CAPE
Business News

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Waco celebrating 75th anniversary

Red Rocket renewable projects to generate 5GW by 2025.

Solar scheme at Kenhardt underwhelming.

SA to get a 'super' transport regulator that will set road, airport, port and rail pricing

Pic credit: Hein Vogel.

By Larry Claasen

SOUTH Africa is about to radically transform its transport sector with the establishment of a Transport Economic Regulator (TER), which will regulate the pricing of accessing roads, airports, ports and rail in the country.

The change will see the new regulator operate in a similar manner to NERSA, the energy regulator, which sets electricity tarries and issues licences to generate and transmit electricity.

The goal of the TER is to ensure there was "a level competitive playing field," specifically when it came to ports and rail, according to the Department of Transportation's Roadmap for the Freight Logistics System in South Africa, which was released in December 2023.

The creation of TER will effectively mean that an independent regulator will soon determine the cost of using the country's rail and port infrastructure, which is largely controlled by Transnet.

This means Transnet will no longer have a free hand when it comes to setting rates but will now have to go through a regulator to determine what they should be.

Aside from price controls, TER, which will take over from the Ports Regulator, will also have more of a say over its predecessor when it comes to "terminal operations and concessioning and service licencing agreements," according to the roadmap.

The roadmap says the government's goal of bringing in more competition into the South African transport sector will require a level competitive playing field in ports and rail, but this would require the monitoring regulations by an independent regulator like TER.

Difficult balancing job

The mandate of TER will see it balance out the need for state transport entities like Transnet to cover its cost but also ensure that the services it offers are priced at a point that is affordable to businesses.

For example, the roadmap notes that rail is a high fixed-cost network and will only fully cover its costs if the network moves a high volume of goods. However, many potential rail customers can instead use the road network and will only switch to rail if prices are competitive.

It could then be a case that if every customer is charged the same price, these price-sensitive customers will switch to the road. But this means that without these price-sensitive customers, the rail network may not move high enough volumes to cover its overall costs.

The roadmap sees a scenario where not all users are paying a price that covers the fixed costs (in order to maintain volumes on the network,) and price-insensitive customers are, in effect, subsidising the more price-sensitive ones.

This treatment could be seen as "unfair" on the part of the regulator, but price-insensitive customers will gain in the long-term, as it will improve the financial sustainability of the network.

Moving quickly

The establishment of TER is set to happen quickly with the Economic Regulation of Transport (ERT) Bill, which creates the new regulator expected to be promulgated before March 2024.

The changes this legislation will bring will be sweeping as it will see TER take over the functions of several state entities.

"In road and airports, economic regulation functions which are currently largely entrusted to the Minister of Transport, as per the South African National Roads Agency Limited Act, the National Roads Act and the Airports Company Act, will now be conducted at arms-length by an independent regulator, with the aviation Regulating Committee rolled into the TER," said the roadmap.

The TER will eventually regulate rail, but this will only be after the Interim Rail Economic Regulatory Capacity (IRERC), which will set up rail regulations, has been set up and completed its work.

BIgger changes

The introduction of the TER is part of major changes being pushed through by the government on the transport sector. Transnet for instance, is setting up a new entity which will house its infrastructure under an interim Infrastructure Manager.

The goal is to have the Infrastructure Manager become a permanent fixture that operates independently inside of Transnet.

3 Things that can take a mine's logistics chain from good to great

By Justin Coetzee, CEO, GoMetro

WITH the South African economy heavily reliant on commodities and an energy crisis in Europe, thousands of mineral-laden trucks run daily to the country's ports.

Commodity traders need to know where their ore is, fleet managers need to know where their heavy-duty vehicles (HDVs) are and how they're performing, and subcontractors need to show their progress - all while border conditions change, ports get log-jammed and crime syndicates target loads.

Traditional telematics solutions may track these vehicles but often don't give an overarching view. Have subcontractors deviated from a route into a known hijacking hotspot or coal-swap operation? Has the rail connection come today? How many trucks are on the road between the mine and the stockpile at the port?

Logistics optimisation software can fill this gap, but is often complicated or clunky to use.

Here are three things to look for in a fleet management optimisation system.

1. Cybersecurity and Control

Logistics optimisation software should be an objective provider of data - some of which will be sensitive.

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Will cost about R40m to get Atlantis SEZ rail line operational

By Larry Claasen

THE Atlantis Special Economic Zone (SEZ) is still keen on restarting its rail service.

This follows the SEZ's rail link with the Port of Cape Town being severed in 2018 when its rail reserve through the DuNoon informal settlement, near Montague Gardens was invaded, forcing rail operations to stop.

The Atlanta SEZ, which has a 43km long rail link to the Port of Cape Town, is setting itself up as a green energy hub and sees the restarting of the rail service as a development that could boost this industry.

"The present work done by the Atlanta SEZ to open the freight railway line between Atlantis, an already successful industrial node, and the Port of Cape Town will be a further boost in the quest of the Atlantis SEZ to become an export-based Greentech manufacturing hub," the group said in its 2022 annual report.

The idea is to set the zone up as a manufacturing base for wind turbines, solar panels, insulation, biofuels, electric vehicles, energy storage, materials recovery, and green building materials.

Aside from developing the greentech sector, the rail service could also see the Atlanta SEZ become a transport hub.

"Getting it operational would also create a huge opportunity for Atlantis to become an inland port/freight village of sorts," says Atlantis SEZ CEO Matthew Cullinan.

Restarting the rail service, however, will not be a cheap process.

Cullinan says a study commissioned by the group found it would cost about R40-million to get the line operational again. This figure excludes the cost of relocation and re-housing of occupiers.

Though getting the line operational would be a value-added service for Atlanta SEZ, Cullinan notes that the survey found that the general sentiment towards freight rail from industrialists in Atlantis was poor and that it would take a lot of work to get traffic back onto the line.

Area where land invasion occurred in Dunoon is in the red oval.

Long wait

Getting the rail service operational, however, will not be a quick process as it requires complex negotiation between Transnet, the Western Cape Provincial Government, and the City of Cape Town on finding new accommodation for the occupants.

Cullinan says the issue is sensitive, and the parties involved in the negotiation are not speaking publicly on it.

"I am led to believe that there are moves to resolve this, but everyone involved is tight-lipped."

He says that this is in part because of sensitivities with negotiations with the community leaders when it comes to relocating people. Aside from coming up with alternative accommodation, systems also have to be put in place to prevent re-invasion of the land.

IPP Red Rocket to use $160m (R3bn) cash to generate 5GW project development by 2025

By Larry Claasen

CAPE TOWN-based Independent Power Producer (IPP) Red Rocket plans to use the $160-million it got last year to become a major player in the local energy market.

The cash injection will see the group investing not only in the South African government's Independent Power Producer Procurement Programme (REIPPP) but also in Commercial & Industrial (C&I) projects, says Red Rocket CEO Matteo Brambilla.

Red Rocket CEO Matteo Brambilla (centre).

"The $160-million (about R3-billion) cash injection is used for equity in new projects coming online in both REIPPPP and large C&I projects."

Brambilla did not specify which projects the group has lined up but indicated that it plans to set them up quickly.

"These funds have aided our project development process, bringing us closer to reaching 5GW of projects in development by 2025."

Brambilla says the group has ambitious goals and wants to maintain its growth momentum.

"We are a fast-growing company getting closer to being a leading Independent Power Producer in South Africa. We are very proud of this fact, especially since we are born and bred in Cape Town."

So far, Red Rocket has started several energy projects covering a wind range of renewable energy sources, both in South Africa and abroad:

- Kruisvallei hydro project is located along the Ash River in the Free State. This hydroelectric plant will generate 24 GWh of electricity annually, catering to the power needs of around 1916 households;
- Roggeveld Wind is a wind energy facility near Laingsburg that will produce 613 GWh of power annually, powering nearly 50 000 homes;
- Kathu Solar is located in the Northern Cape and generates approximately 150 GWh of power per year;
- Tororo Solar North Limited is a special-purpose vehicle company that will operate a 10 MW photovoltaic plant in Uganda.

The $160-million investment it got in September 2023 was from Bill Kilgore Investments, a management shareholders vehicle, and a consortium of international clean energy investors that includes the Evolution II and III Funds managed by Inspired Evolution, STOA - an impact energy and infrastructure fund dedicated to emerging markets, and FMO, the Dutch entrepreneurial development bank.

"We are proud to be part of Red Rocket project alongside Inspired Evolution and FMO. We are convinced that renewable energy is key for a sustainable growth and future and will be highly beneficial to South Africa. My recent visit to the Red Rocket mothership has reinforced my confidence in this dynamic and enthusiastic team," said STOA CEO, Marie-Laure Mazaud.

On the topic of future funding, Brambilla said: "Further funding initiatives will be explored in line with our business growth strategy."

