesburg and Kimberley lines and has a output capacity of over 1 million railway sleepers per annum. Parallel tracks of growth and development This contract paves the way for growth

in South Africa and beyond, according to CEO Gwen Mahuma-Madida. The company has grown substantially over the past two years, taking over from a listed entity and entrenching its own culture, while maintaining a sound client base and expanding its market share locally and cross-border. This followed the June 2021 acquisition - by a consortium made up of Colossal Africa Group, Mafoko Holdings, Clon Capital and Randvest Capital - of Aveng Infraset’s Brakpan and De Aar facilities for their rail, telecommunications, civil engineering and specialised precast concrete manufacturing capabilities and intellectual property. Mahuma-Madida says although the De Aar facility had been mothballed prior to the 2021 acquisition, its potential was always

evident. “De Aar, like many areas in the Northern Cape, has been economically depressed in recent years. We are collaborating closely with the local mayor and municipal manager, who are excited about the plant reopening,” says Executive Director Chris ‘CK’ Klagsbrun. Colossal Concrete Products is recognised internationally as one of the world’s most innovative, diverse concrete sleeper producers, with an experienced research and development division, having developed over 40 rail-related products. Colossal manufactures other precast concrete products including culverts, poles and masts, for use in the mining, civil engineering, construction and renewable energy sectors. There are plans to manufacture wind turbine towers too.



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## SANY celebrates 18 years of success in SA

SANY celebrates 18 years of OEM-driven products and services to the construction and mining industries in South Africa this year. SANY has become a trusted and respected one-stop solution partner for southern Africa's industry, offering renowned yellow machinery for purchase, rental, service, and financing.

SANY established a presence in South Africa in 2006 with a head office in Boksburg, and has, since then, opened branches in Middelburg, Rustenburg and Richards Bay. In South Africa, SANY holds R170 million in spare parts and offers 24/7 after-sales service. The company aims to increase its spare parts stockholding in South Africa to R270 million in the next year. Through its footprint, SANY supports more than 3 000

operating units in South Africa.

The company's flagship products include 5.5 - 125 ton excavators, 5 - 7 ton wheel loaders, 60-136 ton dump trucks, 12 - 20 ton drum rollers and 14 feet graders.

SANY heavy-duty machines have been used to construct roads, bridges, power plants, and other important infrastructure projects around the world. Two major projects that made use of SANY machinery include Burj Khalifa, the world's tallest building, and the Hong Kong-Zhuhai-Macao Bridge (HZMB) which recently earned the 1st Mega Project Award from the International Bridge Conference (IBC). Global infrastructure experts have awarded seven excellence awards to projects around the world, and

the innovations involved in the HZMB were named Outstanding Project of the Year in the 2021 FIDIC Project Awards.

The SANY Group was founded in 1986. In 1994, it independently developed China's first high-pressure, truck-mounted concrete pump with a large displacement. With more than 30 years of dedicated innovation, SANY has become one of the largest construction machinery manufacturers in the world. The SANY Group has a footprint in southern Africa, Germany, China, USA, India, Brazil and Indonesia, the last five comprising extensive R&D facilities. Its southern Africa footprint includes South Africa, Botswana, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe.

## Big Brother or BFF? Govt's quest for total information

By Philip Tillman



THE Financial Action Task Force's greylisting of South Africa has had a severe knock-on effect on businesses in the country. According to the task force, money laundering is a significant risk factor in the South African economy, and tighter controls are needed to close any gaps.

In response, the South African Revenue Service (SARS) and the Companies and Intellectual Property Commission (CIPC) are establishing a register that holds more detailed information about the control and beneficial properties of organisations.

SARS gathers this data through income tax returns, and the CIPC gathers it through the new declarations inherent to annual returns. This means that companies and trusts can't maintain their compliance with these institutions without supplying their beneficial information.

If you own a com-

pany or several entities, you're probably familiar with the CIPC deadline to disclose a beneficial ownership register.

This deadline — which lapsed on 1 October 2023 — signals the start of greater corporate transparency in South Africa.

There are several challenges companies should be aware of, however. The first is the enormous administrative burden this task places on businesses, especially those that manage several legal entities. Even if they have the best of intentions, it's possible that they may struggle to comply, which could result in costly fines.

Another key issue involves understanding who qualifies as a "beneficial owner". A beneficial owner is an individual or entity that directly or indirectly holds a substantial interest in a company, essentially wielding significant control or influence over its operations. For large corporations with diverse portfolios, identifying these beneficial owners among large numbers of companies can feel like navigating a labyrinth.

This challenge goes beyond the initial identification. Keeping this information updated is equally critical. The CIPC's register is not a one-time obligation. Instead, it requires

continuous monitoring and reporting. This becomes a herculean task for corporations that own multiple subsidiaries, each of which regularly experiences changes in ownership and control.

**"SARS gathers this data through income tax returns..."**

But there's no doubt-ing the value in this journey. Identifying beneficial owners isn't just a compliance requirement but also an ethical responsibility and a matter of reputational risk. Investors, customers, and stakeholders are increasingly concerned about companies' ownership structures. They want to know who's calling the shots and who bears ultimate responsibility. Failing to identify beneficial owners can damage trust, erode corporate reputation, and lead to potential legal consequences.

To navigate this, corporations must adopt a proactive approach, starting with a thorough due diligence process to map out their corporate family tree and identify beneficial owners. Next, they must establish robust internal processes and systems to ensure ongoing compliance. Regular audits and

checks are essential to maintain an accurate beneficial ownership register. Another way of addressing these requirements is using software that holds the information and can proactively ensure the check occurs. Imagine a solution that makes it easier to maintain accurate, beneficial information to ensure 100% compliance. At Konsise, we're working with SARS and the CIPC to achieve precisely that.

The October deadline presented an opportunity for corporations to take the lead in demonstrating responsible corporate governance. Failing to comply with SARS and CIPC requirements can result in penalties and tarnish a corporation's image. The public is increasingly scrutinising corporate behaviour, and failing to demonstrate a commitment to transparency can be costly. In the end, being open about their corporate ownership structures is a challenge that corporations should willingly embrace.

Philip Tillman is the CEO of Konsise, a tax software solution that combines the functionality of Excel, Share-Point, Outlook, and SARS eFiling into a single platform, allowing South African businesses to manage their tax obligations efficiently.

## Joining hands with UNICEF: Chery focuses on global children's education

CHERY Automobile and UNICEF announced a new two-year, \$6 million partnership, in support of education programmes around the world. According to UNICEF's State of Global Learning Poverty 2022, an estimated 70 per cent of the world's 10-year-olds were unable to read and understand a simple sentence. This figure is up from 57 per cent before the global COVID-19 pandemic.

"We very much appreciate Chery's support for UNICEF education programmes," UNICEF Representative to China Amakobe Sande said. "This will help us provide quality education for some of the most vulnerable and marginalized children in China and around the world. It will also support countries to strengthen their education systems, to better serve children and communities."

"This partnership holds the potential to transform the lives of millions of children worldwide," added Carla Haddad Mardini, Director, UNICEF Private Fundraising and Partnerships. "Funding from Chery will help us support those children who need it most, opening up avenues of hope and opportunity to enable them to realize their potential and build brighter futures. I extend my warmest congratulations to Chery for embarking on this journey with us." The new partnership will help UNICEF tackle the learning crisis by supporting its global

education programmes aimed at providing quality education to the most disadvantaged and marginalised children. Chery will also support education programmes in China, Mexico, South Africa and Türkiye. This will include providing inclusive, healthy, and safe learning environments for children and adolescents, ensuring equal opportunities to learn and enhance their employability. Invest-

ing in education of the poorest children is the most cost-effective way to ensure a bright future for children, communities and countries.

In 2022, UNICEF and partners enabled 37.8 million out-of-school children to receive a quality education, including 2.5 million children with disabilities, 3.1 million displaced children, and 18.6 million children affected by emergencies.



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# Why businesses should consider having their own bespoke ChatGPT – Deloitte Africa

**By Larry Claasen**

THE emergence of OpenAI's ChatGPT over the past year has demonstrated the vast potential of Artificial Intelligence (AI).

For businesses, however, public AI's like ChatGPT represents an opportunity and a challenge. It can solve a lot of problems but could also result in sensitive information being potentially leaking out.

Deloitte Africa's AI and Data Director, Dr. Quentin Williams, tells us why Generative AI

(an AI model that is capable of generating text, images, and other media) is a good fit for businesses and that they should consider incorporating one of their own into their operations.

**CBN: Will Generative AI practice allow businesses to create the equivalent of ChatGPT for their operations?**

**QW:** Yes definitely. Generative AI allows you to take the foundation models that ChatGPT uses or that of Google or AWS and fine tune it with the business' own data

and for their own business purposes.

*Examples of this are the creation of document Q&As, ChatBots and querying your enterprise data, but within a private space.*

*This can, therefore, create a model that is specific to their "way of thinking" using their own templates, brand guidelines and their own intellectual property. We have seen businesses like Bloomberg and NVIDIA doing this.*

**CBN: If so, why create it? Why not just use ChatGPT?**

**QW:** ChatGPT is broad based and will provide generative content that is very general and not tailored to or aligned with the business' own data, IP, brand guidelines or templates. They can also set this up in a private space, where the business data will not be shared with the outside world.

*A business specific fine-tuned model can then also be used for multiple purposes. This provides a new level of differentiation for a business when they are dealing with their customers or trying to provide operational efficiencies.*

**CBN:** ChatGPT is a remarkable tool, but is there a danger that businesses will only look at what it is capable of and limit their thinking of what AI is capable of?

**QW:** Indeed. ChatGPT is a conversational bot based on Generative AI. Generative AI, and indeed AI, is a much larger field that includes machine learning, data analysis and robotics.

*Apart from generating content, Generative AI can also be used to do analyses, recommendations, modelling large unstructured data and incor-*

*porating document-based (text or image or any kind of data) data into various structured forms and databases.*

*This allows us nowadays to combine traditional AI with Generative AI to create new applications such as customer behaviour analyses and engagement, and even be used to create advertising content adjustment based on customer preferences.*

*It can also be used to make real-time operational adjustments to improve efficiencies, like generating a new factory layout or production schedule on the fly.*

**CBN:** Can you provide an example (a case study is preferable) on how Generative AI has transformed a business in Africa?

**QW:** Examples of these are *Lelapa.AI* which is creating new context-specific, African language AI products to serve the African market, allowing business to engage with their customers more easily in local languages.

*Similarly, African start-up InstaDeep has created a product called DeepChain that is transforming the way vaccine and protein discovery is done.*

Advertorial

## DHL Stadium Business Lounge

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DHL Stadium's membership lounges offer the opportunity for you to enjoy your matches in a relaxed and comfortable environment that is fully serviced with dedicated cloakrooms and help desks. Hospitality packages are available for purchase – these packages will change depending on the nature of the event and can be purchased on an "as required" basis for the events you or your guests elect to attend.

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The VIP Business Lounge is situated on the halfway line on level 4 of the west quadrant of the stadium. It offers perfect viewing seats for sporting events and concerts. With a capacity of 900 seats, the lounge is fully furnished and offers a variety of premium catering and beverage services to cater for a variety of different events.

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• Prices exclude VAT		
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- Dedicated help desk

and fully serviced bar and catering services with waitrons;

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For membership and hospitality enquiries, please contact: DHL Stadium Reshika Jacobs Telephone: 021 417 0131/ 021 417 0111 Email: info@dhlstadium.co.za Website: www.dhlstadium.co.za



## EU strengthens rules to prevent 500 million tons of potent greenhouse gases

THE Commission welcomes the provisional agreement reached by the European Parliament and the Council on strengthened rules to massively reduce greenhouse gas (GHG) emissions from fluorinated gases (F-gases) and ozone-depleting substances (ODS). Building on existing EU legislation which has already limited the use and emissions of these gases significantly, the Regulations agreed, will prevent almost 500 million tonnes of further emissions by 2050. It will contribute to the EU's 2030 climate targets of at least 55% emission reductions, and help make Europe climate-neutral by 2050.

Used in everyday life appliances, for example in refrigeration and air conditioning, F-gases and ODS are highly potent, human-made greenhouse gases with some of the worst global warming potential, often several thousand times stronger than carbon dioxide (CO<sub>2</sub>). The Regulation provides incentives to use climate-friendly alternatives, further stimulating the global market and helping other countries to make the transition as well. The world market for equipment using F-gases is currently growing rapidly due to increasing temperatures and higher living standards. The new Regulations contribute towards limiting global temperature rise in line with the Paris Agreement, and set an example internationally, raising ambition considerably beyond the Kigali amendment of the Montreal Protocol.

### New F-gas Regulation

At EU level, F-gases currently account for 2.5 % of total GHG emissions. The reinforced F-gases Regulation will prevent the emission of around 300 million tons of CO<sub>2</sub> equivalent by 2050.

- Delivering higher ambition: The agreement tightens the quota system for hydrofluorocarbons (HFC phase-down). The use of Hydrofluorocarbons (HFCs) – the most commonly used F-gases representing around 90% of F-gas emissions – would be reduced by 95% by 2030 compared to 2015, going down to zero by 2050. From 2025, the HFC quota that the Commission

allocates every year will be sold for EUR 3 per ton of CO<sub>2</sub> equivalent.

- Restricting use, based on best practice: The agreement introduces new restrictions to make sure that F-gases are only used in new equipment where no suitable

alternatives are available or that only the most climate-friendly F-gases are used. For example, new air-conditioning, heat pumps and electrical equipment must use the most climate-friendly gases and some types of equipment

must become F-gas free. For instance, in medium-voltage switchgear, where sulphur hexafluoride (SF<sub>6</sub>), the most potent greenhouse gas in the world, has been traditionally used. The new restrictions will apply from 2025 to 2035 depending on the

readiness to shift to climate-friendly solutions for each type of equipment.

- Bringing positive impact at global level: In addition to promoting markets for climate-friendly equipment, an export ban will ensure that obsolete equipment using

refrigerants with a high global warming potential that may not be sold in the EU can also not be exported to other countries in the world.

- Ensuring compliance with the Montreal Protocol: The F-gas proposal makes

sure that the EU complies with all rules of the Montreal Protocol, and even goes beyond its ambition.

- Cutting costs for consumers: As the market for climate-friendly equipment expands, prices are expected to go down.



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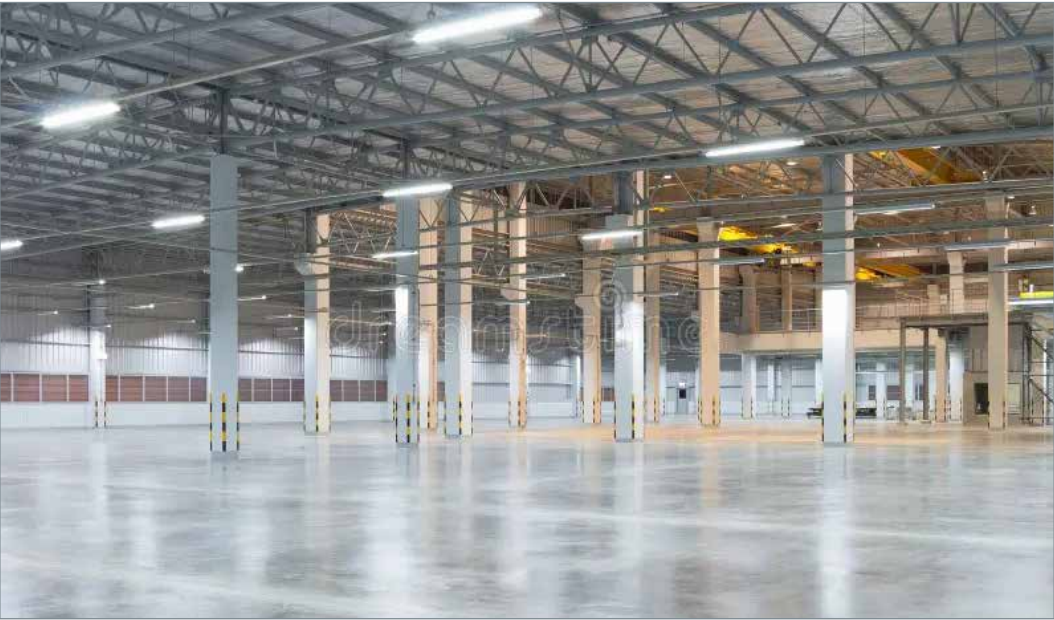
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icals, Floortect 4000 SF (formerly Plasco-guard 4000 HB) is a light grey, high-gloss, epoxy coating. The product resists foot traffic in factories, warehouses, food-processing plants and process areas, hospital theatres, laboratories, cold rooms and aircraft hangars. Floortect 7 SB (formerly Plascon Gehopon Sealer 7 SB) is a fast-drying epoxy used as a system primer, sealing concrete to achieve a dust-free surface. It is available in transparent green, with a clear sealer coming soon.

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## Sika's new Purform® Technology with ultra-low monomer content



UNDER the brand Purform®, Sika has launched its newly developed polyurethane sealant technology enhances the superiority of polyurethane regarding strength and durability and impresses through very low monomer content. The latter enables Sika to manufacture more sustainable products that will meet future environmental and health regulations.

such as more durable sealants and adhesives that can contribute to energy saving, lower fuel consumption and that are safe to apply. Purform® is "pure" because it starts at the very roots of polyurethane technology and gives us the additional controls to engineer even more perfect and pure pre-polymers products for many different applications.