Damned if you do, damned if you don't

By Chris Hattingh

IN its 25 January statement, the South African Reserve Bank's Monetary Policy Committee paints a stark picture of South Africa.

"The operation of ports and rail has become a serious constraint, and, alongside electricity shortages, contributed to weak output growth and higher costs last year. These constraints are expected to persist, severely limiting potential growth of the economy."

Add to this the forthcoming national and provincial elections, with increased general anxiety and uncertainty about how governance will look.

Finally, a global environment of rising geopolitical and geo-economic tensions and distance, with negative consequences for emerging and developing markets especially. The macro context for this year's Budget, to be delivered by finance minister Enoch Godongwana, is therefore exceedingly difficult.

South Africa's debt-to-GDP ratio has been steadily increasing, on course to reach 77% in 2025/26. Looking at the Medium-Term Budget speech delivered by Minister Godongwana in November last year, the country's gross debt will increase to R5,2-trillion in 2024/25, from R4,8-trillion in 2023/24.

Where debt servicing costs were at the 20,7% of revenue mark in 2023/24, these are expected to reach 22,1% of revenue in

2026/27.

The interest on South Africa's debt alone will come in at around R385,9-billion; phrased differently, that means around R1,06-billion per day just on servicing debt.

Those levels of debt and debt servicing costs, are a serious problem for and risk to government spending, initiatives, social welfare support, the public sector generally, as well as the current government's overall relationship with businesses and citizens.

Given that elections are on the horizon, cutbacks to spending in avenues such as welfare are highly unlikely.

So too, tax increases, but perhaps there is scope for some element of such increases, especially for high-income earners.

Should paring back of spending in something like welfare not be forthcoming, other avenues and areas will need to take the pain. A lowering of spending in education, healthcare, defence capabilities (army, navy, air force), and possibly even in policing could simply become a consequence of the difficult reality in which the government finds itself.

With electricity outages persisting, more and more South Africans who are able to are investing in solar capacity. Private solar PV is estimated at over 5 000 MW.

While alleviating some of the pressure on Eskom and the government, the downside for municipalities is the reality of lower revenue collection. When you combine the national context of a Treasury under all sorts of fiscal pressures with the municipal issue of lower revenue collection (and possibly receiving less to spend from the national government), municipalities' own spending priorities may well also need to change.

South Africa's GDP growth rate may reach the 1,5% to 1,7% mark in 2024. While an improvement on the 0,6% delivered in 2023, that is by no means enough to make a dent in the unemployment rate, but more widely to produce markedly improved numbers of citizens who can pay more in terms of tax revenue.

That short-to-medium-term picture means national fiscal constraints will persist.

On 1 February minister in the presidency, Khumbudzo Ntshavheni stated: "We think it's a priority that [the National Health Insurance Bill] must be signed during this period."

This period ends before the elections scheduled for later this year. The NHI, along with a possible Basic Income Grant, will add significant pressure onto the public purse – with negative implications, especially for the small tax base.

But considerations concerning imposing such pressures and undermining general fiscal stability and responsibility might ultimately be sacrificed on the altar of political expediency.

Art town becomes smart town as community manages own electricity demand

Pic source: Jan Giebelmann.

THE arts town of Clarens in the Eastern Free State has become the first town in the country where residents are now equipped to manage their own load shedding through a process known as load curtailment.

As Clarens was already gearing up for smart city initiatives with smart metering and electrical vehicle charging stations already installed, as well as a well-diverse spread of small-scale embedded generators (SSEGs), Eskom says it was eager to help its residents in the evolution from an art town to a smart town.

The town, which depends on an economic inflow from tourists, needed a solution to the power interruptions brought by load shedding.

The solution they came up with was load curtailment, a process of cutting electricity usage in the town.

"Load curtailment is not a new concept, as many municipalities and large customers countrywide have long been managing their own demand during times of supply constraints. The concept of 'group curtailment' – where a community manages its own load curtailment – was however piloted in Clarens," explains Bibi Bedir, Eskom's senior manager for retail in the Free State.

"Group curtailment requires the collaborative efforts of the entire community to reduce load when requested. Once a system emergency is declared, Eskom gives a nominated group coordinator two hours' notice of load curtailment that should be sustained throughout load shedding."

"The group coordinator directs the community who decides which equipment will be switched off to achieve the required demand reduction."

During Curtailment Stages One to Four, cooperating customers are required to reduce demand by 10% to 20%.

Unlike load shedding where the customers are switched off as per their schedule, load curtailment must be sustained.

Eskom continuously monitors the reduction in demand of its curtailment customers as three instances of non-compliance will result in the reinstatement of normal load shedding.

To effectively manage the town's curtailment efforts, an application signalling customers that curtailment has been called was developed. This acts as a trigger for residents to set their load reduction plans in motion.

According to Gert Kruger, Clarens' group coordinator who is also an owner and director of the company responsible for the development of the application, a metre was installed at the town's main point of supply.

Every 60 seconds, the metre sends real-time statistics of the town's current demand, prompting further reduction if required.

"For a town that depends on tourism, not being subjected to loadshedding is life changing. Although the success depends on the voluntary participation of residents and businesses, we have the community's support as everyone benefits from cooperating," says Kruger.

"Feedback from visitors, restaurants and accommodation establishments is very positive and without the noise of generators, tourists can enjoy Clarens' natural beauty."

So far, the project is successful with residents being able to sufficiently reduce and manage their load, making the Clarens project a benchmark for similar projects to be rolled out in other areas of the country.

B.E.D. Cape Town: 25-million fasteners a year ensure 'the perfect fit, fast' for the Western Cape

EVEN with a component as small as a nut or a bolt, the Bolt and Engineering Distributors (B.E.D.) Group's Cape Town branch plays an important role in major projects throughout the Western Cape.

Each year, the branch supplies over 25-million fasteners to a wide variety of key industry sectors, including construction, agriculture and maritime, to name a few.

This is according to operations manager Juan van Zyl, who says that fasteners – upon which the company was originally founded and which form the foundational bedrock of every building and construction project – still account for a substantial percentage of their sales, along with welding equipment and services.

Strength in diversity

Diversity is a key differentiator, according to van Zyl, with B.E.D.'s fasteners being sold as far and wide as Robben Island, the Department of Correctional Services and even key power generation facilities such as Eskom's Koeberg nuclear plant and the extensive Worcester solar plant.

"Of B.E.D's nine branches countrywide, in Cape Town, we have one of the most diverse customer bases. This includes private sector manufacturers, mines and even shopping malls; as well as public sector entities such as Transnet, rail operators and even the navy and defence force," he explains.

However, the construction sector is the largest Western Cape fastener market, followed by manufacturing - as food processing plants, warehouses and packing facilities, which are all highly automated, and all require fasteners.

The 'nuts and bolts' of selling fasteners

Van Zyl explains that the manufacture of equipment worth millions of rands - or the completion of large construction projects - could come to a halt if a single R4 fastener is missing.

For this reason, B.E.D. Cape Town prioritises meticulous planning to ensure sufficient stock is available.

"Therefore, we always go back to basics, as per our ethos and tagline 'it's our business to know your business'. We not only have to understand our customers' needs and pain points - but also to know what projects are coming up so that we can help them to plan ahead," he says.

Another important consideration for B.E.D. Cape Town is ensuring the traceability of products, to counteract challenges associated with counterfeiting and poor quality:

"People need to know that they are getting a genuine product. Knowing that we have their interests at heart really sets our customers' minds at rest," he maintains.

Building strong relationships

For Van Zyl and his team in Cape Town, there is far more to supplying fasteners than price and availability.

"In our experience, providing a sought-after solution is crucial. Once you help to solve a tough challenge for a customer, it is highly likely that you will have their ongoing loyalty and business," he notes.

An example is the Western Cape's extensive agricultural sector. Fasteners are essential for maintenance of equipment, but customers often need assistance.

"They may want to swap a fastener with a tensile strength of 4.8 for one that has a strength of 10.9. This will not work - the stronger the fastener, the more brittle it becomes," he warns.

Another area where good advice is important is that of corrosion protection coatings.

Tough coastal weather increases the probability of corrosion. In the construction sector, columns are usually galvanised - meaning fasteners need to be treated as well – and preferably, hot dip galvanised. This can treble the lifespan of a bolt.

B.E.D. not only stocks a vast range of fast-moving fasteners, but also supplies obsolete and hard-to-find fasteners. By working closely with original equipment manufacturer (OEM) suppliers, the company can assist with sourcing bespoke fasteners which are specific to customers' individual designs and requirements.

Is voice biometrics in banking secure enough?

APART from going into a branch, calling a bank feels more human for digital-shy consumers.

For many, it is the first port of call for making account changes or moving large sums of money.

But how safe is voice banking really, and what are the chances of someone using generative AI to fake a consumer's voice and steal their available funds?

As incidents of banking fraud grow exponentially and become increasingly sophisticated, it is time to question whether voice banking is a safe option for consumers.

Impersonation attacks continue to increase

Impersonation is one of the predominant methods fraudsters use to rob consumers.

Using identifying information such as personal details or AI-generated voice, criminals can access consumer bank accounts with impunity.

According to the Southern African Fraud Prevention Service (SAFPS), impersonation attacks increased by 264% for the first five months of 2022 compared to 2021.

Gur Geva, the founder of iiDENTIFii, explains why. "The technology required to impersonate an individual has become cheaper, easier to use and more accessible. This means that it is simpler than ever before for a criminal to assume one aspect of a person's identity."

How voice impersonation works

Voice recognition systems in banking rely on a person saying something aloud, such as a unique catchphrase or password. This is vulnerable to exploitation because synthetic AI-generated voice technology has evolved to such an extent that it is indistinguishable from real voices.

According to MIT and Google, generative AI voice cloning tools only need a minute of voice data–which is often scraped from social media–to create a result that is almost indistinguishable from the original.

The potential of this technology is vast. Microsoft, for example, has recently piloted an AI tool that, with a short sample of a person's voice, can generate audio in a wide range of different languages.

While this has not been released for public use, it illustrates how much voice as a medium can be manipulated.

The appeal of voice recognition in banking

Voice recognition has a multitude of benefits. It is accessible to a diverse range of consumers who only need a phone line to perform banking tasks.

Voice recognition programs can often pick up a voiceprint much faster than a person can type, which streamlines and reduces friction in the banking process for consumers without needing to enter complex passwords.

"Historically, voice biometrics has been seen as an intimate and infallible part of a person's identity. For that reason, many businesses and financial institutions used it as a part of their identity verification toolbox," says Geva.

Audio recognition technology has been an attractive security solution for financial services companies across the globe, with voice-based accounting enabling customers to deliver account instructions via verbal commands.

Voice biometrics offers real-time authentication, which replaces the need for security questions or even PINs.

One of the UK's biggest banks, for example, integrated Siri to facilitate mobile banking payments without the need to open or log into the banking app.

"As voice-cloning becomes a viable threat, financial institutions need to be aware of the possibility of widespread fraud in voice-based interfaces. For example, a scammer could clone a consumer's voice and transact on their behalf," says Geva.

Do South African banks need to do away with voice authentication altogether?

Not necessarily. Thankfully, banks do not rely on a single form of authentication when performing a transaction.

As the threat of cyber fraud grows, a rising number of local banks are investing in cutting-edge, multi-layered biometric authentication protocols.

In conclusion, voice biometrics in banking still serves several customers, particularly those who may need access to smartphone apps or in-person banking.

While fraud risks abound, voice cloning is less of a threat to the public as it is difficult to roll out at scale as criminals would need to have access to substantial personal information for each target.

AI voice cloning technology may be cheaper and more accurate, but if banks employ up-to-date, enterprise-grade biometric authentication processes, they will be better protected.

Transnet encourages business to use Maersk's facility at Belcon

Transnet hopes Maersk can help reduce congestion at the Port of Cape Town

By Larry Claasen

TRANSNET hopes that the creation of the A. P. Moller – Maersk's (Maersk) warehousing & distribution facility at Belcon in Belville could reduce congestion at the Port of Cape Town.

The facility, which was launched in May 2023, enables companies to have a one-stop service when it comes to transporting their goods, regardless of transport type.

It also has access to Transnet's rail siding, allowing it to have the goods transported by rail to the port.

Andiswa Dlanga, the managing executive of Western Cape Terminals, encouraged businesses to use the Maersk facility, which is based close to Transnet's own container facility in the area.

Speaking at a presentation to the Western Cape Parliament in late 2023, Dlanga hoped that Maersk's new facility would be supported by businesses in the region.

"We now have two inland terminals at Belcon. Maersk developed one with nice facilities.

"We really encourage people to use these facilities because it's going [help] to decongest the city."

Though it is still in the early days for the Maersk facility, businesses have started using it.

"Our site has 6 200 pallet positions and a total floor space (including mezzanine) of roughly 10 000 sqm. We are currently serving several customers through this space, with the possibility to serve more in the future," Maersk said in response to questions on the facility.

Though the facility caters for a wide range of transport types, Maersk noted the advantages of having rail access.

"The rail siding will enable reliable, faster, cost-efficient, and greener access into/out of the port, bypassing traffic and port gate congestion."

Maersk points out that aside from transporting goods, the new facility also marks its expansion out of shipping and into offering an end-to-end logistics service.

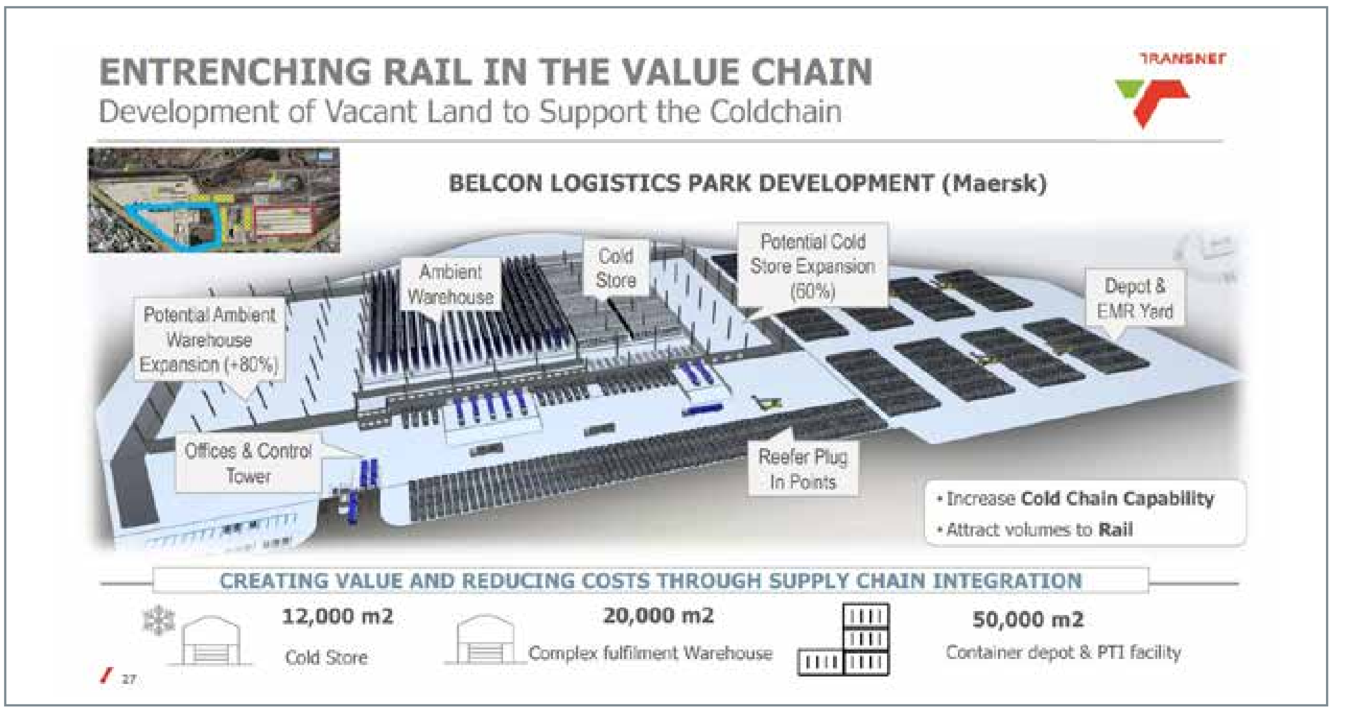
"Maersk is an integrated logistics provider that is engaged in connecting and simplifying its customers' supply chains. From being a traditional shipping line, Maersk has forayed into the space of providing end-to-end logistics as a part of its integrated solutions."

It said this meant its customers could get their supply chain needs addressed through a "single window," whether it be transportation over the ocean, road, rail, or air, or storage through warehouses and depots.

It also means they have services like customs clearances and terminal handling handled through Maersk.

When asked what arrangement it had with Transnet when it came to setting up and running the facility, it said: " The facility is independently and fully operated by Maersk."

The group said it would consider expanding its facility based on the needs of its customers.



3 Things that can take a mine's logistics chain from good to great

Continued from P1

As such, it needs to treat every part of the logistics chain's information with great care. Optimisation systems should float above any tracking devices, and be based on strong relationships with telematics companies.

This allows the optimisation software to give everyone in the chain the information they need about a specific shipment without infringing on their internal data security.