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The Purform® polyurethane technology enables Sika to substantially lower the monomeric diisocyanate content in its products and to create solutions with content below 0.1%. Thus, meeting the new European Union REACH regulation valid as of 2023, which is the regulation adopted to improve the protection of human health and the environment. With the Purform® technology, users can benefit from the unique performance of polyurethane at the lowest exposure and the highest level of work safety.

The Purform® technology will be inside Sika's most trusted brands, Sikaflex®, SikaBond®, SikaTack®, and SikaFloor®.

Sika has control of the whole polyurethane product manufacturing process, right through from the pre-polymers to the ready to use products. The new Sikaflex® Purform® polyurethane, through its simplicity and purity, gives its engineers the ability and scope for the development of high performance products,

### Sikaflex floor joint sealing

Sika's more durable sealants and adhesives with this new improved technology is available in professional favourites such as the Sikaflex® 11FC a well as Sikaflex® PRO 3.

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# Egg shortage is “not a crisis”

By Sue Segar

THE shortage of eggs in South Africa due to the avian flu outbreak is expected to carry on until December, while the impact of chicken meat shortages resulting from the disease will be felt most strongly at the end of November and into December, according to Izaak Breitenbach, the CEO of the SA Poultry Association.

To date, more than 7,5 million birds – comprising 5 million commercial layer birds and 2,5 million broiler breeder birds – have been culled as a result of the outbreak, which Breitenbach described as the worst in recent years.

South Africa experienced one avian flu outbreak in 2017 and another in 2021, as well as the one which started in April this year.

The culling of the birds has led to a shortage of eggs, resulting in rationing and price hikes in eggs, and sparked concerns of a chicken meat shortage.

Breitenbach said the country's egg shortage will carry on until at least the end of the year, “simply because we need to replace the birds and it takes six months for the birds that are replaced to come back into production.”

“In terms of broiler meat, we haven't seen a shortage yet because of the long lead time that the broiler breeders have on the production of meat. For example, the birds that are culled today would only have been slaughtered towards the end of November, and during December. We expect the biggest impact of the disease in terms of meat will be end of November, December.”

On a positive note, Breitenbach stressed the industry has taken preventative measures to reduce the impact of the chicken meat shortage.

“Firstly they built up a lot of stock during winter which will be flushed out towards the end of the year when we expect the biggest impact of the disease; Secondly, the industry will be importing 21,5 million fertilised eggs to be used for broiler production to reduce the shortage expected in December.”

Breitenbach said in terms of rates of infections per week,

the disease peaked in mid-September “and we hope to now see a decline in the impact of the virus.” Asked how long he anticipates rations will be in place for eggs, Breitenbach said: “We should see a full recovery between six and 18 months.

“In terms of chicken meat, about 24 percent of our meat is imported and we normally see an increase in imports between September and December. Importers would have noticed the shortage in chicken meat specifically that is hap-

pening and therefore import more to cover the losses.

“In terms of commercial table eggs, it is slightly more difficult. They will need to be shipped into SA and that will take six to nine weeks and by that time the eggs will be old.”

Breitenbach said the industry is planning to bring in egg pulp and egg powder to alleviate shortages.

Under normal conditions, there are about 23 million commercial layer birds in South Africa at any time. “Of these, about 5 million were culled

during the outbreak. From about 23 million eggs a day before the influenza, it's come down by 5 million a day.”

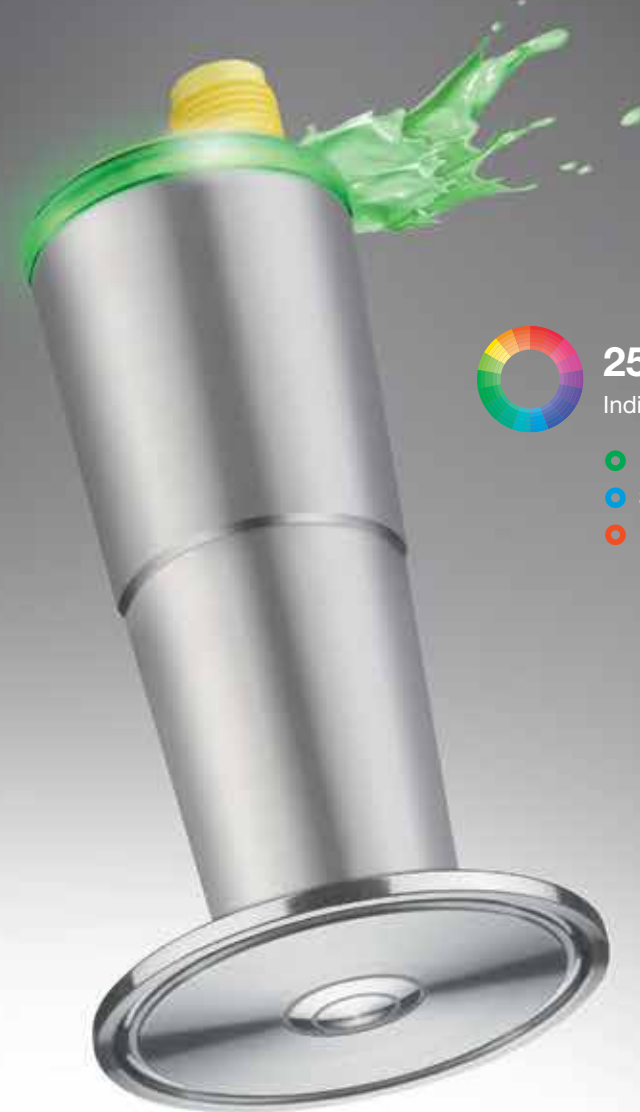
Allaying fears that SA will run out of eggs and chicken, he stressed: “We'll see a marginal shortage, but it's not a crisis.”



Izaak Breitenbach.

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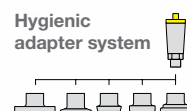
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# Shoprite tackles food insecurity

By Sue Segar

EVERY day, all its 800 stores nationwide, the Shoprite group makes available 600 gram bread loafs at a cost of R5, as well as nutritious deli meals for R5.

Sanjeev Raghur, Head of Sustainability and CSI at the Shoprite Group, said there are queues in the shops every day for these economic foods.

Shoprite also spent close to R400 million on programmes such as mobile soup kitchens which provide meals to people throughout South Africa every day.

“Last year, the group served about 7,1 million meals,” said Raghur. “Additionally the group supports about 220 community food gardens, where communities are mentored to grow their own food. These have impacted 61 064 hungry people.

“In the same programme, we support about 3 700 household food gardens. We also do surplus food donations (R226 million worth this year and equating to 67 million meals) from our stores, which ensures food still fit for consumption is not wasted,” Raghur said. He added that Shoprite also has a programme supporting 114 Early Childhood Development Centres (ECDs) where about 7 300 children receive a nutrition meal every day.



The Shoprite Group recently commissioned research to focus national attention on food insecurity and mobilise South Africans to explore every feasible option to end hunger by 2030 in line with the United Nations’ Sustainable Development Goals.

The Food index leverages data on food insecurity from World Data Lab.

“The research found that, despite the grim numbers, the incidence of people escaping food insecurity is improving. In 2020, 52% of South Africa was food insecure. The projections for 2025 show this declining to just under 49%,” the group said in a statement.

It found by 2025 nearly half of SA’s population will be food insecure, with 48.96% of the population potentially not having enough food.

“Provincially, Limpopo will suffer the worst food insecurity with 54% of the population not sure where their next meal will come from. While numbers in Western Cape and Gauteng will be better, they are still high at 41% and 47% respectively.

Raghur said Shoprite commissioned the research to better understand the extent of food insecurity in SA (“and where we need to focus our efforts”).

The group has a strong tradition of supporting food security, having started its bread scheme in 2016 already. “Even then, the purchasing power of a R5 coin was not significant, but it introduced a loaf of bread for R5, which we continue to sell.

“Shoprite’s ambition has always been to be the most affordable retailer; we pride ourselves in wanting to be a cham-

pion for the lowest prices, basket for basket. It’s part of our purpose to uplift lives every day by delivering the most affordable goods and services. It’s really part of the DNA of Shoprite by being as efficient as possible in its operations.”

Raghur said that, although the research data suggests there has been a slight improvement, “it still means by 2025, just under half the population will be food insecure.

Raghur stressed the importance of focusing national attention on food insecurity and mobilising South Africans to explore all options to end hunger by 2030 in line with the SDGs.

“There’s a need for collaboration across the food value chain from agriculture to manufacturing to retailers, to government, civil society and NGOs working in this space to address this issue.”

In commissioning the research, the Group aims to increase awareness of food insecurity and encourage South Africans to support initiatives rolling back hunger and poverty.

“There are many ways ordinary people can contribute to existing programmes. Consumers can donate as little as R5 to the Act For Change Fund at any Shoprite, Checkers or Usave supermarket. These donations are distributed to communities though vetted beneficiary organisations including Rise Against Hunger, Meals on Wheels, Operation Hunger and more.

“Other ways to help could include starting or contributing to a food garden or volunteering at a soup kitchen. Cumulatively even small interventions can make a significant difference,” said Raghur.

# Industry’s most hygienic and traceable powder handling solutions



INCREASING hygiene specifications and growing consumer concerns about contamination risk – especially for sensitive powder products like infant formula – mean producers are under more pressure than ever to secure the safety of their products.

Producers need powder handling solutions with dedicated lines to prevent cross product contamination, enable foreign materials’ removal, limit powder breakage and handle allergens. And they need solutions they can trust to keep their products safe in two main ways, namely: with high hygiene and cleanability in their lines and with automation for full traceability in the production process.

### Highest hygiene and cleanability

Thanks to patented dismountable features, Tetra Pak’s robust powder mixers have the highest hygiene and cleanability of all standard mixers on the market. They are fully openable, making inspection and cleaning easy. In addition to the standard EHEDG

Food Safety Certification, the mixers are intensively tested to secure paddle clearance and eliminate risk of contamination.

### Transforming cleaning to ensure safety, cut costs and boost revenue

When compared to conventional manual cleaning with one operator, the Tetra Pak® Air Jet Cleaning system for Powder reduces cleaning time by a full hour for every cleaning cycle – from 90 minutes to 30 minutes. It is a hygienic solution using filtered compressed air for cleaning and it can replace manual cleaning completely. Producers will potentially be able to start saving cleaning time as well as on operator costs for cleaning. And with the potential to use the extra hours for additional production, the Tetra Pak® Air Jet Cleaning system for Powder looks to enable extra revenue and thus a quick return on investment. Air Jet technology cleans fast with minimal residual powder so that you can switch hygienically from one recipe to

another quickly.

### Only solution with full traceability

With the industry’s only solution for full automation powder production, Tetra Pak is also able to provide powder producers full traceability in their production – covering everything from the individual components in a line to a complete manufacturing execution system (MES). This lets producers easily isolate batches in case of problems and also simply trace and label products accurately with the right contents and quantities. Producers can also read codes on raw material ingredients using bar code scanners.

“Our powder handling solutions are the most hygienic and traceable solutions in the industry,” says Sylvain Bellamy, Tetra Pak Portfolio Manager for Powder Handling solutions, “Powder handling producers can depend on our food powder expertise and end-to-end production lines – and feel secure knowing that their products and reputation are safe with us.”

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## Wine industry set to take off again this summer



Babylonstoren wine museum.

By Sue Segar

THE wine tourism industry contributed R7,2 billion to South Africa's GDP, employed between 8 400 and 10 200 people directly on farms, depending on the season, and supported 36 000 job opportunities throughout the economy, a report conducted pre-Covid found. Now, following a few tough years, the industry is poised to return to those figures as the tourism season kicks off.

This according to Wine Tourism Manager for SA Wine, Marisah Niewoudt, who said wine tourism – which offers wide-ranging experiences to business visitors, international tourists and local families – is currently “performing beyond expectation” and set for a bumper season from now and beyond March.

There are 23 wine routes and 523 wineries in SA. Of these, 20 wine routes are in the Western Cape. In true innovative SA style, said Niewoudt, many wineries used the Covid crisis as a time to innovate and build new tourism opportunities. “At some risk, our wineries were building new and revamping tasting rooms and new restaurants, as well as

offering new experiences. There's been this incredible confidence among our wineries.”

New developments in wine tourism abound: Hazendal recently launched a hotel; Weltevrede in Bonnievale completely redeveloped their tasting room, creating an underground tour through their old fermentation tanks, where visitors learn about Chardonnay and Cap Classique, their two main cultivars. They've built a restaurant called Kapokbos.

Stettyn Wines in Worcester refashioned their tasting room, and shifted their focus as a business. Vergenoegd Löw in Stellenbosch has also completely redeveloped making enormous investments into wine tourism. “There are new restaurants: Bertus Basson has two restaurants on the premises now and the winery sports accommodation and a spa. Babylonstoren opened their Museum of Wine, along with a range of artisanal experiences, as well, as SA edged out of Covid.

Klein Goederust, in Franschoek, owned by Paul Siguqa, offers a popular spitbraai feast on weekends. Greater diversity in ownership and at management levels is proving very successful for the South African wine indus-

try. Creation Wines, recently named the fourth best vineyard in the world, has a sous chef who is Xhosa. They offer a food and wine pairing menu, which includes serving pap in their fine dining restaurant. It's been a hit!

“There's so much going on all the time - new menus, chefs, and restaurants, new food and wine pairings and novel tastings, including fun pairings for children.

“The UN World Tourist Organisation (UNWTO) issued a report on wine tourism and said two regions that really excel at wine tourism are South Africa and Napa Valley, in California.

“What SA excels at is the accessibility and sustainability of the offering. In SA, we work really hard to cater for our locals first. The cherry on top is the international visitors.”

Niewoudt added the strong push in tourism means more jobs in rural areas.

Preliminary data analysis suggests that, by the end of 2023, wine tourism will have exceeded its pre-Covid numbers. “We expect to see a bumper summer season the likes of what we saw from October 2019 to January 2020 with more international visitors than we had in 2019” she enthused.

## Improving water quality ensures success of broiler business

CHICKENS are sensitive to changes in food and water quality. This is why a broiler farmer in Leandra, Mpumalanga, has managed to improve poultry mortality rates simply through addressing water quality.

“Through ensuring consistent water quality, broiler farm performance has been drastically improved,” says Anelia Hough, water treatment consultant at Allmech, South African manufacturer of boilers and supplier of water treatment components. “Treating the dam and borehole feed-water eliminates issues of E Coli and Coliforms in the feed water, which indicate faecal matter contamination. This can negatively impact broiler performance and immunity as well as human well-being if ingested.”

Hough explains the seven steps process. First, Allmech installed a flocculation tank with a mixer. “Groundwater and surface water contain both dissolved and suspended particles,” she says. “Coagulation and flocculation are used to separate the suspended solids portion from the water.

Suspended particles vary in source, charge, particle size, shape, and density. Suspended solids in water have a negative charge and since they have the same type of surface charge, they repel each other when they come close together. Therefore, suspended solids will remain in suspension and will not clump together and settle out of the water, unless proper coagulation and



flocculation are used. The flocculants we supply accelerate the settling process and are used to aid water filtration.”

Next is lamella screening in a clarifier tank. Clarification processes are commonly used in as the first stage of solids separation in raw water sources such as dams and rivers. Lamella clarifier settlers consist of a series of inclined plates or channels that provide a large effective surface area with a small footprint. Due to their increased surface area and decreased settling distance, sedimentation tanks with inclined walls are able to separate particles more rapidly than conventional tanks.

Then comes pre-chlorination of the raw water. “Typically, chlorine is added to pre-treat the water, to assist with the removal of minerals such as iron and manganese or other compounds that may cause taste and odour issues,” explains Hough. “But higher doses of chlorine are often required for pre-chlorination. However, the residual chlorine is useful in several stages of the treat-

ment process – helping with coagulation, controlling algae problems in sedimentation tank, and reducing odour problems.”

After pre-chlorination, the water passes through a settling tank, which removes suspended solids. It then undergoes additional sediment filtration. “For this customer, we used AFM filtration with auto control valves to reduce the turbidity in the water,” says Hough. “When AFM media is used as opposed to sand, it can remove 90% to 95% of the solids and chemicals, as well as reducing biological oxygen demand (BOD), which is an indication of the degree of organic pollution in water. AFM media provides a practical low-cost solution.” The penultimate step is disinfection, which removes pathogenic (disease-causing) micro-organisms and improves the taste and odour of drinking water. “This phase was specifically introduced to ensure E Coli and Coliforms are eliminated from the water,” says Hough.

“Finally, we addressed pH control. The client

needed to ensure the pH was between 6.9 – 7.8 for broiler production. We used a Seko multi-parameter controller to automatically check and fine tune the pH levels of the feed water. Sodium Hydroxide is used to raise the pH of the water and Hydrochloric acid to drop the pH in the water.”

She says this type of solution can be used in industries requiring water in their production process, as well as irrigation systems, heat exchangers, cooling circuits, boilers, machine tools, car-washing, laundry, food and beverage, chemical and many others.

“pH Correction is also used in industries where specific pH limits needs to be achieved,” she says. “These industries could include leather tanneries, broiler production, laundries, food and beverage, chemical, battery manufacturing and many others.”

In this broiler farm application, the system has proved effective and has recently been upgraded to include an additional borehole.

For more information, visit [www.allmech.co.za](http://www.allmech.co.za).

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## Three food processing innovations piped in goodness

**Eddie Le Roux,  
Hygienic Pump  
Specialist for Verder  
Pumps South Africa**

IN a world that is still adapting to post-COVID 19 consumer demands for farm-to-plate freshness, variety and convenience, there are two factors that continue to drive innovation in food technology: the need for safe and shelf-stable food.