Also, gone are the days when it was acceptable to demand subcontractors share all their telematics login details to transport ore from a mine to a port. While fleet managers and commodity traders must see the fleet in action, demanding a subcontractor's login details for their tracking devices is not the safest or most elegant solution. Neither is insisting that they use only your company-approved tracking system.

A fleet optimisation system should give users increased control over their assets - vehicles, loads, drivers, ships - and let them choose who sees what information. This protects both customers and truck owners from inadvertently sharing proprietary information.

2. Cargo visibility and security

Commodity traders' commissioned fleets are at high risk of hijacking, as the large quantities of ore making their way to the ports are actively targeted by thieves. Granted, some commodity traders plan for load losses - taking an 'it is what it is' mindset - but it affects their profitability.

Fleet optimisation systems should deliver greater visibility of vehicles carrying cargo and provide proactive safety measures, such as geo-fencing. This lets fleet managers specify routes that avoid known hijacking hot spots, irrespective of whether the cargo vehicles belong to the trucking company or its subcontractors.

3. Planning for an EV future

Logistics optimisation software can help companies make the transition to electric vehicles. This is a major risk-mitigating and cost-reduction strategy in a country that already relies on imported petroleum products to meet local demand.

Ongoing load shedding has already forced many mines to invest in solar power. With SARS offering tax incentives for installing solar power systems, these mines have the potential to expand their solar capabilities to run their fleets in the next five to 10 years.

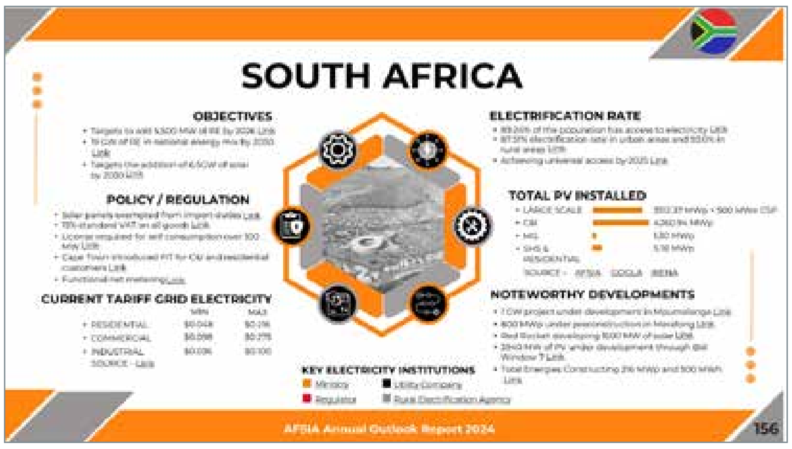
With two of the four South African crude oil refineries reaching the end of their lives and no real business case or appetite for multinationals to build new ones, it's not inconceivable that we will run out of locally produced diesel in the next 10 to 20 years.

By then, there will be a glut of alternative power in South Africa, and mines may be producing more kilowatts than they can use or sell. While electric HDV models are not yet standard, the advances in these technologies are impressive. Batteries are being developed with the ability and durability to power more energy-hungry vehicles, and recharging times are decreasing - a must for optimal productivity. The electric motors that drive HDVs are also improving to offer greater efficiency and reduced power consumption.

It may seem like a fever dream as the world gets hotter, but it's not as far-fetched as you imagine.

GoMetro is a B2B SaaS fleet management optimisation company founded in 2014 and headquartered in the UK. Civil engineer Justin Coetzee built the first version of GoMetro for South Africa's rail agency when he was frustrated by his train always being late with no information for passengers.

Renewable energy investors need policy certainty



By Larry Claasen

DESPITE the rapid growth in South Africa's renewable energy sector, it has not yet reached the scale where it has reached a tipping point for investment decision-makers.

This is the view of Odyssey Energy Solutions, head of investments, Jay Lurie, in an article in the Africa Solar Industry Association's Annual Solar Outlook 2024 report. Odyssey is a US-based renewable energy investment platform that operates across Africa.

Lurie notes that though there have been many promising developments happening in the renewable energy sector, like the launch of a virtual wheeling platform (VWP) later this year, which will allow businesses to buy electricity directly from Independent Power Providers (IPPs), it is still a nascent industry.

Eskom piloted its VWP with mobile phone operator Vodacom, which operates more than 15 000 low-voltage sites across 168 municipalities.

Wheeling is expected to be a transformational change in the local energy market as it will not only allow businesses to mitigate the impact of load shedding by ensuring a constant supply of electricity but also means they can get it at a lower rate than that charged by Eskom.

The problem for financial sector decision-makers is that because the industry is still in a developmental stage, it is not clear what the return on investment is for them.

"Bank financing and market activity suffer from a chicken-and-egg dilemma as the market would need to experience significantly more volume to interest financiers," says Lurie.

He says this means, for now, banks will require standard documentation and water-tight Power Purchase Agreements (PPAs) to ensure their investments pay off.

Policy visibility needed

Lurie also points out that even if virtual wheeling does get traction in South Africa, the feasibility of the project will depend on "policy visibility."

He gives an example of the importance of policy visibility by pointing out how a bank will have to protect against transmission fee changes.

The transmission fees are charged by municipalities and Eskom, and the ways they can protect against huge changes is to have "onerous debt service coverage buffers" and/or "to have covenants incorporating such changes to standard Change in Law provisions."

Lurie says either way, it will mean the project's viability is impacted because of the lack of predictability.

Aside from the policy visibility concern, He says South Africa's ageing grid infrastructure and limited capacity also remain" significant bottlenecks" to growth in wheeling in key geographic nodes.

Though South Africa has liberalised electricity generation, further liberalisation of transmission and distribution would allow the private sector to work toward alleviating these bottlenecks.

Even so, despite concerns over the viability of renewable energy projects and business models, the country's move away from only having Eskom as its sole energy provider is seen as a good thing, as it will not only ease the country's electricity crisis but also reduce cost over the long-term.

The world of WACO – everything electrical!

CELEBRATING its 75th anniversary this year, one-stop electrical products supplier and distributor WACO has become a byword as the go to company for everything electrical from wire to household connections, tools and more sophisticated control systems.

Part of the Bidvest-Group, Waco positions itself as being both a bulk importer of products as well as key distributor of, amongst others, the ABB, CCG, 3M, Crabtree and Allbro brands in South Africa, having establish a 'preferred partner of choice' status.

The business' product range can be categorised, amongst others, into the General Electrical; Industrial Power and Control; Lighting and Accessories; Aviation Warning Beacons, renewable energy, Cable & wire including WACO-R retail offering break bulk solutions.

WACO has a network of branches in the major centres of Johannesburg, Durban, Cape Town and Port Elizabeth, supplied from its head office, located in Alberton, Gauteng. This 11 000m2 facility receives and distributes over 7 200 line items, not only to its branches but also services the local and international markets exporting products throughout southern Africa.

Distribution/Target Market

WACO's prime customers are industrial users, wholesalers,DIY retailers and other resellers of electrical goods.

In addition to importing and distributing finished products, WACO specialises in sourcing quality components and assembling products to meet South African industry requirements.

Product/Service Offering

WACO's ranges of energy-efficient products are extensive.

General Electrical

General electrical and hardware products include tools, wire and cable accessories, fans, extractor fans, plugs, multiplugs, switches, sockets, door entry systems, bells, chimes, batteries, torches, rechargeable lamps and accessories and time switches.

Industrial Power and Control

This division stocks circuit breakers, switches, relays, contactors, isolators, industrial plugs and sockets, enclosures, crane and lift control switches, maintenance chemicals, terminals, alarms and sounders.

Lighting fixtures, Lamps and Accessories

WACO's lighting division consists of two parts; light sources and lamps, which comprise of major brands including WACO's very own high quality brand at the top end of the market.. The second concentrates on light fittings, supplying both locally manufactured productsand a range of imported light fittings for domestic use.

Aviation Warning Beacons

WACO has their own range of sitelites, which conform to strict aviation standards and is mandatory fitment on all buildings and structures in excess of 35m. Solutions are available in conventional or energy- efficient technology.

WACO-R

WACO-R, a division of WACO, is a specialist supplier to the retail market, supplying electrical, commercial and residential pre-packed products to major retail outlets nationwide. They also supply pre-coiled wire in various lengths.

It's only a rare few companies that can claim a track record of providing first class products and services for an unbroken 75 years as WACO can, responding to changing technologies and market requirements over seven decades. Keeping abreast of the latest trends, technologies and market appetite means their range of products are constantly changing and being improved.

WACO Industries can be contacted via their website www.wacoelec.co.za

KPMG says there are $250bn in untapped green investment opportunities in Africa

By Larry Claasen

THERE are nearly $250-billion in untapped green investment opportunities in Africa in areas such as solar, wind, and hydrogen in Africa.

This is according to a new KPMG whitepaper, Climate Investing in Africa, which found that the continent was fast approaching a period of economic prosperity which created an "untapped investment opportunity for private sector financiers."

The report notes that Africa needs $277-billion a year between 2020 and 2030 to reach its Paris Agreement climate targets, which will contribute to limiting global warming to 1,5°C. The current annual flows into Africa, however, only stands at only $29,5-billion.

Though Africa's share of of global renewable energy investments is only 3%, the report points out that there are "ample opportunity for investment in renewable energy resources such as wind, solar and low-carbon hydrogen."

Even though investment in renewable energy projects on the continent is picking up speed, the acceleration is too slow to provide energy to the 600 million Africans that still doesn't have access to energy, and to help the world's decarbonisation efforts.

Despite the slow pace, the opportunity is particularly big when it comes to wind energy.

"The untapped promise of wind is particularly marked, with recent research showing that 27 countries in Africa have sufficient wind potential on their own to satisfy the entire continental electricity demand, despite the fact that Africa only uses 0,01% of its wind potential."

Research conducted in 2020 indicated that Africa's potential wind power generation is almost 180 000 TWh, which is more than sufficient to meet the continent's electricity demand.

Big challenges

Though there are lucrative opportunities for investors, funding green investments comes with risks and and huge challenges. The report says unreliable infrastructure, for example, are significant hurdles to business operations and can drive up costs.

The diverse and and complex economic landscape - Africa comprises 54 countries - also brings challenges, as it makes difficult to navigate the differing rules and regulations, as well as judge which countries are more conducive for new and existing investment.

The report also pointed out that the lack of regulatory certainty can couse issues, like South Africa's Renewable Energy Independent Power Producer Procurement (REIPPP) program experiencing delays in 2015 due to concerns about electricity pricing, causing investor apprehension.

Despite these issues, the KPMG report says the potential is still huge.

"If Africa were to exploit all of its wind resources for renewable energy generation, it could easily bridge the current energy provision gap on the continent."

The world needs Africa

Investing in Africa's renewable energy is not just good for the continent, but is also needed to reduce the world's overall reach carbon reduction target.

"It is unlikely that global climate change mitigation efforts can be successful without taking Africa into consideration. The continent offers some of the planet's biggest and most profitable options for investments in the global energy transition," says Pieter Scholtz,, KPMG's ESG Africa Partner Lead, KPMG International.

Saldanha Green Hydrogen wants to pump its excess electricity into the local grid

By Larry Claasen

PHELAN Green Energy Group, which is developing a R47-billion green hydrogen project in Saldanha Bay is looking at ways to transfer the excess renewable electricity it is generating into the local power grid.

The Saldanha Green Hydrogen Project will use a mix of solar and wind power - which is expected to generate 2,5 GW - to create hydrogen as a fuel for a wide range of industrial applications.

The project will use its own distribution grip to transfer energy from its renewable generating capacity to the hydrogen plant.

But as the power being generated from the renewable power mix is inter-intermittent, the group is considering "oversizing" its generation capacity to ensure there was a sufficient baseload of power to the plant, said the group's head of hydrogen, Blair Phelan, who was speaking at Western Cape Premier, Alan Winde's 31st Energy Digicon.

Phelan said this would mean a lot of excess energy would be produced at certain periods, and the group was now trying to come up with a model to send the energy it did not need into the local power grid in Saldanha.

> "You put that into an electrolyser, you put the energy and the water in together and it splits the hydrogen and oxygen."

He said for now the biggest issue was whether the local substations, which had to absorb and distribute the excess energy, had sufficient capacity.

Aside from sending excess electricity into the grid, the group's business development manager, Adinda Preller said it also wanted to support the regional economy by sourcing components for its renewable generation locally.

"I think most of our solar panels and batteries and renewable components are currently being imported. So this really creates an opportunity for local manufacturing as well as not only of solar panels but also of components and that really also then drives further economic investment and job creation."

Creating hydrogen in this way ensures that South Africa can produce an essential industrial resource in an ecologically friendly way.

Phelan explained that essentially the "raw materials" needed to produce hydrogen are sun, wind, and water. "You put that into an electrolyser, you put the energy and the water in together and it splits the hydrogen and oxygen."

The Saldanha Green Hydrogen Project is anticipated to commence initial exports in early 2026, to create 2 500 jobs during the construction phase, about 500 permanent jobs and generate R6-billion in excess export revenue.

Unleashing the power of the cloud: 10 business communication trends for 2024

David Meintjes, CEO of Telviva

MOVING to the cloud is essential.

Businesses that don't move to the cloud can, to some degree, add complicated layers to their legacy systems in an effort to keep up with the times, but eventually, they will be forced to make the move.

If you want to take advantage of technology, build compelling customer experiences and enhance your own efficiency, it needs to be in the cloud because every modern business communication development and trend depends on it.

Moving to the cloud can be complicated and could be a challenge for large enterprises. Small and mid-size businesses find it easier to migrate, which immediately unlocks the potential for using artificial intelligence (AI) tools, dynamic business intelligence, unified communications and collaboration platforms and much more.

Of course, moving to the cloud doesn't have to be an all-or-nothing exercise. Many large businesses are taking certain functions into the cloud and then using these as a bridge between the cloud and their legacy systems as part of a multi-year strategy.

In its 2023 EMEA Cloud Business Survey, PwC found that companies adopting cloud-based solutions saw a positive impact on their businesses.

Understanding the role of the cloud, here's a look at likely business communication trends that will shape 2024:

1. Generative AI's intelligent revolution

The true benefit of Generative AI lies in intelligently automating experiences, navigating the delicate balance between digital automation and human interaction seamlessly. Digital when you want it, human when you need it.

2. Conversational marketing: beyond the chatbot

In 2024, the demand for immediate gratification and personalised experiences propels businesses to leverage AI-driven conversations comprehensively.

From generating meeting transcripts and crafting meeting summaries to automatically proofreading internal communications, the scope of conversational tools extends far beyond simple engagement.

3. The skills revolution

Companies are moving away from traditional markers such as educational qualifications, focusing instead on specific experiences and skills. This approach not only addresses immediate needs but positions businesses to thrive in an AI-driven economy. Investment in training and upskilling becomes not just a necessity but a strategic imperative, particularly in disruptive technologies such as generative AI.

4. Data-driven customisation

The ability to collect and utilise extensive customer data will continue becoming crucial as we navigate 2024 and beyond. Beyond meeting customer demands, businesses are harnessing data to offer highly customised solutions. This trend propels brands towards building deeper, more meaningful connections with their audience.

L'Oréal, for example, is implementing a multicloud strategy to leverage AI and internal company data to create personalised services for customers.

The aim is to simplify the process of discovering products both online and in-store, ensuring a tailored and seamless experience that aligns with individual customer preferences.

5. The hybrid job is here to stay

Hybrid work arrangements are no longer a perk but a necessity. The emphasis is on tapping into the potential of a global workforce while also ensuring enhanced productivity. While the return to offices is certainly a theme, the continued prominence of job postings with "remote" or "hybrid" locations underscores the enduring embrace of flexible work arrangements.

6. Monetising data: Beyond operational efficiency

Companies inspired by pioneers like John Deere, which provides a holistic set of solutions, spanning machine performance, field management and data analysis which empowers farmers to consistently monitor, manage, and enhance their yields across different seasons.

Adopting approaches such as this not only streamlines operations but also monetises data to create new revenue streams. This strategic approach positions businesses to drive innovation and explore new business opportunities, especially in niche and diversified sectors.

7. CX redefined: Beyond surveys and feedback forms

Designing CX requires a holistic approach, ensuring every interaction, from marketing to delivery and problem resolution, elicits a positive customer sentiment. This personalised approach, driven by real-time AI sentiment analysis and augmented by feedback mechanisms, will reshape how businesses understand and respond to their customers.

8. Omnichannel is here to stay

The shift from voice to text-based communication persists, with an annual expected decline in voice volumes. This fuels the demand for comprehensive omnichannel infrastructure, ensuring businesses meet their customers on the platforms they prefer.

9. Diversity, equity, inclusion and belonging (DEI&B): Beyond buzzwords

Having specialists in DEI&B on the team optimises communication strategies and fosters inclusive work environments, enhancing both external and internal communication.

10. Video marketing's visual symphony

The dominance of video marketing, particularly short-form content, continues to reshape brand narratives. Platforms such as TikTok and Instagram Reels are not just advertising tools but avenues for storytelling, product launches, training, and authentic customer testimonials.

Woolies ESD programme backs 32 businesses with R391.7m in support in 2023

WOOLWORTHS' Enterprise and Supplier Development (ESD) programme has given emerging businesses a much-needed boost by providing "procurement opportunities" to the value of over R850,1-million over the past two years.