These drivers are further fuelled by the need to achieve environmentally sustainable production facilities – and contribute to individual company, sector and national carbon reduction targets and net zero objectives while remaining profitable. To achieve all this, the food manufacturing industry must continue to seek out innovative solutions to industrial processing operations. The challenges of population growth, climate change, and shifting consumer demand puts technological innovations at the forefront of processing food in more prudent and sustainable ways. And there are three key innovations that are replacing heat and chemicals to keep food not only fresh but safe and are already shaping the future of food processing.

The first is high-pressure processing, which rapidly kills vegetative microbes and inactive viruses while denaturing enzymes that can cause food to spoil. This batch process applies high pressure of as much as 7 000 bar after packaging, minimising food treatment time and preserving nutrition and flavour.

Fermentation, though far from a new food preservation process, is another area in which innovative technologies improve sterility, preventing cross-contamination and ensuring scalability. The newest application of fermentation is the production of cultured (or cell-based) and mycelial protein products, which alleviate the pressure on large scale animal husbandry to produce enough animal protein to ensure food security. At the same time, alternative protein production technologies like this reduce the greenhouse gas emissions produced by animal protein production. Though not exactly mainstream yet, sterility is paramount in this kind of production facility, where clean in place (CIP) and sterilisation in place (SIP) are crucial.

The third innovation, aseptic processing and packaging, removes the need for

refrigeration during transport and on store shelves for a variety of animal and plant-based products, liquid eggs, puddings, soups, vegetable purees, and bulk ingredients. The improvements in shelf stability are achieved by filling sterilised containers, in a sterile environment, with product that has been sterilised, usually by heating and then cooling before filling. This kills microbes in the food and prevents them from being reintroduced during packaging.

Pumping solutions are often overlooked as an opportunity for improved shelf stability, environmental improvements, cost reduction and production capacity improvement. But they are integral to every industrial processing facility. The right high-pressure – in the case of high-pressure processing – or hygienic pump solutions is also crucial to successfully implementing these innovations in food safety.

First and foremost, the pumping solution cleanability requirements must be designed to meet international and local hygiene standards – including clean in place (CIP) and sterilisation in place (SIP) – as these

can present many challenges for processors. Aseptic processing, for example, requires well-coordinated operations, as well as highly sterile and controlled environments. This is where hygienic pumps with a modular design can be integrated, allowing for streamlined disassembly, cleanability and reassembly.

Cross-contamination – a particular risk in fermentation processing facilities – can be mitigated through careful selection of equipment to maintain the highest hygiene standards. Fit-for-purpose hygienic pumping solutions that have been designed and built to eliminate any risk of contaminants during production are necessary for producers who want to stay ahead of the advances

in fermentation technology.

As the food and beverages industry continues to evolve to ensure that food is safe, shelf stable and tasty, manufacturers must ensure their processes are reliable, repeatable and error-free. Integrating the right equipment is critical to food safety and sustainable production.

Because the technical aspects of selecting the right pumping solutions for specific applications can be complex, food and beverage processors should look to a trusted and reputable brand that can offer not only a wide range of pumping solutions but solutions that are long-lasting, cost-effective and efficient – because they are 100% fit-for-purpose for the application.



## SEW EURODRIVE SA secures the group's world-first X.e agitator gear units order

AFTER the recent X.e series agitator unit launch in July 2023, SEW-EURODRIVE South Africa secured an order for nine units earmarked for the mining industry.

"The X.e agitator units are ideal for applications where high power ratings are required for stirring and mixing materials, and what is significant is that we can customise these agitator units to suit the customer's specifications," Jarrod Futter, Engineering Manager at SEW-EURODRIVE explains. "For example, we offer various bearing and shafting options and modular systems for the unit which can be selected to meet the customer's budget and expectations."

The selection process depends on multiple factors, including the input speed, motor power, loading distance, axial loading and most importantly, the radial loading in the application and required output speed," Futter adds.

The X.e agitator differs completely from previous X Series vertical drives. The X.e agitator unit is purpose designed for mixing and

agitation, focusing on a stronger and dynamically improved housing. This allows for higher radial load applications, with a maximised bearing distance and an intelligent housing split above the maximum oil level to minimise potential leaks completely and offer better servicing and maintenance capabilities. The X.e agitator also features a new robust, integrated foot design with multiple aligned foot holes to allow for easy mounting and stiffness as well as huge strides in thermal improvement.

During the X.e agitator design process, SEW-EURODRIVE applied the 'digital-twin' concept that ties real-world testing to a digital Finite Element Analysis. Explaining the process, Futter says this methodology allows the matching of real-time figures during testing to the digital analysis, achieving the same results. "This enabled many cost benefits, minimised the need for physical testing and allowed the team to see and solve problems before they happened. The digital-twin concept is a more energy efficient and environmentally friendly solution for development and testing, and minimises potential waste," Futter adds.

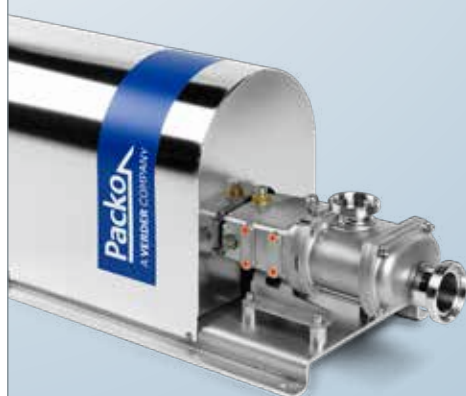
As an example, he says that the extended bearing distance could be further optimised along with the oil flow characteristics. Using fluid simulation the piping could be optimised internally, allowing the designers to see how the flow occurs before creating a physical unit to evaluate the theory. The simulation results could then be checked with real-time tests to ensure the oil flow occurs as designed and optimal lubrication is achieved.

The X.e agitator unit has a unique application-specific reinforced and extended bearing distance concept, with the distance between the lower and upper output shaft bearing mounted further apart. This creates a greater shaft distance between these loading points, which allows the low speed shaft to handle higher radial forces. "In layman's terms – the lever has been made longer to move a larger load," Futter says.

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## Godwin BD150 Self-Priming Dri-Prime® pumps



THE most demanding dewatering jobs in mining, construction, industrial, municipal, marine, emergency response, and more with the Godwin BD150 family of self-priming Dri-Prime® pumps.

With its modular base design, the BD150 offers a range of mobility options, including skid, two-wheel trailer, four-wheel trolley, forklift pockets, and four-point lifting frame. It is easy to transport and move—an excellent workhorse

for emergency, ad hoc and temporary dewatering jobs, and well-suited for rental transactions. The BD150 is as reliable for permanent jobs, providing standard engine-driven (regional emission compliant) and electric motor-driven options.

BD150 pumps are efficient and cost-effective solutions designed for emerging market conditions. BD150 Dri-Prime® pumps tackle challenging conditions, providing fully automatic vacuum or venturi priming

(from dry to 8.5m suction lift), and will handle sewage, slurries and liquids with solids up to 75mm in diameter. These pumps have flow capabilities up to 592m<sup>3</sup>/h and discharge heads up to 49 metres.

These pumps provide a default 150mm suction flange and delivery connections, with optional adapters to accommodate different sizes. Interchangeable impellers provide even more flexibility for different jobs. Abrasion-resistant silicon carbide

faces and the optimised centrifugal hydraulic design reduce wear and maintenance.

The simplified control panel with key start-stop, ammeter, hour meter and low oil pressure indicator streamlines operations. The Godwin BD150 family of self-priming Dri-Prime® pumps tackle a range of dewatering applications, including:

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- Emergency drainage of floodwaters
- Site drainage
- Wellpoint dewatering
- Process pumping
- Temporary raw water supply, and
- Barge ballasting

To find out more, visit: <https://www.xylem.com/en-za/campaigns/met-bd150/>

## Using an FCV to cool a mould

IN a water-cooled mould, like those used to manufacture parts for the aerospace, automotive, food and beverage packaging industries, keeping the temperature of the mould consistent is critical for producing consistent parts.

Using a product like the Proportion-Air FCV flow control valve allows for tight control of temperature by proportionally controlling the flow of cooling water with a command signal from a PLC. By controlling upstream water from the chiller, manufacturers can precisely control flow for a consistent, high-quality moulded part. The FCV is electronically controlled, providing a position proportional to the command signal and perfect for cooling a mould with water.

### Understanding the FCV

The FCV is a 1" electronically controlled angle seat valve with a

parabolic seat. The parabolic valve seat/plug geometry means the area of valve opening is proportional to valve position. This happens courtesy of either a 0-10 VDC or 4-20 mA command signal proportionally controlling the position of the plug/seat, which in turn controls the size of the opening. It compares the command signal input from a customer's computer or PLC with feedback from a built-in electronic linear variable differential transducer (LVDT). The output is linear and directly proportional based on command signal input.

For example, if valve position is 50% of full stroke, Cv is 50% of maximum rating. Valve position is electronically closed-loop controlled, with the LVDT providing continuous feedback to the control module. The LVDT and control module are integral to the valve actuator. The FCV comes with a

monitor output signal. This output is an electrical signal originating for the internal LVDT, 0-1" stroke. The output of this signal is field selectable, 0.5-10Vdc or 4-20mA. The FCV features status indicating LEDs for power and TTL. The TTL signal is a conditional on/off signal to use for diagnostic purposes. When the valve is at position, the TTL is active low (0Vdc) and the green LED is ON.

With a max Cv of 19 and the ability to handle pressures up to 250 PSI, the FCV controls hydraulic media in a closed-loop proportional CV device without the need for an external flow meter. Flow can be calculated by using the valve position and the differential pressure across it.

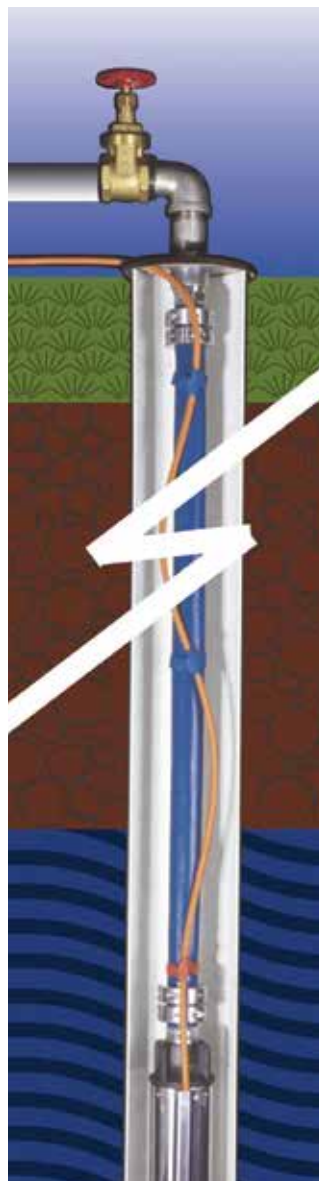
The FCV is a high-resolution device, providing a resolution of  $\pm 0.3$  percent of a full stroke (full stroke = 25.4mm). Made of 316 stainless steel, it offers  $\pm 5\%$  linearity.

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Werner Pumps, South African manufacturer of high-pressure jetting and vacuum equipment, recently handed over its first custom truck-mounted combination jetting and suction unit, built in partnership with Hino Pupkewitz, for the Walvis Bay municipality in Namibia. Werner Pumps has partnered with Hino Pupkewitz, authorised Hino dealer in Namibia, to supply its truck-mounted units (on Hino chassis) to the Namibian market.

The combination unit is predominantly used for cleaning and maintaining sewerage and stormwater lines, but can also be used for other applications, including cleaning up spills and cleaning of PSTs and sumps in wastewater treatment plants.

## Activating valves with your 'phone



ROTORK's IQ3 range is renowned for being one of the most robust and intelligent actuators in the industry and the company have introduced the new IQ3 Pro with full mobile App integration. This evolution enables the continual development of new features that drive digitisation and future-proofing of electric actuation.

The Rotork App provides intelligent control and communication capabilities for the IQ3 Pro and is a handy way to operate and configure the actuators using a smartphone. The new app introduces smart features, including a virtual Rotork Bluetooth® Setting Tool Pro (BTST), a valve configuration setup wizard, which streamlines commissioning and data logs from the IQ3 Pro actuators can be extracted via the App and exported to Rotork Insight 2 software or sent to Rotork's cloud-based intelligent asset management

(iAM) system.

The app features 'PIN pairing' between the actuator and the app to gain access. This ensures the security of the installed actuators. Once logged in, a user-friendly dashboard shows the actuator details, and users can easily navigate to all app functions. A virtual setting tool provides full access to the actuator on-screen setup menus, so it is always to hand.

An intuitive valve configuration wizard allows users to streamline the process of commissioning valves. Alternatively, those engineers who are comfortable with commissioning valves can use the built-in manual configuration, which brings all valve and actuator settings into one place.

The data logs function simplifies the process by allowing flexible download, export, and upload. Users can export the data logs to Rotork's Insight 2 software for further

analysis or send them to Rotork's cloud-based intelligent asset management (iAM) system. The IQ3 Pro data logger can record up to 3 000 events, providing a comprehensive record of actuator performance. The data log files include torque and operation, temperature, vibration, and event log information. Other metrics, such as partial stroke profile, maximum starts per hour, and motor run time, are also available.

Rotork's Insight 2 is a software application that helps users review, configure, and analyse data logger information for Bluetooth wireless-enabled Rotork actuators. The logged data is time and date stamped and can be viewed event-by-event.

iAM helps businesses manage their intelligent actuators and the flow control equipment they operate. iAM is a robust, safe, and secure platform with a user-friendly interface. It uses colour-coded maps and summary views to simplify complex analytics into easy-to-understand visuals. iAM eliminates the need for manual data review, saving time and reducing asset failures. iAM helps reduce unplanned downtime by using analytics based on data taken from intelligent actuators to create a maintenance plan.

For more information visit: [www.rotork.com](http://www.rotork.com)

## Enhancing pump performance: KATflow 200 Portable Flowmeter

KSB SE & Co. KGaA is a leading manufacturer of innovative products and solutions in the field of pumps, valves, drives, frequency converters and controls.

When on site, service personnel use portable KATflow 200 ultrasonic flowmeters to match volume flow rates with measurements of installed measurement technology. The intuitive portable flowmeter helps them to confirm that pumps are performing as they are supposed to and meeting their technical specifications. The verification of pumps in operation allows conclusions to be drawn as to whether the use of alternative pumps would be more efficient and whether replacement of components or a complete rebuild is needed. The flow measurements provided by the versatile KATflow 200 provide valuable insights for pump design and the dimensioning of systems.

During a life cycle of a pump, the operating conditions and the requirements can change. Special media, different densities and viscosities contribute to their service life, which is why a regular check of installed pump systems is not only sensible but necessary. As an example, pump requirements for residential drinking water systems can change due to fluctuating numbers of inhabitants and expansion of the network area. The varying load placed upon the pump as a result of this deviation dictates regular inspections and adjustments to ensure the longevity of the unit. Part of the extended scope of KSB Service GmbH is also the determination of energy consumption and the assessment of possible cost savings of the systems, for example when pumps are retrofitted or converted.



The non-invasive, portable clamp-on flowmeter KATflow 200 is a "very good tool for these technician assignments", says Mr Steffen Scholz, Head of the Service Centre Dresden/Schwarzheide of KSB Service GmbH. "The measuring technology is intuitive to operate, the menu navigation clear, the devices efficient to handle." Overall, an "increasing demand for such handheld technology" can probably be predicted, Mr Scholz continues. Sensor installation is quick and simple with the help of clips and

chains and the positioning of the transducers is guided via the handheld device by an 'Audible Sensor Positioning Assistant'. The reliable Katronic portable flowmeter is immediately ready for use after entering a few measurement parameters and can be installed on processes which are in operation, regardless of conductivity or pressure. KSB Service GmbH offers a wide range of applications for the ultrasonic flowmeter. Potential measuring locations are all types of pipelines between DN 12.5 and 1,000.

## SWT50i: Sensirion's first water quality sensor

SENSIRION's new SWT50i sensor is the first product in the family of water quality sensing. The sensor uses a UV-absorption-based measurement principle and impresses with small size, easy integration and cost-effectiveness.

The SWT50i sensor helps to assess organic substances in water and supports the user in controlling water treatment processes or monitoring the water quality. The sensor acts as photometer, measuring the absorption in the UV-C range and allows the user to monitor typical organic contaminants and various pollutants such as benzene and antibiotics, pesticides, detergents, plastics, and solvents. The exceptionally small size of 70 x 70 x 70 mm and flow through-design enables easy integration into challenging designs while meeting the highest reliability demand and cost-efficiency.

Organic pollutants, climate change and the associated water shortage are putting increased strain on the precious resource of water. Measurement

technology plays a major role here, helping to increase the efficiency of purification processes, monitor their effectiveness or ensure compliance with legal guidelines.

Conventionally, the measurement of such pollutants is done at only a few points by means of TOC (total organic carbon) analysers. These laboratory instruments are expensive, complicated to use and do not allow real-time monitoring. Additionally, there is the UV absorption method, based on the UV light absorbing property of organic molecules. While online measuring devices exist, which

so far, they have been designed exclusively as probes and are also quite expensive.

The SWT50i uses the same measuring principle (UV absorption) but presents a completely new form factor at an attractive price. This allows measurement at several points in one system or in applications where it was previously not feasible in terms of price. In addition, Sensirion uses a flow-through sensor, which, unlike the available probes, can be easily inserted into closed hose systems with smaller hose diameters (5-15mm).