The retailer supported 32 small to medium-sized businesses with "tailor-made support" to the value of R391,7 million in 2022 and R453,4-million in 2023.

This type of backing has helped businesses like the black female-owned and managed K9 Pet Food, which set up 3 600m² state-of-the-art factory in Montague Gardens in 2014, to become a successful enterprise.

The retailer said it provided K9 Pet Food with guidance in developing product ranges and innovation and also support in terms of food technology skills, upskilling staff, commercial guidance, and food quality and safety expertise.

"Today, K9 supplies over 30 products to Woolworths, employing 55 staff members, 49% of whom are women, who, in turn, support 165 dependents," Woolworth said in a statement.

Comet Security is another one of the ESD programme's successes. It became part of the programme in 2019 and, since then, has shown remarkable growth, surpassing their development plan targets. At present, Comet employs 296 individuals: 119 women and 107 youths.

De Fynne Nursery is also a beneficiary. Woolworths helped the black-owned wholesale nursery scale up its operations in 2013, and today, it employs 40 staff and produces around 600 000 plants per year.

Aside from those participating in its ESD programme, the type of support Woolworths is offering emerging businesses goes into the billions.

"We contributed over R2,8-billion towards revenues of all small and medium enterprises participating in our supplier base, and we contributed R7-billion towards the revenues of black- and black-women-owned suppliers in our supplier base, both big and small."

Tailor-made

Woolworths says when it comes to offering support, it does not have a 'one-size-fits-all' approach but rather offers "tailored support." This sees it offering backing based on needs-based assessments and gap analysis, which is then backed up by ongoing mentoring and monitoring.

In addition, its procurement and buying teams also offer their skills in support of a vision of SME growth and sustainability.

The result is a business could have a mix of support, like an opportunity to be part of a sharing establishment, cash flow support, and linkages with other enablers such as partnering with established suppliers, SME financiers or other like-minded partners. To get support through the programme, a company has to do business either directly or indirectly with Woolworths. The group says this so its enterprise development and supplier development initiatives are aligned with its supply chain requirements.

Those getting support from Woolworths are not subjected to exclusive supplier contracts. Woolworths says this ensures that the beneficiaries are not 100% dependent on it and that, as part of the beneficiaries' growth strategy, they can attract other customers to improve their revenue.

For all the support Woolworths offers emerging businesses through its ESD programme, the retailer does not get much back from the state for its efforts. The group gets no tax incentives, and the only recognition it gets are points for its B-BBEE Scorecard.

'Considering selling your business?'

THE decision to sell your business could well be the most important decision a business owner will make. While there is plenty of information available on starting a business venture, there is little advice and guidance on when and how to exit a business.

"The sale of a business can be a very complex and time-consuming activity and, as such, it is vital that a qualified and experienced professional be appointed to advise on the transaction", says George New of Horizon Capital Corporate Finance, a Cape Town based 'boutique' corporate finance house, specialising in the sale and acquisition of medium-sized enterprises.

George touches on certain of these considerations:

• Timing the sale of your business in terms of your personal objectives is critical

Considerations are retirement, part-retirement, personal asset diversification, a new venture, or merely a lifestyle change. From the business perspective, one must also consider the stage of the business in its life cycle, industry activity, and capital requirements for further growth.

• Value maximisation

There are various business valuation methods that must be considered when determining the true value of a business. Which is most applicable to your business to result in the highest valuation?

It also requires a sound knowledge of the industry, the market positioning of the business, and its future prospects.

• Compliance and deal structure

A business can be sold under different types of sale agreements, each having very different tax, risk, legal and accounting implications.

• Know the details

Business sellers must fully understand the deal structure, as well as any risks associated with any earnings warranties and/or other guarantees.

• Right fit

To maximise value, the buyer should be a good strategic and cultural fit. In most cases, the seller will be required to stay on for a period of time and so needs to align with the new owners in terms of goals, objectives, ethics and values.

George adds: "Horizon Capital Corporate Finance provides a full turnkey solution for the seller from the initial preparation of the business for sale to the facilitation of the purchase payment."

"The service commences with Horizon Capital Corporate Finance attaining an understanding of your business as well as the owners' personal objectives; it assists in preparing the business for sale, wholly or partially; undertakes a valuation of the business; prepares a comprehensive Information Memorandum; approaches potential buyers in a discreet and selective manner; identifies the optimal deal structure and negotiates a 'fair' price."

"Thereafter, it oversees the preparation of the Sale Agreement and supporting documentation as well as facilitating the payment."

George New of Horizon Capital Corporate Finance

Horizon Capital Corporate Finance is actively looking for businesses for sale across all industry segments. We have built up sound relationships with corporate (listed and unlisted), medium enterprises and private investors who are looking for investment opportunities.

Standard Bank refinances two of Globeleq's solar projects to the tune of R682-million

The $37-million (ZAR682-million) refinancing of Globeleq's 11MW Aries Solar and 11MW Konkoonsies Solar plants in the Northern Cape will increase the financial viability of the projects, as it will lower the debt cost.

STANDARD Bank's refinancing of two of Globeleq's solar projects in the Northern Cape is expected to have a notable impact on their viability.

Globeleq's says the new loan deal will allow for a significant reduction in wholesale electricity prices from the plants. It will also create a more efficient capital structure, enabling the release of funds for shareholders to reinvest in the power sector and accelerate equity distributions to the Aries and Konkoonsies communities and BEE shareholders.

Aries and Konkoonsies commenced operations in 2014 as part of South Africa's Renewable Energy Independent Power Producer Procurement Programme, and Globeleq acquired a majority interest in the plants in 2019.

Since May 2021, Globeleq has managed the full scope of operations and maintenance at both plants, achieving an average availability of above 99%.

"Restructuring the financing terms of these projects continues to be of significant benefit to Eskom and to South African consumers. We have reduced the cost of power at these two plants by around R129-million over the remaining ten years of the power purchase agreement," says Globeleq CEO Mike Scholey.

Globeleq has now restructured six of its eight plants in South Africa using the Department of Mineral Resources and Energy's IPP Office Refinancing Protocol.

Globeleq previously completed debt restructuring of the Jeffreys Bay Wind Farm and the De Aar and Droogfontein solar plants in August 2021, and the Soutpan solar plant in January 2022.

"These efforts demonstrate our desire to be a long-term producer of cost-effective renewable power in South Africa to benefit energy users and encourage investment in the renewable energy sector," says Scholey.

Sherrill Byrne, the executive for energy and infrastructure finance at Standard Bank, said the institution was "committed to being a leading player in the energy sector in South Africa."

The deal with Globeleq follows STANLIB, together with group companies Standard Bank and Liberty, launching an Energy Transition Fund in October 2023.

Standard Bank and Liberty will provide initial seed assets of R3-billion to the Fund, which will be managed by STANLIB.

The long-term goal of the fund is to create easier access to the asset class to mobilise capital from institutional investors such as pension funds, development finance institutions, banks, South African Fixed Income funds and the like to build this up to a $1-billion (R20-billion) pan-African investment vehicle.

1MW Konkoonsies Solar plants in the Northern Cape.

The group said achieving this goal will depend on investor appetite and investment opportunity.

"The initial seeding from Standard Bank and Liberty ensures that this fund will be able to offer scale and diversity from the first day it is launched to the institutional market, which is unique in the alternative assets space," said Kenny Fihla, Standard Bank-Corporate and Investment Banking CEO, at the time.

The Fund will invest in a pool of energy transition and project loans with different maturities and in different technologies, such as renewable energy and related clean technologies, to enable Africa to fulfil its energy transition goals at scale.

In doing so, this initiative will address various United Nations Sustainable Development Goals, including climate action, affordable and clean energy, sustainable cities and communities, and industry innovation and infrastructure.

Only 6% of South Africans have enough retirement savings

By Larry Claasen

ONE of the key findings of 10X Investments' 2023/24 Retirement Reality Report is that many people who should know better are not planning well enough for retirement.

10X Investments CEO Tobie van Heerden says though many are not in a financial position to save for retirement - 70% of respondents said they could not afford to save - what is shocking was that of

> "A small difference in fees can make a huge difference to your final lump sum," says the report.

those who are in a position to save but are not doing so adequately.

Van Heerden, for example, the report found that while 37% of those surveyed - but who could afford to save more - assumed their retirement financial planning was on track. In reality, only 6% had a well thought-through plan that they were executing on.

He points out there is a contradiction in 37% believing they are saving enough but only 6% actually making sufficient provisions.

Van Heerden says people should start saving for retirement as soon as possible. This will go some way to ensuring they are better prepared for retirement.

"It takes a typical earner, saving 15% of income from the day they start work and preserving their savings when they change jobs, about 40 years to build a large enough nest egg on which to retire comfortably for 30 years," the report says.