The SWT50i is part of Sensirion's vision to enable area-wide sen-

sor networks in order to better record processes or the environment. This allows for a more efficient and resource-saving use of the precious resource water. With this sensor, the sensor specialist Sensirion enters the stage of water quality measurement for the first time. With cost-efficient and easy-to-integrate sensors, Sensirion wants to enable water quality measurement across the board: in production processes, water purification in waterworks to distribution systems or in private households.

For more information visit: <https://www.sensirion.com/>





# Solar solutions without inverters or batteries?

FREE State chicken farmers are losing millions of rands every month due to load shedding and stolen solar components. Because of outages at midday every day, the cooling fans in the chicken coop stop working, leading to the chickens overheating and dying.

The farmers decided to explore solar solutions and invested about a million rand in a system that would power the fans during loadshedding and allow the chickens to thrive in a cool environment.

However, a week later the batteries that are part of the solar solution were stolen, the fans stopped working and the chickens still died. The farmers realised that they needed a solution where one could power the fans in the chicken coop without batteries.

## Solving the problem

Dr Neil Croft, a senior lecturer at Belgium Campus, challenged himself and his students "to get power directly to the fan via a motor, so when the sun is shining you can still run the fan to keep your chicken coop cool".

Dr Croft's solution was to replace the inverter with a voltage regulator, directly wired to the fan motor using components that can be safely secured and acquired without the need for expensive batteries.

Feeding off this successful pilot, Dr Croft is now testing if the solution can be applied to computers.

He explains: "The next part of what I'm testing is where you have solar panels that go into a step-down converter, from 40 volts to 24 volts or 12 volts, that goes directly into your ATX power supply – which is what your computer uses to power your motherboard. The converter regulates your power, meaning you can run a computer directly off a solar panel."

## One solution, many applications

From a technical standpoint the process to power a computer directly from a solar panel without a battery and without an inverter, one would need a specialised DC-DC voltage regulator and a DC-ATX power supply. An overview of the process includes:

- Solar Panel: Start with a solar panel that generates around +/-40V DC closed circuit voltage. Solar panels generate variable voltage depending on

sunlight intensity, the step-down converter acts as a DC-DC voltage regulator.

- DC-DC Voltage Regulator: The regulator is used to step-down the solar panel's output voltage from +/-40V to the required 24V for the ATX power supply. These voltage regulators are available in

various types, such as buck converters, and they can efficiently convert higher voltage to lower voltage with minimal power loss.

- ATX Power Supply: The 24V output from the DC-DC voltage regulator will be connected to the ATX power supply's 24-pin or 20+4-

pin motherboard connector. The ATX power supply will need to be modified to turn on without being connected to a motherboard. This is typically done by bridging the green wire (PS\_ON) and a black wire (COM) on the ATX connector.

- ATX Power Supply Output: An ATX

power supply typically provides various DC voltages (e.g., +3.3V, +5V, +12V) and AC voltage (for standby power). The appropriate cables and connectors need to be identified to power computer components (motherboard, CPU, GPU, drives, etc.) with the 24V input. Total

output can either be 500W or 800W.

Dr Croft states that this system can be used for remote monitoring sites, to power Internet of Things devices, cell phones, a drone docking station, and other devices.

These solutions exist in theory, however, practical application and experimentation

are needed to allow real-world problems to be solved with real-world solutions, and this is what Dr Croft and his students at Belgium Campus are engaged in.

Dr Croft is also looking into solutions that allow energy to be stored and used when there is no sunlight, without the need for a battery.

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The system comprises of a bolt and nut with a unique head design (AI CAD Design software generated), serial number issued per customer, custom bolt and nut drivers that fit a standard socket tool and or electric screwdrivers.

The round head design ensures it can't be loosened or tightened with a pair of pliers or other tools. As there are no sharp edges on the head design, using a hammer and chisel or other sharp object will not turn the bolt or nut.

The design of the bolts & nut are completely 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 is 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.

High grade 17/4 stainless steel that is anti-corrosive and features high tensile strength and material hardness (38 MPA Rockwell C) is used for production and other materials such as titanium 4140 can also be requested.

The i-Theft system is 100% proudly South African produced and features ISO9001 certified materials, superior manufacturing process, unique AI CAD head design system and no long lead times!

For more information about i-Theft customised solutions, visit [www.i-fab.biz](http://www.i-fab.biz) or contact Roscher van Tonder 079 376 236email: [roscher@i-fab.co.za](mailto:roscher@i-fab.co.za)

# City of Cape Town extends wheeling pilot

The move to extend the electricity trading pilot is seen as a good decision given the complexity involved in wheeling.

By Larry Claasen

THE City of Cape Town's Pilot Wheeling Project, which is the first step to allowing private electricity trading in the City, has been extended.

The project, which officially started in September 2022, with 15 participants and expected to last a year, has been extended because of technical and regulatory hurdles encountered in the wheeling process.

Wheeling is the practice of sending electricity to and from multiple destinations over a power grid. Though it is key to facilitating energy trading, this process is technically difficult because municipal systems are generally designed to send electricity from one supplier to multiple users.

The city along with many other municipalities are looking at wheeling to bring alternative energy supply to their residents. By bringing in new providers they can mitigate the impact of load shedding resulting from Eskom's inability to constantly supply electricity.

The creation of energy markets could also result in a drop

in electricity prices, as the new players would potentially be able to sell electricity directly to businesses over the grid at a lower rate.

The first electricity was wheeled between Growthpoint Properties and Etana Energy in September 2023.

**Good move by the City**

POWERX Business Development Executive Tim Shamrock says the extension is a good move, as allowing for electricity trading while there were still technical and regulatory uncertainties would undermine the creation of the market.

POWERX is not the only one of the companies participating in the pilot but is also the first company licensed by the energy regulator, NERSA to trade electricity.

Shamrock says the process of allowing trading over a municipal grid is extraordinarily complex.

For a generator/trader to wheel energy to a customer within a municipality it requires municipal support, access to the customer's meter data, establishment of municipal billing systems and processes to account for the



Credit: Build Magazine

wheeled energy, as well as various agreements that need to be signed between the city, the customers and energy providers to enable the trade.

Aside from the complex nature of wheeling, the number of greenfield projects in the pilot located outside the city's borders has added to the delays. Shamrock says the red tape in commissioning these types of projects is huge, as they must go through an onerous registration process with NERSA as well as the necessary steps with Eskom to obtain approval to connect to the grid.

Greenfields projects also require extensive environmental, geo-technical and infrastructural assessments. Once the requisite

approvals have been obtained, an application must be made to connect to Eskom's grid. Eskom then conducts a grid impact study to assess whether there is sufficient capacity in the area for transmission of the energy that will be generated.

Any costs associated with the necessary upgrades to the grid infrastructure in order to accommodate the project's generation capacity must be paid and only then can the project commence construction.

In addition, there are certain amendments that need to be effected to existing agreements to reflect the proposed trade at the point of connection of the project as well as the point of delivery of the energy.

**Finding a path**

The pilot project was meant to look at the nuances involved with wheeling electricity across the grid and to find a path to commence the process.

Shamrock says the City ran out of time when it came to finalising the framework, but the extension now allowed for unseen delays in reaching its objectives.

He notes, the extension also preserves enthusiasm for energy trading.

"It does not create an unrealistic expectation in the market, and it also avoids constant extensions when objectives are not fulfilled by the target date, which would ultimately tarnish the initiative with bad publicity."

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# Policy: Crucial to SA's energy transition and socio-economic stability

The transition to renewable energy is critical for South Africa's future. By creating a favourable policy environment that supports and incentivises investment in green energy, we can accelerate the country's transition and drive positive outcomes for its people, writes Shirley Webber, Coverage Head Resources and Energy at Absa.

SO far, loadshedding has cost the economy as much as R1.2trillion, according to advocate Tembeka Ngcukaitobi, who is representing political parties against Eskom. The knock-on effects are taking a serious toll on employment, food security and community stability.

In the first quarter of 2023 alone, private companies have already registered nearly 2 500MW of renewable energy projects, which amounts to as much as two stages of load shedding. As we continue to see the growth and potential of the renewable-energy sector, the numbers speak for themselves.

In March of this year, a total of 31 renewable energy projects, amounting to 1 308MW of col-

lective capacity, were registered and approved by the National Energy Regulator of South Africa (NERSA). This is a notable increase compared to 2021, when 134 projects registered in the entire year.

Further data from NERSA indicates that seven wind projects account for the bulk of new capacity, totalling 1,058.2MW. Additionally, there is one co-generation project registered by Illovo South Africa in KwaZulu-Natal, which combines solar and wind and has a capacity of 24.7MW. The South African government has also announced plans to procure up to 10 000MW of additional energy in bid windows 7 and 8 of the Renewable Energy Independent Power Pro-

ducer Procurement Programme (REIPPP).

This shows that regulatory reform to reduce the impact of load shedding has helped unlock the potential of the renewable energy sector, with the massive surge in private investment.

**Investing for the future**

Government should consider more progressive regulatory reforms for renewable energy. This includes creating incentives for private investment, such as more attractive tax rebates or feed-in tariffs, which can help to drive innovation, reduce the costs of green energy and put more income in the pockets of those investing in the country's renewable infrastructure.



# SAOGA looks outside RSA for opportunities

AS reported in the October edition of CBN, p10, entitled "Hurry up and wait – we need to wake up!", the inordinate delays by Government in giving clear direction by way of The Gas Master Plan, and The Gas to Power IPP Programme, has caused industry vendors to look elsewhere to neighbouring countries for opportunities.

As a consequence, SAOGA (The SA Oil and Gas Alliance) is planning an Oil, Gas and Energy focused visit to Zanzibar and Tanzania the week of 19th to 23rd November 2023.

Speaking to CBN editor Robin Hayes, Alain Kerr, responsible for Business Development and Marketing at SAOGA and organiser of this exciting Outward Business Trade Mission to explore opportunities, concurred with the delays and is asking for interested parties wishing to join the Trade Mission to contact him directly for more information - email [akerr@saoga.org.za](mailto:akerr@saoga.org.za).

## More committed countries

SAOGA sees the potential in Tanzania and Zanzibar, with a specific emphasis on the Oil, Gas & Energy Sector, where substantial upcoming projects are underway. "As indicated in a recent Stanbic Bank report, the anticipated expenses for upstream activities in these projects amount to USD 15.6 billion, while the construction of the LNG facility is estimated at USD 17.1 billion" Kerr explained.

"The proposed LNG facility is set to be situated in Lindi, along the southern coast of Tanzania, strategically adjacent to confirmed offshore gas reserves totalling 1.7 trillion cubic meters (60 trillion cubic feet).

"A consortium comprising Equinor, Shell, ExxonMobil, Ophir Energy, and Pavilion Energy is actively developing the plan for the Tanzania LNG project, with the Final Investment Decision (FID) anticipated to be reached in 2025."

Also, says Kerr, Zanzibar is aggressively diversifying its economy by opening new oil and gas development zones for bids, aiming to reduce its heavy reliance on tourism, which currently makes up over 25%

of its GDP. President Hussein Mwinyi's \$2.4 billion plan, unveiled last February, focuses on boosting shipping, advancing oil exploration in the region. The recent bidding of 12 blocks follows a successful analysis of oil

and gas data conducted by Schlumberger, initially provided by the United Republic of Tanzania. The government's proactive approach aligns with its vision of creating a sustainable and robust economy that benefits

from both its natural resources and the potential of the blue economy.

"Things are really picking up on the east coast and we best be there searching for opportunities than be left behind" says Kerr.



Alain Kerr.

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# Africa energy development marred by decarbonisation demands

AS many African nations address energy poverty, strive to meet growing energy demand, and work toward just energy transitions for Net Zero commitments, the question of aligning with global decarbonisation efforts before substantial carbonization emerged in Africa was raised during a session at the recent African Energy Week in Cape Town.

Led by Reed Blakemore, Director Research and Programs at US think-tank Atlantic Council, the issues of financing these transitions to greener energy, policy design, public-private partnerships and community development were also raised.

Speaking during the session, Emilie Bel, a non-resident fellow with the Atlantic Council's Africa Center noted that the conversations to accelerate key partnerships in energy development

were now more critical than ever. "Energy demand is expected to skyrocket ... inflation is rising."

Bel admitted that many challenges remained, including access to finance, lack of infrastructure capacity building, lack of energy storage and the establishment of trade partnerships yet to take place; however, she highlighted that although the infrastructure gap was significant, public institutes and the private sector had the ideal opportunity to invest in green infrastructure and technology.

Bel further noted that some strides have already been made in rolling out greener energy infrastructure, citing projects such as the Lake Turkana wind farm in Kenya, which can power one-million homes and the Ouarzazate solar power station in Morocco, but noted that much more needed to be done.



LtoR: Reed Blakemore, Thebe Mamakoko & Emilie Bel addressing a session at African Energy Week in Cape Town.

"Africa currently has only 1% installed capacity in terms of solar photovoltaic roll-outs," she said.

"Given the size of this [infrastructure] gap, mobilizing all sources of funding are now essential. Institutional financing represents 37%

of total investment commitments, but this gap is too large to be bridged by public funding alone. African countries need to explore multiple funding sources and the private sector now has a key role to play in financing the continuation of these

infrastructure roll-outs," says Bel, adding that this includes the United States, European Union and OECD states.

"There are many tools we can implement. Green bonds seem to be the most accessible source of finance, but Africa

represents only 1% of issuants of green bonds, so there is huge potential. Foreign direct investment can develop the energy infrastructure pipeline through the development of partnerships and contributions to development banks, as well as private sector participation."

**Policy development**

Also speaking during the discussion, Thebe Mamakoko, Senior Energy Negotiator at the South Africa Department of Mineral Resources and Energy noted that within the broader context of climate change, South Africa had made clear commitments on how it will meet Net Zero, with policies and measures now in place.

"However, the Just Energy Transition Investment Plan is not going to be an easy process. Just to address the addi-

tional 40 000 km grid infrastructure that is required to ensure 60% of the energy uptake generated from solar and wind, we will require \$2.7-billion over the next seven years," he said.

"We encourage the penetration of renewables on the continent, but we are still dealing with issues of poverty and unemployment. How do we ensure that these developments contribute to the improvement of the lives of people?"

"A lot more needs to be done on the discovery portion to understand the needs of the local communities, how they will be impacted and how the deployment of new technologies will also encourage beneficiation of the minerals that are being mined to build these plants. Partnerships need to be built in a way which is designed for immediate impact," concluded Mamakoko.

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# Hydrogen ecosystem Proof-of-Concept demonstrated

SASOL, Toyota South Africa Motors (TSAM), and Air Products South Africa (APSA) made history at the Smarter Mobility Africa Summit, at the Gallagher Convention Centre, in Johannesburg recently with the presentation of South Africa's first on-road demonstration of a hydrogen mobility ecosystem.

The proof-of-concept used a second-generation Toyota Mirai fuel cell electric vehicle (FCEV) fuelled with hydrogen produced by Sasol and dispensing technology provided by Air Products, to take several VIPs as passengers around a test track. The partnership between the three technology leaders was formed in 2021 to promote the use of hydrogen as a fuel of the future.

## Sasol target hydrogen production of 3 500t/d

Priscillah Mabelane, Sasol's Executive Vice-President, Energy Business said: "This opportunity to showcase the potential of a hydrogen transportation system, has been bolstered by our first green hydrogen production at our Sasolburg Operations where we have installed an initial 3 MW solar farm. This will be supplemented by a supply of 69 MW of renewable energy from a wind farm in the Eastern Cape in 2024 to ramp up production to 3 500 tons a day. With both renewable resources on stream, we will have sufficient power to commercialise green hydrogen in South

Africa, marking a significant step in our energy transition journey as a country and as Sasol."

## More than 25 000 fuel cell electric vehicles sold since 1992

Andrew Kirby, President, and CEO of Toyota SA Motors, explained that Toyota has been actively involved in the research and development of vehicles using hydrogen as a source of motive power for more than 30 years. "Toyota has sold more than 25 000 fuel cell electric vehicles since 1992. We have two of our second-generation Toyota Mirai sedans here for the ecosystem demonstration. They are the flagships of our hydrogen FCEV programme and were only launched last year. The first generation Mirai went on sale in 2015 and 12 000 of them were sold in seven years."

## Hydrogen fuelling expertise

"Globally we have been conducting safe hydrogen fuelling for more than 25 years and during that time have conducted an average of 1.5 million hydrogen fuelling operations a year. Air Products has more than 250 hydrogen fuelling sites in 20 countries and holds 50 patents for hydrogen fuelling. We operate the largest hydrogen pipeline network in South Africa, so we are ideally positioned to play a leading role in establishing a sustainable hydrogen ecosystem in South Africa," added

Rob Richardson, Air Products South Africa's Managing Director.

"Air Products is involved not only in fuelling cars, trucks, and buses, but also submarines, ships, train locomotives, power generating systems, forklifts, and materials handling equipment," he said.

## H powered taxis transport 100 000 passengers

"Our FCEVs have not only undergone stringent testing by Toyota itself and its many partners working with the company on its hydrogen development projects but the first generation Mirai has also proved itself in a hard-working taxi fleet in Munich, Germany. The 120 Mirai's in the fleet have already transported more than 100 000 passengers and travelled over one million kilometres. The second generation Mirai is now taking over from its predecessor in this fleet and 200 have been ordered," commented Toyota's Kirby.

"The hydrogen market is best suited to longer distance travel and larger vehicles such as trucks and buses, so Toyota is involved in several projects where the FCEVs are commercial vehicles made by Toyota or conversions of existing models from other manufacturers. There was an important development in this regard recently when Toyota UK unveiled and demonstrated a Hilux bakkie fitted with a specially adapted Mirai fuel cell powertrain. The proto-



Gauteng Premier Panyaza Lesufi demonstrates the process of fuelling the vehicle with Hydrogen.

type was assembled by Toyota UK in England, but there was significant input from TSAM too, as the basic vehicles were built in Prospecton and then sent to England for fitment of the hydrogen fuel cell powertrain," explained Kirby.

"The challenge is how to commercialise a hydrogen mobility ecosystem in South Africa because it is a costly undertaking. It now needs more partners, investors, and support from the government. The current partnership

is looking at so-called eco-clusters as a start, i.e. high commercial traffic areas in the country. Initially the Pretoria-Johannesburg region could be well-suited as these are high volume routes which could justify investment in hydrogen refuelling

infrastructure. Longer term the focus will be on expanding the hydrogen ecosystems along major long-haul routes such as the N3 between Johannesburg and Durban and later into other African countries," explained Kirby.

## WSP's Battery Manufacturing Plant capability in global demand

INTERNATIONAL demand for batteries is expected to increase from 185 GWh in 2020 to over 2,000 GWh by 2030, according to Statista.com. With demand on the rise in industry, from consumer electronics to electric vehicle manufacturing, the global lithium-ion battery market is projected to grow from USD 44.49 billion in 2021 to USD 193.13 billion by 2028.

"Our integrated teams across Sweden, United Kingdom, South Africa, Canada and India are currently involved in multiple projects – both Greenfields and Brownfields," says Peter Hodgkinson, Director for Strategic Growth and Major Projects, WSP in Africa. "We are providing expertise from investment and strategic advisory ser-

vices, site selection and due diligence, project delivery and management, integrated design approach, procurement advisory and support services, construction monitoring, commissioning management of battery manufacturing facilities, utilities and supporting infrastructure."

"For battery plants to be viable, certain conditions must be in place," says Hodgkinson. "Government incentives and tax relief, access to sufficient clean energy, and proximity to end-user demand are key. The current projects WSP is working on are located in Europe, the Middle East and the US, where these conditions are well met."

The plants themselves are technically complex, requiring deep knowl-

edge in the new generation of gigafactories, as well as specialist expertise in clean and dry room design and implementation. "WSP is recognised as a major player in the design and delivery of gigafactories, and particularly in clean and dry rooms," says Diederik Venter, Associate Engineer and Clean and Dry Room Specialist, WSP Africa. "Our expertise has been honed across multiple industries, such as pharmaceuticals, where this kind of facility is critical to the manufacturer's success. Applying this subject matter expertise to ensure ultra clean, dust and contaminant free, pressurised and temperature- and humidity-controlled environments is critical to the battery manufacturing process."

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# Gas-to-power can energizing Africa

*"We need to stop wasting time and start working on these projects..." - David Pappoe Jr, Executive Director, Energas West Africa Limited.*

WITH vast reserves capable of generating 400GW in sub-Saharan Africa, natural gas has the potential to reshape the energy landscape. Gas-to-power technology, a vital step in the energy transition, emits fewer carbon emissions and eliminates harmful gas flaring.

Day two of African Energy Week (AEW) 2023, featured a session entitled Powering Africa: Harnessing the Promise of Gas-to-Power, exploring the opportunities and challenges associated with leveraging natural gas for power generation in Africa.

"We are currently experiencing a major shift in the energy sector to cleaner sources of energy. Africa's response should be inched on Africa's natural gas that is able to generate electricity, said Olakunle Williams, CEO Tetracore, adding, "There is a need for much more gas-based investments that will help unlock gas resources."

Africa is blessed with sizable recoverable natural gas reserves. These reserves, often found in close proximity to major population centres, provide a unique opportunity to harness

domestic resources for power generation.

From an Angolan perspective, Manuel Barros, CEO of the Gas and Renewable Energy Business Unit, Sonangol noted: "We have an industrial plant being constructed and a new facility will be underway very soon which will be for the downstream industry for our fertilizer plants. So, this means that we are not only using gas for export but also trying to monetize it within the country."

Jérôme Paillat, Senior LNG Project Director - TotalEnergies Gas, Renewable

& Power emphasized that Gas-to-power is an enabler to meet the gross demand in terms of electricity. "Electricity is the way people are going to consume power in the next few years so power is very important. Most of the electricity the growth will be driven by renewable but gas to power is very important," he said.

Building the necessary infrastructure for gas-to-power projects requires substantial investments. Securing financing for pipelines, processing facilities and power plants is often a challenge.

"We need financ-

ing and infrastructure development. Next year we should be able to say we have a deal with companies and we are executing it. We need to stop wasting time and start working on these projects. As we indicated, natural gas is the main fuel for African energy transition so we need to stop wasting time," explained, David Pappoe Jr, Executive Director, Energas West Africa Limited.

Many African countries have existing energy systems heavily reliant on coal, oil, or renewables. Integrating gas into the energy mix requires careful planning and coordi-

nation. Moreover, there is an opportunity to mix gas with other energy sources such as Hydrogen to reach net zero by 2050.

"I think the journey to decarbonisation and realising agreements up to 2050 is a gradual process. With hydrogen blending with natural gas, we have that capacity [to reach target] and we are able to rely slightly less on gas that has higher emissions," said Sujen Balakisson, Business Development Manager for the Southern and Eastern Africa region, Wärtsilä Energy Solution.

Making progress in

addressing domestic and export gas utilization is Morocco. Pierre Raillard, Head of Gas Business and Morocco Country Director, Chariot Limited, provided insights into this. "We need to find a domestic component as much as the big projects. For example, the Moroccan onshore development we are working on financing and developing and hoping to find a final investment decision (FID) soon will anchor itself on the domestic component. We have a doubling anchoring on the local and export component."

*Opinion piece:*

## Localisation of the renewable energy industry can effectively compete with foreign companies

By Mamiki Matlawi, Group Business Development Executive at ACTOM



DESPITE the urgency to transition from traditional power production to sustainable alternatives – not only as it reduces environmental impact but also fosters local economic growth – wealthier nations across the globe are leading the shift while some countries, such as South

Africa, are lagging.

Of crucial importance is to adapt existing products and engineering offerings to meet the demands of the renewable energy industry, with innovations such as online condition monitoring, that can improve the efficiency and reliability of renewable energy projects, paving the way for a sustainable future.

South African companies have been involved in the green economy space since 2011 when the government introduced the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Thus, local organisations already have a wealth of experience in manufacturing the balance of plant for renewable energy products, including in the

areas of engineering, procurement and construction, financing and operation, and maintenance.

South Africa has homegrown skills and resources in renewable energy, which could be harnessed and nurtured to overcome South Africa's lag in the renewable energy space. Furthermore, these skills and resources could also be exported to the rest of the continent to work with other African countries to shape a greener and more resilient future - unlocking economic benefits for South Africa and Africa as a whole.

### Comprehensive approach needed

However, to successfully develop South Africa's domestic

manufacturing capabilities and reduce the African region's dependence on foreign suppliers, a comprehensive approach is vital with companies providing end-to-end services, including product supply, installation, and maintenance to ensure a smooth transition to sustainable energy sources.

Key to this is mechanisms such as the African Continental Free Trade Agreement (AfCFTA), which aims to achieve the free movement of physical goods throughout the African Union, as well as the liberalisation of trade through the implementation of preferential tariffs.

Recently, the five member states of the Southern African Customs Union (SACU) –

South Africa, Lesotho, Botswana, Namibia and Eswatini – ratified the AfCFTA agreement. SACU has also submitted its joint offer of tariff concessions, which is currently being verified by the AfCFTA Secretariat.

The AfCFTA agreement is expected to catalyse the manufacturing industry and open trade opportunities between African manufacturers, increasing regional demand for equipment and services and driving access to new markets.

Importantly, this will enable African manufacturers to develop economies of scale, which will position them to effectively compete with foreign companies in the renewables space.

### South African transition

On the domestic front, a significant factor that is to some extent helping South Africa bridge the gap to wealthier nations in transitioning to sustainable energy sources is the ongoing energy crisis, as well as natural disasters like recent flooding in some provinces. These are the drivers that are pushing the country to look at sustainable energy sources and thus speeding up the transitioning process.

According to Trade and Industrial Policy Strategies Senior Economist Gaylor Montmasson-Clair, South Africa has imported R35 billion worth of solar panels since 2010. Montmasson-Clair says that R12 billion worth of solar panels have been imported by

South Africans so far in 2023. This is equivalent to roughly 2 200MW of generation capacity. It is estimated that South African households and businesses have installed 4 400MW of rooftop solar PV to date, which has significantly reduced the residual load that Eskom needs to meet during the day.

The scope for African manufacturers in the green economy is vast, but the continent needs to expand the supply chain in this space by effectively harnessing initiatives such as the AfCFTA agreement to build economies of scale. It is only through the localisation of the renewable energy industry that local manufacturers can hope to compete with large-scale and well-established foreign suppliers.

## TNPA issues requests for information for potential hydrogen initiatives



Image credit: Energy Monitor.

IN support of South Africa's transition into a low carbon economy, Transnet National Ports Authority (TNPA) has issued a Request for Information (RFI) for the development of a terminal facility and related facilities for hydrogen initiatives at its commercial seaports.

The RFI assesses market interest in developing, designing, constructing, financing, operating, and maintaining an import and export terminal for hydrogen initiatives. This includes green hydrogen, green ammonia, green methanol, and or grey hydrogen at the ports of Cape Town, Durban, East London,

Mossel Bay, Ngqura, Port Elizabeth, and Saldanha.

"The introduction of this initiative is part of TNPA's strategic projects that enable Just Transition, making it a step closer to enabling greener shipping and decarbonisation of the company's marine fleet in order to remain globally competitive," said TNPA Sector Specialist, Renewable Energy, Amanda Makgoga.

The project is also in line with the Hydrogen Society Roadmap for South Africa, approved by Cabinet in 2021. It also supports the National Development Plan 2030, which advocates for increased

investment in an energy sector that is both economically inclusive and environmentally sustainable. Such projects put South Africa on the map of project developers as an investment destination of choice, showing South Africa's ambitions.

RFI documents can be accessed from the National Treasury's e-tender publication portal.

The RFI Responses must be submitted to TNPA by no later than 16h00 on 31 January 2024.

*All requests for clarification of this RFI must be emailed to [hydrogen-rfi@transnet.net](mailto:hydrogen-rfi@transnet.net)*



## Babcock completes complex power station steam air heater replacement project



AS an OEM of hundreds of steam boilers in Africa, Babcock had participated in the build of one of South Africa's largest power stations, mainly focused on the HP piping systems construction. An event occurred that damaged one of the steam air heaters, for which the Babcock crew were awarded the contract to undertake repairs involving specialised rigging and welding expertise. The steam air heater Babcock repaired is a multi-row fin tube heat exchanger consisting of three tube bundles and two bypass dampers installed in the air ducting of the boiler.

Tommy Scheepers, Senior Piping Engineer at Babcock, explains the significance of the rotary air preheater, which in combination with the steam air preheater, works sequentially to control both primary and secondary air temperatures before it enters the boiler furnace through the burners. Precise control of the combustion air temperature is crucial for regulation of the combustion process, ensuring efficient burning to minimise environmental emissions.

The damaged steam air heater could not be removed from the plant as it would have required extensive and costly rigging, together with additional structural support to maintain the integrity of the boiler ducting. This meant the replacement of the fragile 9m long finned tubes had to be performed individually in situ. Specific rigging methodology, routes and lifting aids were identified and developed prior to the replacement.

Before commencing refurbishment work, Babcock first had to remove the existing damaged finned tubes from the steam air heater frames inside the ducting. This involved cut-

ting out and removing of the connecting auxiliary steam and condensate drain piping to provide access for rigging activities on the outside of the ducting. The inlet and outlet air chambers were also removed, followed by the removal of the steam headers and tube sheets.

The air heater finned tubes are made from carbon steel with imbedded aluminium spiral fins. These finned tubes are sourced offshore with consequent delays in supply and being very expensive. This style of tube is necessary for efficient heat transfer between the internal steam-heated tubes and the secondary air flowing over the fins.

Scheepers explains

that special precautions were taken to prevent any damage to the fragile finned tubes during handling, rigging and installation, bearing in mind the consequences for the team in terms of time, cost and quality of the overall repair. "The handling of these delicate materials in a confined area required meticulous planning, sequencing and control of all actions by the staff involved during the replacement process, making this a complex and detailed undertaking," says Scheepers.

"Our customer had confidence in Babcock's boiler knowledge and in-house expertise, which assured them that we could successfully perform this specialised steam air heater replacement project within the specified timeline," adds Ferraz De Almeida, Babcock's Construction Manager.

With their specialised expertise, Babcock has consistently provided advanced world-class power generation and environmental technology solutions to industrial and utility customers in South Africa. Their contributions have helped businesses optimise operations, reduce environmental impacts, assisting alignment to global decarbonisation and climate change objectives.

## Cutting aircraft fuel consumption with 3D printers



TruPrint 3000 with control unit.

THE aerospace company Airbus Helicopters will use 3D printers from the high-tech company TRUMPF to manufacture components for its helicopters and for aircraft from the parent company Airbus. Airbus Helicopters is expanding its additive manufacturing capabilities with a new 3D printing center in Donauwörth, Germany. TRUMPF is supplying the machines for metal 3D printing. "With innovative manufacturing processes, we are working on the helicopters of the future in Donauwörth. Among other things, 3D printing helps reduce the weight of components," said Helmut Färber, Site Manager

of Airbus Helicopters in Donauwörth. That helps aircraft operators reduce fuel consumption and thus lower their costs. It can also help reduce CO2 emissions in flight. Airbus Helicopters will use the 3D printing process to produce components for the electric-powered CityAirbus, the experimental high-speed Racer helicopter and the Airbus A350 and A320 passenger aircraft, among others.

### 3D printing is a key technology for lightweight construction

"With its manufacturing know-how, TRUMPF is a reliable partner to the aviation

industry worldwide. Our 3D printing systems are a key technology on the path to sustainable flying and they reduce dependency on long supply chains," says Richard Bannmüller, CEO TRUMPF Laser and System Technology. Additive manufacturing allows entire assemblies to be printed as one component. This saves weight. At the same time, the components are very stable and meet the strict safety requirements of the aviation industry.

### Additive manufacturing saves raw materials in production

Airbus Helicopters uses 3D printers from

TRUMPF to manufacture structural components made of titanium and high-strength aluminium. "Additive manufacturing saves expensive raw material and can lower production costs in the aviation industry. 3D printers only use the material that designers actually need for their components and that ends up taking off in the aircraft," said Bannmüller. 3D printing users can also reuse unused metal powder. Conventional manufacturing processes, on the other hand, require up to ten times more raw material than the final product. Therefore, when milling or chipping, much of the raw material ends up as waste.

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# Grinding Techniques – moving the automotive industry forward



AN intense focus on climate change and stricter emission policies are changing the way motor vehicles will be produced in future. Manufacturers are downsizing engine size, but increasing engine output by adding turbochargers - placing huge emphasis on the quality and surface finish requirements of engine components. The reduction in weight of alloys and material chosen poses a great challenge in the machining of these components.

whilst obtaining low machining costs per unit. When considering the overall grinding process, its Business Development specialists are able to offer support on all technical issues taking into account the preferred grinding solution, machine, grinding wheel and dressing tool. One of the major challenges experienced in crankshaft grinding is wheels being “out of balance” and this is particularly due to lack of training

“One of the major challenges experienced in crankshaft grinding is wheels being “out of balance” and this is particularly due to lack of training...”

Grinding Techniques - a Tyrolit company, has the experience and expertise locally in providing cost effective grinding solutions to cater for the OEM automotive component and automotive reconditioning market, especially the grinding of crankshafts. Its local R & D facility provides the best possible product

on the correct safety checks, mounting and balancing procedures, as well as crankshaft wheels having bigger outside diameters and smaller widths, which accentuates any “out of balance” conditions. Grinding Techniques is able to provide the necessary training. With the local range of ANDOR grinding wheels, production of

wheels of up to 1015mm in diameter is possible. The change to lightweight alloys and higher surface finish requirements on engine components has established a dynamic shift on the production of grinding wheels in both conventional and super abrasives. By using the latest technology in high quality aluminium oxide, CBN grain and bonding systems, challenges experienced with issues relating to parts being ground out of round, and out of tolerance, are minimised with advantages to the automotive reconditioning market, earthmoving equipment and armour-plated vehicle construction.

Specific to the automotive reconditioning market, are products available to suit crank and-camshaft grinding, polishing, valve seat and stem end grinding as well as applications in the brake and clutch industry amongst others. The latest CNC machining enables the production of wheels for the gear industry with a range of modules, pressure angles and starts required for continuous generating and profile gear grinding. The addition of sintered aluminium oxide in various products results in production cost per unit reduction, whilst still attaining a cool cut and good form holding on the grinding wheel.

For more information Tel: +27 11 271 6400, info@grindtech.com, www.grindtech.com

# Smart, self-programming robot that sets its own weld path

TRUMPF has introduced new sensors that enable its arc welding robot to program its own weld path. The robot makes use of TRUMPF’s new smart seam-tracking technology, which the high-tech company developed in collaboration with the Fraunhofer Institute for Manufacturing Engineering and Automation IPA. Housed in the head of the welding torch, the sensor automatically calculates the weld path for each part.

## Robot ready to go in seconds

With conventional welding robots, production workers must program a new weld spot into the software each time they want the robot to change direction. This can be time-consuming, especially when it comes to complex parts with



many curves or corners. Fortunately, the new smart seam-tracking function makes the whole process a whole lot simpler. All the user needs to do is to place the welding robot in the start position, and the technology takes care of the rest. The robot uses the sensor to determine the weld path automatically. The system software quickly calculates the weld spots and creates the welding program for the part. The robot is “good to go” in a matter of seconds. This solution makes it far easier to program the robot. “The whole process takes seconds to complete, even for complex parts such as spiral arcs,” says Klingschat. “And it doesn’t require any specialist knowledge on the part of production workers.”