The knock-on-impact of not saving early can be huge. If you are part of the 37% who mistakenly think they are well-prepared for retirement and aged 50 years, you would have to put away 40% to 50% of your income to be part of the 6% who are well-prepared.

Beware the fees

Aside from not saving enough, South Africans are also largely unaware of the impact of the high fees charged by those who administer their retirement savings are having on the size of their retirement nest eggs.

"A small difference in fees can make a huge difference to your final lump sum," says the report.

For example, 10X Investments found that on an investment of R10 000 invested for 40 years, you will only receive R370 000 if the fee is 3% a year. In contrast, if the fee is 0,5% for the same investment, you will get R1,24-million.

Take advantage of compound growth

Van Heerden says not structuring your retirement plan in a way that taps into the market's compound growth over a long period is also a mistake many make when it comes to planning for retirement.

He advises people to invest in high-growth investments at the start of their careers rather than more conservative products.

Though the rise and fall in valuations of high-growth investments might seem risky, van Heerden points out that these types of investments are highly regulated to prevent reckless trading.

He advises people to switch to lower-risk portfolios when they get closer to retirement.

When you started late

For those who want to better prepare for retirement, van Heerden suggests they start increasing the amount they pay into their retirement products.

Another thing they can do is take whatever increase they are getting for the year, and instead of having it paid out into their salary, have it go directly to their retirement investments.

Van Heerden, however, is not blind to the difficulty of forgoing a salary increase.

"When you get more money, you are just tempted to spend it."

Momentum Social Infrastructure Fund wins award for student housing projects

THE Momentum Infrastructure Social Fund was one of Environmental Finance's 2023 IMPACT awards winners.

The awards recognise and reward the work of impact investors everywhere and highlight emerging pockets of best practice across all asset classes and all geographies.

The fund won the award for the education category.

Responding to South Africa's shortage of beds for students, Momentum Investments partnered with Eris Properties to invest in affordable student housing in the country.

The Momentum Infrastructure Social Fund portfolio holds a mix of debt and equity products.

It targets investments in higher education student housing and rural and peri-urban retail shopping centres.

The South African government has stated there is a 400 000 shortfall of beds missing from student accommodation buildings associated with public universities and colleges.

Momentum began investing in student accommodation in 2018 when it acquired Rise Student Living, a fully-furnished student accommodation consisting of 998 beds located near the University of Pretoria.

> "Momentum Alternative Investments is focused on delivering sustainable and impactful solutions at scale in the higher education sector,"...

This started the firm's interest in impact investing as "investors were ensured a future return through rental income", while it also targeted one of the country's social problems.

Construction is underway on two further projects in which Momentum is invested through the South Africa Student Accommodation Impact Investment Fund.

In Johannesburg and Cape Town, these projects have a combined capacity of more than 4 100 beds and will be ready to accommodate students for the start of the 2024 academic year, it says.

"Momentum Alternative Investments is focused on delivering sustainable and impactful solutions at scale in the higher education sector," said Motlatsi Mutlanyane, head of Momentum Alternative Investments.

"By providing safe and accessible accommodation, we allow students to fulfil their potential as future leaders. While there is still a lot of work to do, we are delighted to be recognised for our commitment to improving our environmental footprint and securing a more sustainable future."

Though Momentum claims each investment has measurable impact metrics, which are measured and monitored by the portfolio team as part of the impact measurement and management framework, it is not part of any impact investments standards body.

Condra cranes for platreef PGM

CONDRA has delivered electric hoists, two overhead cranes and a number of chain blocks to Platreef Mine, part of the Platreef PGM project near Mokopane in Limpopo Province, South Africa. The lifting equipment will be used for machinery maintenance work at various points across the mine site.

Under development since 2020 by Ivanplats (Canada-based Ivanhoe Mines' South African subsidiary), Platreef comprises two vertical production shafts, a ventilation shaft, a concentrator and associated supporting infrastructure.

Mine production, scheduled to begin this year, will tap a 26-metre-thick flat ore body extending over several kilometres to deliver 12 megatons per annum over a lifespan of three decades, positioning Platreef among the largest platinum group metals (PGM) mines in the world. Annual yield is expected to exceed one million troy ounces of palladium, platinum, rhodium and gold, plus useful quantities of nickel and copper.

The mine's overhead cranes and hoists are currently being installed. Condra was selected to manufacture the machines by consulting engineers Dowding Reynard and Associates.

The electric cranes, of single-girder and double-girder overhead configuration, are for the filter building and the plant workshop, one of the machines having dust-ignition-proof rating to ATEX Zone 21/22 standard. Lifting capacity of the single-girder crane is five tons, while the double-girder crane will lift loads up to ten tons. Control of both cranes will be by radio remote with manual pendant back-up.

Two hoists accompanied the delivery of the cranes: a short-headroom hoist for the tailings filter and a K-Series hoist for the mill feed conveyor. Both will be used for maintenance work.

Mining applications account for more than half of Condra's orders from customers across sub-Saharan Africa and the Americas, met by production at factories in Johannesburg and Cape Town. The European market is serviced by a subsidiary company in Bulgaria.

Condra boasts a manufacturing pedigree going back more than 50 years, claiming the highest local content of any African overhead crane supplier south of the Sahara Desert. Local content allows the company to deliver overhead cranes with the lowest possible life-time cost, supported by a comprehensive back-up service and rapid spare parts delivery.

The company's success in securing significant orders against determined competition seems set to continue.

Consulting engineers paving the way for sustainable energy

AS South Africa transitions towards renewable energy, consulting engineers and scientists are playing an increasingly crucial role in various aspects of sustainable energy projects.

The involvement of multi-disciplinary groups, such as SRK Consulting, spans from strategic and environmental considerations to addressing technical challenges like ground conditions.

SRK Consulting MD Andrew van Zyl emphasises the significance of permitting and public participation in renewable energy initiatives.

"While technology specialists focus on the technical aspects of transitioning to renewable energy, consulting engineers like SRK work with clients to manage the contextual opportunities and risks.

"Our skills in the environmental, social and governance (ESG) field, for instance, allow the necessary environmental permitting and stakeholder engagement that renewable energy initiatives would require," he says.

SRK has been extensively involved in geotechnical work on the country's renewable energy projects.

This includes wind farms and solar projects from the Western Cape to Limpopo, according to Daniell du Preez, engineering geologist at SRK Consulting.

Rural wind farms

"The country's wind farms, for instance, are often in remote, inhospitable and mountainous areas," he explained.

"Heavy machinery like drill rigs or excavators are usually necessary when investigating ground conditions, so we first need to create the roads so that this equipment can get to the site – a process that can take weeks."

On a wind farm, the turbines are usually some distance apart, so the travel distances, even on a single site can be significant. Ground conditions on these projects are vital to fully understand and address, as wind turbines exert huge forces on their base and appropriately designed foundations must be expertly engineered.

Wind turbine foundation excavation being undertaken

Wind turbine manufactures have specific site investigation requirements which need to be followed in collaboration with the project developer, design engineer and EPC contractor. SRK designs a geotechnical investigation programme according to these specifications.

Phased approach

"The geotechnical work will generally be approached in various phases – with the first phase being a preliminary investigation, which includes a desktop overview and site investigation, test pitting, geophysical surveys, laboratory testing and reporting, while the second is a detailed or design investigation phase, which involves infill testing and drilling at each wind turbine including a continuous surface wave (CSW) tes, where applicable," he said.

"The next phase is when construction takes place and where we assist with foundation inspections."

Drilling provides engineers with a geological profile to identify a competent founding horizon which is based on various geotechnical parameters such as load bearing, and settlement.

If the foundation is in rock, the rock-quality designation, fracture frequency, joint spacings and other factors are also considered.

Quality guidelines

Once the ground conditions are analysed and SRK Consulting gives its recommendations, final foundation designs can be confirmed.

"As with all our work, SRK Consulting adheres to quality guidelines and practices of local and international relevance (Eurocode 7 – EN 1997)," he said. "An important reference here is the Site Investigation Code of Practice South African Institution of Civil Engineering's Geotechnical Division."

This code requires that, at development phase or feasibility phase, a geotechnical data test point must be gathered from the site of each wind turbine structure.

As the project develops through to detailed design phase, further test points might be required.

Solar power

With South Africa's high solar radiation index – a daily average of 220 watts per square metre compared with 150 for parts of the USA and about 100 for Europe – photovoltaic (PV) installations are proving to be valuable contributors to the energy mix.

The key geotechnical elements of planning most of these PV projects relate to the stability of the posts holding the solar panels. Acknowledging that various installation methods exists, the most feasible method is generally the pile post method. This usually involves pre-drilling and piling to secure the posts, but it is not always that simple, he explained.