In addition, the intuitive user interface can be used to carry out a wide range of welding tasks, such as sealing runs and identical weld seams. Less scrap and a more stable process Smart seam tracking helps companies save time and cut costs while also making life easier for workers on the shop floor. The robot’s ability to automatically correct its weld path makes the whole process more stable. It also simplifies the task of handling tighter tolerances and dealing with warping or distortion. “This is the right solution for any business looking to harness automation in order to boost productivity,” says Klingschat. “It’s particularly useful for fabricators who weld large and complex parts. And the

creation of a customized weld path for each individual part is an excellent way to achieve consistently high quality.” Components for wind turbines and screw conveyors for the animal feed industry are just two examples of areas that can benefit from this innovative and efficient method. Starting in February 2024, Smart Seam Weld Tracking technology will be available as an option on new TruArc Weld 1000 arc-welding machines and may be retrofitted to some newer TruArc Weld machines with CMT (Cold Metal Transfer), an optional technology package that ensures high process reliability and energy-reduced welding with fewer weld spatters and reduced distortion.

# Grinder’s dual-trigger activation, permanent side handle contribute to user safety

THE M18 FUEL 4½-in./5-in. dual-trigger braking grinder from Milwaukee Tool features a trigger on the braking grinder’s main barrel and a secondary trigger on the side handle, requiring two hands to stay on the tool for operation. This dual-trigger activation, a permanent side handle, and AUTOSTOP kickback control help

enhance control and safety on the job site. The side handle is permanent to the tool, ensuring user compliance. For added user control and accessibility in hard-to-reach areas, the handle can be positioned in 15 different orientations, tilting from 0 to 90 degrees and pivoting to the left, top, and right. An electronic clutch detects extreme



movement and shuts off the tool, helping prevent injuries from severe kickback.



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## AGL wins international tender for container and multipurpose terminals at the PoL



THE Angolan authorities recently announced that AGL (Africa Global Logistics) was the successful bidder for the Lobito container and conventional terminals, following an international call for tenders launched in January 2023.

With the support of one of the world's leading ship owners, MSC, AGL's industrial project will improve the connectivity of the Lobito port platform. It will boost trade in the region and support industrialisation efforts. The Port of Lobito (PoL) will thus be involved in the development of agricultural projects, construction sites and tertiary service companies.

As Angola's second-largest port, PoL aims to improve the living environment of 35 million Angolans and of the populations of

neighbouring countries as it is the first Atlantic gateway to the Copperbelt region. This port infrastructure will contribute to the transport of strategic minerals (copper, cobalt) to international markets.

To this end, the PoL will benefit from its connection to the existing 1,300km Benguela railway network and to the future railway line to Zambia. These interventions will improve productivity and will substantially reduce the time it takes to transport goods to Europe and the Americas.

### Logistics

Through a EUR100 million investment plan, AGL is committed to increasing the attractiveness of the terminal and contributing to the economic and social development of the region. As part of this new

concession, which will be effective in the 1st quarter of 2024, AGL will take over the staff of the Empresa Portuária do Lobito EP port authority. The company will implement an extensive plan to develop the skills of the staff as well as the ecosystem of local subcontractors, to enable the Port of Lobito to offer services compliant with international standards.

### About The Port Of Lobito

With a quay depth of 14m and direct access to the sea, the port of Lobito allows Angola to accommodate large capacity vessels. AGL will manage the container and multipurpose terminals with 1200m of quay, a storage area with a capacity of 12,000 twenty-foot equivalent units (TEUs) and handling equipment.

## Increase in external vessels at dry dock boosts Port of East London

THE Port of East London is realising its strategic objective of servicing external vessels at its Princess Elizabeth Dry Dock, through a contract between Transnet National Ports Authority (TNPA) and 6SIGMA Shipyards. The contract will see the port servicing three Norwegian vessels until end November 2023 at its dry dock, a facility that has been intentional about diversifying its customer base beyond TNPA marine craft. With the recent completion of ship repair work on two vessels Antarctic Sea and Antarctic Endurance, the

"What is most exciting, besides the revenue this partnership brings to the port, is the employment opportunity for the East London community..."

port expects the arrival of Saga Sea before the end of November.

"The Port of East London team has been hard at work to give 6SIGMA Shipyards a service to write back home about. What is most exciting, besides the revenue this partnership brings to the port, is the employment opportunity for the East London community," said TNPA Port Manager for the Port of East London,

Sphiwe Mthembu. The three Norwegian vessels will see the East London community benefiting through approximately 70 to 100 employment opportunities.

The Princess Elizabeth Dry Dock boasts a docking length of 200m with an emergency docking length of 210m, and is equipped with four electric cranes that have combined capacity of 39 tons.

## MOLABO expands its sales to South Africa

MOLABO, a manufacturer of state-of-the-art electric boat propulsion technology announces a strategic partnership with Southern Power, South Africa's premier distributor and service provider of marine and mobile solutions products.

This collaboration is set to expand MOLABO's footprint in the South African market, leveraging Southern Power's extensive experience, network, and service capabilities. Southern Power, with its rich legacy spanning over 35 years, has been instrumental in shaping the marine and mobile solutions landscape in South Africa.

Their dedication to customer service, environmental sustainability, and technical prowess makes them an ideal partner for MOLABO in the region. As both a distributor and service partner, South-

ern Power ensures a holistic approach to customer needs. "We are incredibly excited about our partnership with MOLABO. Their reputation for innovation and quality aligns perfectly with our values at Southern Power. Together, we look forward to delivering unparalleled solutions and services to our customers in South Africa," says Jacques Brümmer, CEO of Southern Power.

MOLABO participated at the Boatica Boat Show, which took place from 27th

to 29th October 2023 at Cape Town's V&A Waterfront. As one of Africa's premier boat-owning exhibitions, the event showcased the best in marine technology and innovation. In collaboration with Southern Power, MOLABO presented its latest offerings, emphasizing its commitment to excellence in the marine sector.

MOLABO was founded in 2016 in Ottobrunn near Munich, MOLABO produces the world's premier 48V touch-safe high-performance

electric drive in Germany. Committed to enabling sustainable mobility worldwide with touch-safe low-voltage electric solutions, MOLABO's 50 kW ARIES 50 motor integrates both motor and controller. This streamlined design ensures quick installation without high-voltage precautions and minimal wiring in tight spaces. The system boasts an impressive efficiency of over 95 % at its peak, combining the motor's 97 % and the controller's 98 % efficiencies.



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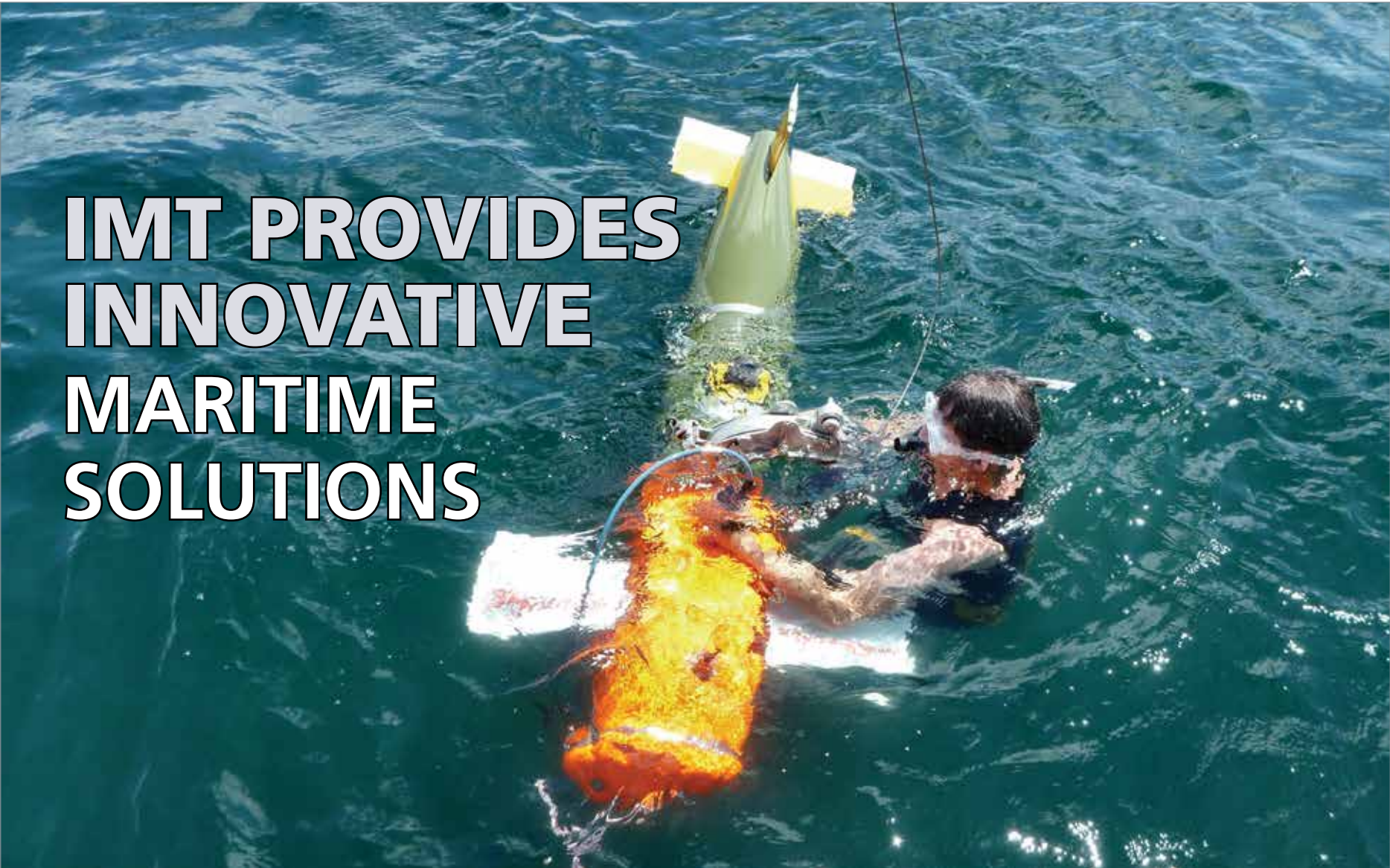
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# IMT PROVIDES INNOVATIVE MARITIME SOLUTIONS

**The Institute for Maritime Technology (IMT)**, a subsidiary of Armscor, is an accredited world-class facility strategically providing science-based technological and engineering support to the South African Navy and other members of the maritime community locally and globally. With close to 50 years' of success, IMT is an ISO 9001 accredited facility located in Simon's Town, Western Cape; specialising in maritime technologies, sciences for military defence applications, defence research, development, testing and evaluation of maritime systems for the defence and commercial sector.

## WHY CHOOSE US

IMT is renowned for its capabilities and delivering value to its customers. The facility boasts modern well-equipped workspaces, including laboratories, workshops, test platforms for boats, Autonomous Underwater Vehicles (AUVs) and Unmanned Aerial Vehicles (UAVs). The Institute uses cutting-edge hardware across its premises, including sensors, instruments, research equipment and information technology systems.

IMT professionals are highly competent and are its competitive advantage; involved in research, development, data gathering, analysis, and interpretation in addition to operating and maintaining the equipment and facilities.

Known for its innovative solutions, IMT has state-of-the-art facilities, modern equipment, relevant technology systems and the expert human resources needed to continue delivering ground-breaking projects.

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- » Maritime Domain Awareness (MDA)
- » Maritime Decision Support (MDS)



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# Arrest hydraulic fluid leaks! Detection made safer

*Hydraulic fluid leak detection made safer with Hedland Inline Variable Flow Meters*

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

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

By installing Hedland flow meters to

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

Hedland® products features over 18 000 inline variable area flow meters suitable for oil, phosphate esters, water, water-based liquids and compressed gases. Capable of operating in any position in high-temperature and corrosive applications, Hedland meters are easy to read and built for use in rugged environments.

Hydrasales, Cheryl Johnson advises: "Hedland Variable Area flow meters provide a quick, visual flow indication on an easy-to-read linear scale to confirm that flow systems are operating properly".

Hedland Variable Area flow meters provide a quick, visual flow indication on an easy-to-read linear scale to confirm that flow systems are operating properly. The meters features include:

- **Enhanced Reliability.** Feature an impressively readable design that makes these meters a suitable option to monitor a wide range of liquids, flu-



ids and emulsions.

- **Low Cost of Operation.** Designed for easy installation and minimal maintenance over the course of the long life expectancy.
- **Durable Construction.** Built to withstand demanding applications in fluid power, oil and gas, automotive, semiconductor, mining and discrete manufacturing.

**High Performance in Demanding Applications.** The range of meters are suitable for many applications and products for oil, water and gas are available.

**Low Cost of Operation.** Meters are simple to install and operates and are rugged in its construction.

The applications of Hedland variable flow meters are varied and diverse. They can be used to measure the

flow of different types of fluids, such as oil, water, air, and gases, in various industries and settings. Some examples of applications are:

- **Machine cooling and lubrication:** Hedland meters can monitor the flow of coolants and lubricants in machines to ensure optimal performance and prevent overheating or wear and tear1.
- **Packaging:** Hedland meters can measure the flow of liquids or gases used in packaging processes, such as filling, sealing, or labeling.
- **Semiconductor production:** Hedland meters can control the flow of gases or liquids used in semiconductor fabrication, such as etching, deposition, or cleaning1.
- **High pressure and hose applications:** Hedland meters can withstand high

pressures and temperatures and can be installed in hoses or pipes to measure the flow of fluids or gases in hydraulic or pneumatic systems.

- **Automotive and aviation industry:** Hedland meters can monitor the flow of fuels, oils, coolants, or air in vehicles or aircrafts to ensure proper functioning and safety.
- **Mining industry:** Hedland meters can measure the flow of water, chemicals, or gases used in mining operations, such as drilling, blasting, or processing.

Hydrasales carry a comprehensive range of the product ex-stock and can assist with your inline Flowmeter sizing and liquid compatibility questions.

Please email enquiries to [harpo@hydrasale.co.za](mailto:harpo@hydrasale.co.za) or visit our website at [www.hydrasales.co.za](http://www.hydrasales.co.za) for more information

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# Transport woes must be addressed now to avoid future gridlock– Hill-Lewis



Cape Town Mayor Geordin Hill-Lewis. Pic source: City of Cape Town.

CAPE Town is geared to become a “truly massive global city of 10 million people – so it’s critical to ensure the City has a functional public transport system, Mayor Geordin Hill-Lewis told the recent Mobility Summit.

Hill-Lewis was adamant the national government has failed to deliver a reliable rail service and the capability must be handed over to capable metros. The City would not rule out an intergovernmental dispute on passenger rail devolution and service standards.

“I suspect when the census comes out imminently, we’ll have crossed the 5 million person threshold. Within most of our lifetimes here in this room, Cape Town will double that number again.”

Hill-Lewis said the City of Cape Town was fully supportive of the position taken by the national cabinet in March 2022 that passenger rail, over time, should be devolved to

“capable metros”, but which the transport ministry later contradicted.

“Eighteen months have passed and not a single step forward has been taken in that policy decision - which is why we are actively trying to agitate and get government to engage us on how that process will unfold,” Hill-Lewis said.

Hill-Lewis said, following the implosion of passenger rail, the City of Cape Town has seen a huge increase in the number of people

“...the implosion of passenger rail, the City of Cape Town has seen a huge increase in the number of people now making use of road-based transport, whether in private vehicles, minibus taxis or buses.”

now making use of road-based transport, whether in private vehicles, minibus taxis or buses.

According to the City’s latest Comprehensive Integrated Transport Plan

(CITP), “up to 58% of commuters use private vehicles to get to their destinations; 22% use minibus-taxis; 9% bus services such as the MyCiTi and GABS; 2% use rail – a shocking decline of 95% for the period 2012 – 2022; and nearly 10% walk.

“Just short of one million people used to use the trains five or six years ago, very few of whom (about 3,5%) use it today. That’s not how we’ll build a city of ten million people for the future or get them into work. We want to work collaboratively but we are also not prepared to accept being in the same position in five years’ time.”

Some low income households spend up to 43 percent of their monthly income on transport, Hill-Lewis added.

“With more commuters relying on road-based transport, there’s more pressure on our road network, in terms of maintenance and with increased congestion, and the demand for more and bigger public transport interchanges to accommodate the growing number of buses and minibus-taxis.

More heavy vehicles are using roads to move freight between cities and the harbours when this cargo could and should have been transported via rail. The impact of heavy vehicles on roads is well documented.

“All these failures, on a national level, put immense strain on the City in terms of the budget and human resources needed to maintain our current road network and provide public transport infrastructure. “The most severe impact, however, is felt by commuters who are spending more money on travelling, and are stuck in congestion on a road network that’s under severe strain because passenger rail – the most cost-effective form of public transport – has imploded through mismanagement.



The Department of Transport and Supply Chain Management @ UJ’s School of Management offers a variety of qualifications to suit each individuals needs and requirements for a career in the logistics and transport management industry.

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  - Advanced Diploma in Transportation Management
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The Future Reimagined



## Four million engines in 59 years



FORD's long and proud history in South Africa is inextricably linked to the city of Port Elizabeth - Gqeberha - where Ford Motor Company of South Africa was founded in 1923.

Some 41 years later, Henry Ford II officially opened the Struandale Engine Plant. With an investment of R8-million in the new facility at the time, it positioned Ford as the first motor company in South Africa to manufacture engines locally, and it has played a central role in Ford's manufacturing and export operations ever since. At the end of August 2023, the Struandale Engine Plant produced its four-millionth engine - a 2.0-litre four-cylinder Bi-Turbo diesel engine that will be installed in a new Ranger bakkie at Ford's Silverton Assembly Plant in Pretoria. The Ranger is produced for domestic sales and exports to more than 100 global markets, with an installed capacity for producing up to 200 000 vehicles per year. This makes Ranger one of South Africa's leading vehicle exports, with 45 793 vehicles exported between January and September 2023 - all powered by engines supplied by the Struandale plant.

Fittingly, this major milestone also coincides with the 300 000th 2.0L Single Turbo/Bi-Turbo diesel engine being produced at Struandale since this programme was launched in 2018. The Struandale Engine Plant also produces the 2.2L and 3.2L Duratorq TDCi engines that were introduced in 2011, as well as the new 3.0L V6 Diesel engine that powers the range-topping models in the new Ranger line-up, with production commencing in 2022 following a R600-million investment.

"The Struandale

Engine Plant has been instrumental in Ford's development and growth over the past 59 years, particularly for our export operations. The four million total engine production, along with the 300 000 2.0L Single Turbo and Bi-Turbo diesel engines assembled to date, are remarkable achievements," says Ockert Berry, VP Operations, Ford South Africa.

To date the Struandale plant has produced 11 different engine types, starting off in 1964 with the 1.7L and 2.0L V4, the much-loved Essex V6, as well as the 1.3L and 1.6L Kent four-cylinder engines.

### Local innovation

According to Shawn Govender, Plant Manager of the Struandale Engine Plant: "The assembly line that produces the 3.0L V6 turbodiesel engine for the new Ranger still assembles our existing Duratorq TDCi engines, making it the only facility of its kind in the Ford world that produces both V-configuration and in-line engines, as well as a combination of four, five and six-cylinder units, all on a single line," he says.

The Struandale Engine Plant currently has around 850 employees, with a total of approximately 5 500 people employed by Ford South Africa - almost double the 2 700 jobs it provided in 1964.

Last year the Struandale Engine Plant won the overall 2022 Exporter of the Year title and the Best Exporter OEM award from Exporters Eastern Cape. "This was a huge accolade and provided well-deserved recognition for our dedicated team. It was made possible by our ongoing investment, unwavering commitment to quality, continuous improvement and innovation," Govender says.

## Affordable, reliable and highly tailored Overnight Road Services delivers with superior reach and in record time

IN a landscape where businesses demand swift and dependable logistics solutions, Seabourne Logistics is leading with its innovative ONR (overnight road service), setting new industry standards, delivering goods punctually and rapidly expanding its reach to cater to a rapidly growing clientele. Designed to provide quick and efficient deliveries throughout South Africa, reaching destinations typically accessible solely by air, the overnight service gives clients a competitive edge in today's fast-paced market. "The success of our overnight road service can be attributed to our dedication to quality, reliability, and cost-effectiveness," says Garry Harris, Director at Seabourne Logistics ZA.

"We understand that our clients' success depends on their ability to have goods delivered on time and within budget, and we take that responsibility very seriously." Transporting goods overnight by road presents numerous benefits. The foremost advantage is its cost-effectiveness, offering potential savings of up to 50% compared to airfreight services. Moreover, it excels in cargo handling, boasting greater space and flexibility than airlines. This facilitates the transportation of hazardous materials and liquids, which may be subject to stricter airborne regulations. "While road transport does have its limitations, it is considerably more accommodating, permitting the carriage of items like aerosols or lithium batteries that may be restricted on flights. Importantly, our service consistently upholds high quality standards, ensuring minimal disruptions," continues Harris. Seabourne have created distribution hubs and fulfillment centres which are strategically positioned across the country to cater to the growing clientele. Not only has it increased the service's reach, but also allows for more efficient transportation networks.

The company has invested heavily in the development of this service. All linehaul vehicles are equipped with long-range tanks and anti-fatigue cameras that are consistently operated by a double crew, whose activities are closely monitored by a 24-hour control room. Iveco Turbo Daily 50C

70 vehicles with reinforced heavy-duty tow bars and 1.5-ton trailers are operated within their warranty period on the overnight road service - ensuring reliability. The fleet is subjected to bumper-to-bumper service checks every second to third day, depending on the rotation schedule. The vehicles have dimensions measuring 4500 (length) x 1700 (width) x 1900 (height), with a carrying capacity of 2.5 tons and 16 cubic metres of space. The trailers have dimensions of 3300 (length) x 1600 (width) x 1700 (height) and can carry 1-1.5 tons with 9 cubic metres of available space. To enhance their robustness, the rear sections of the vehicles are equipped with aluminium cladding walls and Marley-type floors, complete with sunken securing points. "Businesses, driven by price sensitivity and competition in service delivery, are



Seabourne's Overnight Road Service holds great value in industries like the automotive sector, where the quick movement of parts is crucial.

increasingly opting for this intermediate service that ensures next-day delivery," explains Harris. "It holds great value in industries like the automotive sector, where the quick movement of parts is crucial. It offers convenience and flexibility, allowing for multiple deliveries in a single trip

to remote places often left out from next-day delivery. Moreso, we're constantly working on expanding our service reach and footprint across the country, providing our clients with a cost-effective solution," concludes Harris.

The growing logistics company will be moving

to a new and improved facility in November, doubling their warehousing space and preparing to further enhance their reach and maintain their excellent personal service.

For more information visit: [www.seabournelogistics.com](http://www.seabournelogistics.com).

## Overnight Road Services

IMPROVE REACH, REDUCE COSTS AND HANDLING + SAVE



### DID YOU KNOW?

Seabourne's Overnight Road Services presents numerous benefits:

- **Cost Savings:** Save more than double by using our Overnight Road Services compared to expensive air freight costs.
- **Less Handling:** With overnight road, we have less handling and reduced damages.
- **A Wider Reach:** Our Overnight Road Service reaches far and wide and Seabourne is currently the only provider who can provide this service from JNB to areas such as George, Knysna, Mossel Bay on an Overnight basis, providing you with greater business capabilities. Traditional air destinations are now covered by road.

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# Always more with Blade

ROTORVANE, agents for the Mattei range of rotary vane air compressors, report that its Blade 8-12 direct-drive models – ideal for small and medium-sized businesses, boasts even more efficiency and greater reliability when compared to their Blade 7-11 belt-drive siblings. All are offered with the extended warranty MyCare6.

panies.

The advantages of direct-drive between the compression unit and the electric motor are mainly related to superior energy efficiency, enhanced reliability and simplified servicing. Energy efficiency (all Blade 8-12 models meet the requirements of the BAFA, the Federal Office for Economic Affairs and Export

tion to benefit the user with longer service intervals and time savings thanks to the ease of coupling element replacement. Silent operation is another benefit of direct-drive technology which is particularly important for installations in small environments where operating personnel are present.

This series, with power ranging from 7-11 kW and operating pressures at 8,10 (and on request), 13 bar, provide great versatility. There are also a multitude of different setups which will better satisfy the needs of the end user. Beyond the standard version, Mattei also offers an S-version (mounted on a tank with a capacity of 270 litres), the E (fitted with a dryer), and the SE (with a storage tank and refrigeration dryer). All versions are available with fixed or variable speed operation; with the latter, an inverter automatically adjusts the rotational speed of the motor, to ensure that the



“The inverter controlled variable speed cooling fan, exclusive in the Blade 8-12 models, also makes it possible to better manage the running temperatures of the compressor...”

All the advantages of the Blade 8-12 models, such as compactness and silent operation are now further enhanced through the advantage of 1:1 direct-drive technology. This adds an extra measure of robustness to the Blade 8-12 models, which brings compact, high-performance solutions to artisanal businesses and small to medium-sized com-

panies. Control) and rugged reliability are distinctive traits of the direct-drive Mattei rotary vane technology, amplified by the absence of belts and gears. Eliminating belt maintenance, the direct-drive shaft coupling lasts longer and is easier and quicker to replace thanks in part to an easy access coupling guard screen and enhanced shaft separa-

air discharged corresponds with real-time demands while using no more energy than necessary.

The compressor comes as standard with an asynchronous three-phase IE3 TEFC motor, but is also available, on request, with an IE4 super-premium efficiency class motor.

All the fixed-speed compressors are fitted with a soft-starter system, born from the collaboration with Allen-Bradley, a brand of Rockwell Automation.

Thanks to the Soft-Starter, inrush current is limited reducing shock and stress during the motor starting phase which prolongs the life of the motor and reduces running costs, but also ensures compliance with current regulations.

The sophisticated MaestroXB computerised controllers can improve the efficiency of a multi-compressor plant, thanks to the control, monitoring, and automatic programming of oper-

ations through an intuitive control panel and the ability to harmonize the operation of networked compressors. Fully equipped with the capability to not only collect data but also analyse operational efficiency, failures, and faults, MaestroXB guarantees both the flexibility and adaptability of plant operations.

The inverter controlled variable speed cooling fan, exclusive in the Blade 8-12 models, also makes it pos-

sible to better manage the running temperatures of the compressor while reducing overall energy consumption even further.

The Blade 8-12 models come to market including the MyCare 6 extended warranty plan. With the free activation of the MyCare 6 plan, clients are assured of 6 years of worry-free operations, as well as the certainty of a maintenance programme authorized by Mattei for certified servicing.

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## Geo-political factors continue to pressure logistics sector during September

THE Ctrack Transport and Freight Index, which measures six sub-sectors of the South African logistics industry, continued its decline during September. This marks the fourth consecutive monthly contraction, confirming ongoing strain in the logistics sector. At a level of 118.0, the Ctrack Transport and Freight Index is now 1.7% below its level of a year ago and the lowest since February (116.9). The strain is evident across multiple sub-sectors and confirms the interdependence and intertwined nature of the logistics sector. Overall, the Ctrack Transport and Freight Index remains in negative territory on an annual basis for the second consecutive month, again confirming that many challenges remain for the sector.

Four of the six sub-sectors contracted during September compared to a year earlier, with a similar scenario transpiring on a quarterly basis. On an annual basis, the Road Freight sub-sector is still recording positive growth, albeit at a snail's pace, with annual growth subsiding notably to only 1.3% year on year during September 2023. This is a far cry from annual growth of 28.2% experienced during August 2022 and the lowest since December 2020.

The Sea Freight component has continued to struggle in the wake of COVID-19 and was hampered by the Transnet strike in October 2022, prolonging the sector's under-performance. Transnet Ports Authority (TNPA) data for September painted a bleak picture, with total container handling (landed & shipped) decreasing by 11.8% compared to the previous month, while still 21.5% below September 2022, the last "normal" month before the strike commenced. Likewise, total bulk cargo is down by 9% compared to August and is still performing 14% below a year earlier. Some unforeseen events, such as increased weather delays, were apparent in September, but multiple challenges remain relating

to frequent equipment breakdowns, shortages and congestion. The Sea Freight subsector declined by 4.3% on a monthly basis, but retracted further into negative territory compared to levels of a year ago (-5.7% year on year vs -2.0% in August).

The Road Freight sector, the biggest among the sub-sectors, has experienced various unforeseen challenges during the last few months, while the operational troubles at ports, particularly at the Durban port, also continue to have a negative impact. Heavy vehicle traffic, including heavy and extra-heavy vehicles on the N3 route, declined by 5.3% during September and remained 2.4% below year-ago levels. On the contrary, heavy vehicle traffic on the N4 route increased by 5.2% compared to August, tracking almost 20% higher than a year earlier. This is partly due to the fact that ongoing operational troubles at South African ports are resulting in loads being redirected towards the Port of Maputo, to the detriment of the South African economy.

"To be successful in a logistics business, operators need a fleet management system that is adaptable and able to roll with the punches. Ctrack's wide variety of fleet management solutions can be tailored for any industry with various functionality, including live dashboards that can offer fleet managers a blow-by-blow account of daily operations," says Hein Jordt, Chief Executive Officer of Ctrack.

The Rail Freight sub-sector increased somewhat during September but remains deeply in negative territory on an annual basis, with a 4.6% year-on-year decline during September 2023, which represents the 18th consecutive annual decline. The urgency of freight reform was recently reinforced in the Operation Vulindlela update, while Transnet's ongoing decline is having a material negative impact on the country's economic activity and prospects, and reforms are urgently needed.

After declining for three consecutive

months, the Air Freight sub-sector increased by 0.9% on a monthly basis and moved into positive territory compared to a year earlier. The sector has been under pressure for most of 2023, not only locally but also globally, and the underlying data remained a mixed bag in September.

Locally, consolidated airport flight movements declined by 2.1% compared to August, while the number of unscheduled flights, typically chartered for cargo purposes, declined by a notable 13.5%. However, cargo load on planes did increase during September.

The transport of liquid fuels via Transnet Pipelines (TPL) increased by 2.5% compared to August, with the Pipeline component of the Ctrack Transport and Freight Index tracking 5.7% higher on a quarterly basis while remaining in negative territory on an annual basis, with declines of 1.3% recorded in September. After being the star performer in June, the Storage and Handling sub-sector subsided during the third quarter, dropping by 12.9% on a quarterly basis while moving a notable 11.4% below year-ago levels. Inventory levels have recently moved lower in the economy, while transshipments also declined causing spill-over effects on storage and warehousing activity.

### Ctrack TFI and GDP growth

While the economic narrative remains generally static, with regular spates of load-shedding, elevated interest rates, a lacklustre job market and low confidence levels, a growing number of industries are becoming more resilient as companies reduce their energy dependence on Eskom.

"While government has started to come to terms with the negative impact that the under-performance of the sector has on the broader economy, implementation of reforms remains slow and more urgency is needed to stem the negative momentum in the transport and logistics sector," concludes Jordt.

## AGV's address mega warehouse challenges

THE rise in mega warehouses designed as major regional distribution and storage centres in South Africa is changing the way goods are moved within these buildings – and the buzzword is automation. Robots and machines are increasingly taking on many of the monotonous tasks in warehouses that have traditionally been done by humans.

South Africa's shift from a primarily manufacturing-based economy to importing most manufactured goods from other countries has made large warehouse buildings near busy ports an economic necessity. However, the ability to store more goods in mammoth warehouses is not without its challenges.

The sheer size of the mega warehouse – often running into hundreds of metres in length – means the driver of a traditional forklift will spend a lot of time going to and fro to fetch product pallets. An agile solution is the Automated Guided Vehicle (AGV) which can transport goods between two points in manufacturing facilities, warehouses or distribution centres without the need for a driver.

These vehicles speed up the flow of heavy materials by moving along a pre-designed circuit without becoming fatigued, thus increasing efficiency and allowing forward-looking companies to redeploy labour into positions that are



more stimulating and require human intervention.

With giant e-retailers driving fast-paced distribution, the idea of the autonomous warehouse is becoming more widespread.

CFAO Equipment South Africa is driving the automation of warehouse machinery through its Toyota Material Handling division which sells forklifts and solutions.

Fritz Barnard, National Technical Specialist at CFAO Equipment SA, says the popularity of AGVs is booming globally due to their ability to automate repetitive manual tasks, ensure visibility of material flow and reduce the risk of site downtime.

"Essentially, AGVs help separate repetitive workflows from unique ones. And by removing those time-consuming activities that take away energy and resources, they add to greater efficiency and productivity," says Barnard. "It must be stressed that

the addition of AGVs will not make skilled workers redundant. In many instances AGVs perform tasks that humans are not well equipped to handle. For example, an AGV can work in extreme temperatures and are well suited for excessively repetitive tasks like retrieving empty pallets in continuous 24/7 operations, disregarding breaks and skipping any kind of absence."

"While AGVs handle the monotonous tasks, the employees who used to perform that task can be retrained and placed in other areas of the warehouse where their skills can be more fully utilised. Thus, the integration of AGVs upgrades the modern workplace, allows employees to utilise their talents and even secures existing jobs by making companies and their processes more efficient and competitive," says Barnard.

The onboard software of driverless vehicles guides their movement, helping

them move along pre-defined paths avoiding obstacles and ensuring safety.

Automation of the warehouse is a project-based operation – software must be written specifically for each warehouse, and it can take up to 2 000 man-hours to automate a site.

Barnard says reflector navigation is the company's chosen navigation method. Reflectors are installed on-site and scanned by each automated vehicle, allowing it to define its position based on the distance to the reflectors. On top of this, AGVs include built-in safety scanners, obstacle detection units, load sensors and vision cameras to prevent collisions, guaranteeing accurate and safe load handling.

The benefits for customers of AGVs is that the new technology machines are agile and safe while reducing load movement times. Fewer machines are needed to do the same job.

## Road Transport Inspectorate launched

THE actions of unscrupulous cross-border operators will be one step closer to being thwarted with the recent launch of the Road Transport Inspectorate Unit by the Cross-Border Road Transport Agency (C-BRTA).

"Its core functions are law enforcement (monitors the carriers through country-wide inspections..."

The C-BRTA, established in terms of the Cross-Border Road Transport Act (Act No 4 of 1998) as

amended, gives effect to various international agreements that regulate cross-border road transport.

The agency operates in a commercial environment, with the Government (represented by the Minister of Transport) being the shareholder. It facilitates unimpeded flow of freight and passenger cross-border movements and plays a critical role in the implementation of cross-border road transport agreements and issuing of cross-border operator permits. It also regulates all passenger and freight Cross-Border

Road Transport from South Africa into the Southern African Development Community Region (SADC).

Its core functions are law enforcement (monitors the carriers through country-wide inspections and ensures that carriers operate within the prescribed legal parameters); facilitation and Industry Development (ensures that consultations and partnerships with other key role players within South Africa and SADC are fostered and maintained); regulatory (responsible for the issuing and facilitation of all cross-border

permits); and research and advisory (advises the Minister of Transport on regional road transport imperatives and challenges. This function also monitors and counteracts any restrictive measures that may be implemented by other states in the SADC region.)

The Road Transport Inspectorate (RTI) was set up in terms of section 37 of the Act during Transport Month in October. The primary role of the inspectorate is to ensure compliance on cross-border road transport through inspections and prosecutions of illegal operators.



# SAVA welcomes new members

SOUTHERN African Vinyls Association (SAVA) is delighted to announce the addition of seven new members who have joined the association representing the local vinyls industry during the last few months.

Monique Holtzhause, CEO of SAVA, expressed her enthusiasm regarding the new members, stating: “We have set the objective for ourselves at the beginning of 2022 to be the most desirable PVC industry association in the world in the next 10 years. To this end, we restructured our membership model and funding fee in order to make it as affordable as possible for all role-players in the local vinyl industry to join us”.

During the last few months, the following

- companies have signed up with SAVA:
- **Arengo Plastics:** Is a manufacture of rigid PVC rolls, rigid PVC sheets, thermoformed blister packaging, die-cut packaging, cooling tower fill media, and water treatment fill.
  - **Deltatecnic:** Is a master batch manufacturing leader. They are a customer-focused firm that works with commercial and operational excellence to provide high-quality products and innovative solutions.
  - **Mo’s Crib:** is a maker of home decor basics that provides high-end, functional, and naturally inspired home décor items



- for indoor and outdoor storage needs. They specialise in washing baskets made from recycled PVC pipes.
- **P.E.S.C Laboratory:** As an independent testing and research laboratory with extensive experience in vinyl materials, P.E.S.C Laboratory’s inclusion will play a significant role in ensuring product quality, safety, and innovation in the industry.
- **TEB Holdings:** A diversified company with interests in various sectors, TEB Holdings brings a unique perspective to the

vinyl industry.

- **Vinyl Council of Australia:** SAVA is excited to welcome an international partner in the Vinyl Council of Australia. Their global experience and commitment to sustainability align perfectly with SAVA’s objectives, fostering collaboration on a global scale.

“SAVA is not just an industry association, but a community of like-minded organisations striving to create a sustainable, innovative, and responsible vinyl industry. Each of our members contributes to the ongoing growth and future success, by bringing diverse expertise, creativity and fresh perspectives to the table. These new members are a testament to our mission of creating a dynamic and innovative industry. Their participation and support will be instrumental in achieving the goals of sustainability, innovation and collaboration that SAVA stands for,” Monique concludes.

For more information about SAVA visit [www.savinyls.co.za](http://www.savinyls.co.za)

More information about membership categories and application forms can be found at <https://southern-african-vinyls-association.mailchimpsites.com/membership-application>

## Inaugural South African Future Trust Summit

Keynote speakers, discussion sessions and masterclasses to provide invaluable insight into the constantly changing South African business landscape.

GLOBALLY recognised expert on disruptive technology, innovation and exponential leadership, David Roberts, is just one of the top-tier speakers who will address delegates at the inaugural South African Future Trust Summit, which is scheduled to be held on 22 and 23 November 2023 at the Gallagher Convention Centre, Midrand.

The objective of the summit, which will become an annual event, is to foster an understanding of the dynamic local business landscape and empower delegates to harness its potential,” says Jonathan Oppenheimer, Executive Chairman of Oppenheimer Generations, which provided R1 billion in funding to establish the Trust.

**Keynote speakers**

The speakers will include GG Alcock, the founder and leader of Minanawe Marketing, who will offer extraordinary case studies drawn from his deep experience of the African market as well as strategies that resonate with both local and global audiences. Also on the agenda will be Sivan Yaari, a trailblazing social entrepreneur known for her transformative work in sustainable development across the African continent, Sivan’s organisation Innovation Africa provides fresh drinking water to over four million people per day.

“We anticipate that over 1 000 leading entrepreneurs will attend the summit”, says Oppenheimer “all key stakeholders in the South African economy. This

unique forum will provide them with exposure to some of the most innovative thinking in business today and will offer invaluable networking opportunities.”

In addition to the keynote addresses and discussion sessions, the summit will feature four subject-specific masterclasses, designed to help entrepreneurs address some of the most pressing challenges they are facing in today’s constrained and highly competitive business environment.

**About the masterclasses**

The first of these, entitled Investor Ready: Building a Business That Attracts Capital, will provide an opportunity for entrepreneurs to learn how to make their businesses attractive to investors. The session

## South Africa welcomes the adoption of the new global framework on chemicals

“AFTER intense negotiations, the 5th session of the International Conference on Chemicals Management (ICCM5) adopted the new Global Framework on Chemicals, including pivotal decisions as part of the Bonn Declaration,” said Minister of Forestry, Fisheries and the Environment, Ms Barbara Creecy.

Minister Creecy has congratulated and welcomed the success of the South African negotiating team for working tirelessly as part of the Africa Group of Negotiators.

The ICCM5 was convened from 25-29 September 2023 in Bonn, Germany. The main objective of the Conference was to adopt a “Beyond 2020” chemicals and waste global policy framework instrument.

The Global Framework on Chemicals Fund is aimed at benefiting stakeholders in developing countries on the implementation of priority targets to manage chemicals and waste. It provides a vision for a planet free of harm from chemicals and waste, for a safe, healthy and sustainable future. Objectives include concrete targets and guidelines for key sectors across the entire lifecycle of chemicals that aim to improve the sound management of chemicals and waste. The poor and other vulnerable groups who are the most adversely affected by the impact of chemicals and waste, would benefit positively from environmentally sound management of chemicals.

The framework calls for, by 2035, a phase out of highly hazardous pesticides in agriculture where the risks have not been managed and safer alternatives are available, and further seeks to strengthen links between the new instrument and the climate, biodiversity, human rights and health agendas.

The Global Framework on Chemicals Fund will be financed from contributions from all stakeholders including the private sector. Host country, Germany, announced that it would pledge EUR 20 million to the new fund envisaged under the framework. France announced that it would contribute EUR 400,000 in 2024.

Governments have committed to creating, by 2030, the regulatory environment to reduce chemical pollution and implement policies to promote safer alternatives. Industry has also committed to managing chemicals in a way that reduces chemical pollution and adverse impacts.

## MAKE PVC YOUR FIRST LINE OF DEFENCE

Considering that hospitals rely on PVC to offer the first line of defence against superbugs and infections, shouldn't you use it for your packaging too?



[www.savinyls.co.za](http://www.savinyls.co.za)



SAVA is registered as a Section 18 PRO with DFFE for PVC packaging  
19/7/5/P/PRO/20220811/034



THE NEXT GENERATION

Internships, Skills & Development Programmes

New Solar Community Hub with health clinic launched in Cape Town

DELL Technologies, in partnership with SHAWCO, has launched the Kensington Solar Community Hub in Cape Town. The project has transformed the existing facility by adding a medical clinic that will provide members of the Kensington community with a wide range of healthcare services. These new services augment the educational offering which aims to equip the Kensington community with critical skills to be successful in the digital world such as International Computer Driving Licence (ICDL) certifications.

Opened in 2014, The Kensington Solar Learning Lab was Dell's first Lab in South Africa and its second globally. Initially focused on education, it now offers the community healthcare services that have not been accessible in the past. This addresses two pressing issues in South Africa: scant access to healthcare for communities such as Kensington and a marked digital divide which means only 10.4% of households have access to home internet, according to Statistics South Africa.

Dell has deployed Solar Community Hubs in 47 locations worldwide, supporting 13 countries and impacting more than 921,000 people. These hubs are designed based on the needs of each community and aim to provide access to the basic needs and digital skills needed to participate in the digital economy. There are currently 12 hubs in South Africa.

SHAWCO operates mobile health clinics and wellness programmes, offering free medical consultations, health education and preventative care to the community.



- Key characteristics of the Kensington Solar Community Hub include:
- The health clinic is managed by the community and features multi-purpose rooms for health screening and other services, enabled by Dell solutions.
  - SHAWCO runs its Beyond Education Health Clinics and Violence Protection Programme at the clinic.
  - Three existing units have been repurposed and combined to create a unique structure of two 40-foot containers capable of hosting 23 computer users.
  - The hub offers ICDL certification, enabling members of the community to certify their computer skills to an internationally recognised standard and to become certified ICDL trainers.
  - The hub also offers training in Microsoft Office applications such as Word, Excel and PowerPoint, as well as coding.
  - Community members can attend Summer School lectures broadcast from the University of Cape Town.
  - Future plans for the hub include the addition of rainwater collection.

Visually impaired coders trained in cyber-security

ONE in every 200 coders globally is reportedly blind or visually impaired – and, thanks to some innovative education initiatives, the massive digital divide in South Africa is gradually closing for visually impaired youth.

The Bona Africa programme, in collaboration with SADTU, this year started with Tactile Coding Workshops – where coding concepts are introduced to blind and visually impaired youth and their teachers. Vocational training is also offered to learners who have completed their schooling.

Blind and visually impaired students from across South Africa attend the Hein Wagner Academy in Worcester in the Western Cape. Cyber Security Trainer and Coordinator Len Viljoen said through various industry collaborations, the academy is offering a Cyber Security Programme which was piloted in 2020.

“Because of the rise of technology and the constant threat of cyber-attacks, the need for cyber security experts and analysts has increased exponentially. We believe with the right training, visually impaired individuals can play their part in the war against cyber-crime,” said Viljoen.

Depending on the learnership sponsor, the programme usually consists of two components. Firstly, a national qualification in the form of a NQF level certification. Secondly, the academy offers an international component consisting of various certifications including, but not limited to, CompTia A+, Network+ and Security+, as well as certifications from Cisco.



“We are a training provider for both CompTia and Cisco and are also going to start AWS training. This ensures our students get up-to-date training. With these industry grade certifications, people will start to realise that visually impaired individuals need job opportunities too.”

Ncebakazi Tyalisi, 31, from Willowvale in the Eastern Cape, joined the Hein Wagner Academy to pursue a career in IT and cyber-security. “I find the programme very empowering, especially for me a rural blind girl with no

prior background in IT. It gives me hope for the future that I’m being trained to excel in a field dominated by the sighted world,” said Tyalisi.

While the Hein Wagner Academy only opened in 2019, the department for career development of the Pioneer School – its predecessor – has offered programming and coding training since the 1990’s.

Viljoen welcomed Tangible Africa’s efforts to make coding training available at primary and high school level to help prepare visually impaired students for careers in the IT field.

Bona Africa, a partnership between Tangible Africa and Bona uBuntu, has recently trained teachers from schools for the visually impaired across all nine provinces during a series of workshops where teachers were equipped with tactile tools and the TANKS Coding App to introduce learners to coding.

“The earlier any person can be introduced to IT-related concepts, especially coding, the better. This is no different for visually impaired people. If the groundwork is laid, there are no limit to the heights these individuals can achieve,” said Viljoen.

Tangible Africa Founder and Head of the Department and Associate Professor at the Nelson Mandela University Computing Sciences Department, Prof Jean Greyling, welcomed the vocational opportunities for VIPs and blind youth in South Africa.

For more information contact email Prof Jean Greyling: Jean.Greyling@mandela.ac.za

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# A long-term reason to celebrate

## OPINION

RIGHT,” announced Luke the Dude, “the rugby is over and done with, let’s move on to something less excitable.” The usual conference of caustic conversationalists was meeting at the local Pub & Grill to straighten out our town, our province and, as always, the world.

“Well, if you can handle any more good cheer,” grouched Bob the Book, “it’s summertime next month, with GP cars strangling the roads while gemütliche Germans and jolly Brits pack the eateries and drinkeries ...”

“You don’t have to worry about the Pub & Grill,” soothed Jon the Joker, “one look at your welcoming Scottish scowl will drive them homeward to think again.”

“I agree,” grinned Miss Lily, “That first game of the World Cup (Bokke vs Scotland – Ed.) is obviously still hurting in some places. Come on Bob, show some of the hospitality for which the Cape is famous.”

“Ha!” guffawed Robert the Brute, “welcomed with open arms, mark my words, by roaming hijackers, pick-pockets and pirate taxis!”

“On the contrary,” smiled Miss Lily

sweetly. “Let me give you the facts: The Western Cape last month won eight, yes eight, of the 2023 World Travel Awards Africa, including Leading City Destination, Leading Luxury Hotel and Leading Sports Resort. Of course we will have visitors flocking to our shores from all over the country and the world.”

“Viva,” agreed Bill the Beard cheerfully, “don’t act The Grump, think what that means for local business, our economy and job creation. Those benefits are in short supply in the rest of Mzansi, even the once world-leading mining sector – where greedy government red tape is throttling out the prosperity.”

“So cheers to the DA’s Shadow Minister of Tourism, Manny de Freitas, who is now pushing, with his usual magnanimity, for a government mechanism to export our local success in travel and tourism to other provinces.”

“Magnanimity...” pondered Big Ben with a grin that worried me, “not to mention his humility, of course...” Told you. Ben was once a candidate against the DA.

“Me, I don’t agree (Big Ben’s favourite

expression),” I said to change the topic, while signalling The Governor for another round. “In fact, I emphatically disagree with the undemocratic rule made by Luke the Dude.”

“Me? Rule? What rule?” puzzled The Dude.

“That we should ‘move on to something less excitable’ than rugby,” I claimed. “In fact, I invite this convivial company to join me in the best spirit of rugby camaraderie while I honour a personal tradition, in fond memory of a late friend – a slayer of fork-tongued con-men, rescuer of benighted investors and joyful Cheetahs supporter.”

“Put this round on my tab, please Governor.”

“While the glasses are being filled,” noted The Prof, “here are the new rankings. Entering the World Cup, Ireland, South Africa and France were leading. Now South Africa, Ireland and New Zealand are the top three, a slight swing from northern to southern hemisphere. The top 10 are even with New Zealand and France swapping places and England at 5, followed

### 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



by Scotland, Argentina, Wales, Australia and Fiji in that order.”

Having thus had our daily dose of facts, we raised our glasses, shouted “Viva Bokke!” and “Up the 1-point Rassie!” and sang *Shosholozza* plus home versions of *Flower of Scotland* into the night:

*We stood and faced him: Proud Haka/Farrell’s/Obelix army*

*And sent him homeward, ta think again.*

E-mail: noag@maxitec.co.za

## Researchers use AI to make mobile networks more efficient

By University of Surrey

A new artificial intelligence (AI) model, developed by the University of Surrey, could help the UK’s telecommunications network save up to 76% in network resources compared to the market’s most robust Open Radio Access Network (O-RAN) system—and improve the environmental sustainability of mobile networks by using less energy.

In a study published in the journal *IEEE Transactions on Network Service Management*, Surrey researchers detail how it is possible to save bandwidth by mathematically modeling the network and using AI to find the best way of allocating computing power across it.

Esmaeil Amiri, who led the research at the University of Surrey, said, “Our model shows that by using AI, telecommunications providers could use their bandwidth far more efficiently, with only a small additional computational cost. The model could be adapted for other scenarios—like helping drones conserve their batteries or even reducing latency in remote surgery.”

This improvement in a network’s

bandwidth capacity is possible with only minimal computing cost when compared with other O-RANs.

Professor Ning Wang, co-author of the study and Professor in Networks at the University of Surrey, said, “This solution can dynamically adapt to changes in demand, yet with significantly reduced necessity of reconfiguring the network. This could make our communications networks more robust and more efficient—but the underlying model could have even broader application.”

O-RANs have revolutionized the way telecom providers operate—allowing them to shift computing power across their network to respond to changing demand without having to adjust their hardware at base stations.

However, existing technology is not able to easily adapt to rapid changes in demand across the network.

Surrey researchers believe that telecoms providers could take their findings and make their own networks even more efficient. This could not only make their systems more resilient but also save energy consumption.

Now, the proposed scheme could receive further testing in the HiperRAN Project in which the Surrey team will work with industry partners to bring the technology closer to being ready for roll-out.

Dr. Mohammad Shojafar, also co-author of the study and Senior Lecturer at the University of Surrey, commented, “This solution aims to design intelligent, robust applications for traffic demands on Open RAN, a prominent next-generation telecom network. This research could be implemented easily, helping shape the next generation of telecommunications networks.”



Credit: CC0 Public Domain

## US universities partner to develop CO2 conversion technology



BRASKEM and Northwestern University (U.S.) have collaborated to develop a technology platform for converting the CO2 generated by industrial operations into products of interest with the help of co-electrolysis, a technology using electricity to convert CO2.

The project, led by Professor Ted Sargent and Dr. Ke Xie at Northwestern University, is in the development stage and aims to build a versatile and modular system with high energy efficiency.

The project will also help transform a higher volume of CO2, thereby reducing greenhouse gases.

The laboratory-scale development stage is expected to improve in the three years of the cooperation agreement and is capable of scaling up with usage in industrial applications post-validation.

The investment in the partnership will enable Braskem to reduce its greenhouse gas emissions by 15% by 2030 and achieve carbon neutrality by 2050.

“Through this partnership with Northwestern University, using the cutting-edge infrastructure of its laboratories and Prof. Sargent’s and Prof. Xie’s expertise, we will undoubtedly deploy an innovative technology – CO2 conversion through co-electrolysis,” said Gus Hutras, Global Process Technology Director, Braskem. “Therefore, we will efficiently reduce our greenhouse gas emissions and open up new conversion possibilities through this pioneering and disruptive initiative.”

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