Drill rigs

Du Preez therefore prefers going to site initially with an excavator (or backhoe) and Dynamic Probe Light (DPL) equipment, to conduct test pits and DPL's across the site – down to three metres or earlier refusal – to find the suitable founding horizon.

If a competent founding horizon is not encountered by these means, then a second phase can be initiated, using a Dynamic Probing Super Heavy (DPSH) rig and even a drill rig to conduct core drilling and standard penetration test (SPT).

A pull-out test is generally considered as the last phase which is a valuable intervention to prove the skin friction and stiffness of the post. This data will assist the design engineer to ensure that the posts are well mounted and stable.

Building sustainable battery giga factories

Peter Hodgkinson, Director for Strategic Growth and Major Projects: Property & Buildings, WSP in Africa

BATTERY giga factories have a critical role in meeting net zero targets and transitioning to renewable energy sources. Access to more efficient, scalable, and environmentally sustainable battery manufacturing capabilities will assist stakeholders achieve these objectives faster.

The race for battery giga factories underscores the need for countries to acquire capabilities to maintain and grow their capacity rapidly.

Three core markets are driving the growth of battery manufacturing: battery energy storage solutions (BESS), electric vehicles (EVs), and consumer electronics (rechargeable appliances).

Battery manufacturing boom

Currently, there are 369 giga factories in the pipeline around the world to finish by 2030. The global demand for batteries is expected to increase from 185 GWh in 2020 to over 2,000 GWH in 2030.

Furthermore, the value of the worldwide lithium-ion battery market size is projected to top $193-billion by 2028, reflecting a 23,3% compound annual growth rate from 2021.

This has proven to be the catalyst for the construction of sustainable and efficient battery giga factories.

According to research, investments in battery giga factories hit $131-billion in 2022, a 24% increase over the previous year.

Modifying existing facilities

From new builds to refurbing and converting previously used manufacturing facilities, or expanding existing traditional battery manufacturing facilities, to giga factories, securing these investments requires a holistic approach that encompasses construction, optimisation, power supply, site selection, feedstock sourcing, sales strategy, regulatory compliance and a sustainability lens.

Fortunately, existing facilities may be retrofitted to transform into battery giga factories through an integrated approach that looks to reuse as much of the existing buildings, services and equipment at the facility as possible, even though there might be limitations of the host building.

Minimising risk

In managing risks for retrofitting facilities into battery giga factories, thorough studies are essential. This includes geotechnical and environmental assessments, evaluating flood risks considering climate change, and checking for ground contamination. Identifying materials such as asbestos and conducting concrete integrity testing is critical to gauge the effects of age and chemicals.

A documentation search is also vital. This should encompass existing drawings, reverse engineering, and reviewing maintenance records by consulting with on-site personnel and third-party vendors.

Improving the energy efficiency of an existing facility

A fundamental question to address is how to improve the energy efficiency of an existing factory. This is where developing sustainable battery giga factories requires a combination of international experience with local insights.

Working with the permitting and local authority on establishing site boundaries and zoning rights while also maintaining compliance with national and local regulations is vital. So too, are recognising the environmental conditions of where the current facility is situated. For instance, the humidity, the climate, as well as the impact of climate change.

Decision-makers must be aware that the building typically accounts for less than one-third of construction CAPEX, while services and utilities constitute the majority. T

Enabling a sustainable future

Keeping circular economy principles in mind is vital to ensuring battery manufacturing plants support the project and business' environmental, social, and governance (ESG) goals.

This includes looking at solutions to, for example, design out waste and pollution while keeping products and materials at their highest possible value, and regenerating natural systems.

This helps to drive clean growth, preserve natural capital and reduce waste, achieve net zero goals, reduce cost and improve industrial resilience.

Battery-backed solar scheme at Kenhardt underwhelming

In this edited article first published in the Daily Friend on 19th January 2024, Ivo Vegter looks beyond the hype and concludes it is not very impressive.

A solar plant complex with battery storage has come online in the deep Karoo. It isn't very impressive.

The site at Kenhardt comprises three vast solar photovoltaic fields with a total nominal capacity of 540 MW.

Its battery storage can nominally deliver up to 225 MW of power.

In practice, what this all adds up to is a 20-year contract with Eskom to supply 150 MW of dispatchable power consistently between 05:00 and 21:30 throughout the year. 'Dispatchable' means that it can be switched on or off, or ramped up or down, depending upon demand.

The project cost is in the region of $1 billion, which at the time of writing amounted to roughly R19 billion.

Project developer, Scatec describes this project as 'innovative and large-scale'.

It certainly is 'large-scale' in terms of land use. The company reports that it '[spans] 879 hectares and [measures] 10 km north to south'. This sounds inconsistent since 879 hectares is 8.79 square kilometres, which would make the entire thing only 879 metres wide from east to west, but in terms of land use, this almost exactly matches the 883-hectare site on which the Medupi coal-fired power station was built.

So, let the comparisons begin.

More expensive

Medupi, a 4 800MW six-unit monster, produces 5.4MW per hectare. Kenhardt achieves 0.17MW/ha, so per unit of land, Medupi is 32 times more efficient.

Medupi was originally budgeted to cost R80 billion, but since that was in 2007, and both inflation and project costs have since escalated, I'm going to use the most recent and the highest cost-to-completion figure I can find: R234-billion.

At that price, the cost-overrun disaster of Medupi comes in at R49-million per megawatt, while the Kenhardt plant costs R127-million per megawatt. The solar-battery-hybrid is, therefore, 2.5 times more expensive than a grossly overpriced coal-fired power station.

Taking into account Medupi's energy availability factor of about 70% and Kenhardt's inability to produce electricity 24 hours a day does not change this calculation by much, and not in Kenhardt's favour, anyway.

A coal-fired power station does, of course, need coal, which balances the scales somewhat in favour of the solar plant, but 1.5 times the price of Medupi buys a hell of a lot of coal.

On the downside for the Kenhardt plant, Medupi will last 50 years. The typical lifespan of solar photovoltaic panels is 20 years.

Grid connections

Medupi is built on the coal fields of the Waterberg, where existing grid infrastructure is abundant. Kenhardt is a tiny town in the deep Karoo. The Scatec plant itself is about 91 km due south of Upington, which is the closest town with more than 50 000 people. It is almost 600 km from Cape Town, as the crow flies, and about 750km from Johannesburg.

The length of high-voltage connections to the grid, the rights-of-way, and the line losses, all favour power plants other than this solar installation.

To match a single large coal-fired power station, we would need 32 plants such as the Scatec plant at Kenhardt, most of which will be situated in remote locations far from available grid connections, to take advantage of the high levels of solar irradiation of hot, arid regions.

Displacing coal

Of course, coal-fired power stations are heavily polluting, and they're also controversial over their contribution to carbon dioxide emissions.

That doesn't mean, however, that solar plus battery plants are an adequate substitute. With the short projected lifespan of the technologies involved, the permanently toxic waste of panels and batteries will also mount as the decades pass.

A few dozen 150 MW plants are not going to displace coal in South Africa.

Unleashing the power of the NewFeed Motor and Feeder Protection Relay

THE landscape of power generation is undergoing a transformative shift with the integration of renewable sources into the national grid.

The traditional supply consumption model is evolving into a GRID configuration, introducing multiple generation or supply points feeding into the grid. This shift necessitates a re-evaluation of protection relay systems, particularly when dealing with sources like solar farms with low fault levels interfacing onto the grid with a high fault level.

Enter the NewFeed Motor and Feeder Protection Relay, a cutting-edge solution tailored to safeguard Microgrid feeders connecting solar farms and traditional power grids in both LV and MV distribution environments. This relay goes beyond conventional protection measures, incorporating advanced features that cater to the dynamic requirements of our evolving energy landscape.

One of the key challenges presented by the influx of renewable sources is the need for additional protection features. The NewFeed Relay rises to the occasion with directional overcurrent elements, allowing precise dual settings for the generation source in alignment with the KVA rating of the solar farm. This innovation ensures effective management of reverse current flowing from the grid to the farm for recharging storage batteries or supplying grid-tied loads.

What sets the NewFeed Relay apart is its comprehensive monitoring capabilities. It not only measures voltage, current, and phase angles but also delves into power factor, harmonics, and more. This wealth of data empowers the implementation of full ANSI protection features for both Microgrid feeders and Feeder protection.

Integration is at the heart of the NewFeed Relay's design philosophy. Positioned as an Intelligent Electronic Device (IED), it seamlessly bridges the gap between solar farms, wind turbines, and the national power grid. The relay boasts selectable communication protocols, including Modbus/TCP, PROFINET, and, as of the third quarter of 2024, IEC61850, ensuring compatibility and ease of integration with diverse systems.

Configurability and flexibility are key attributes of the NewFeed Relay. Its Intelligent Electronic Device nature allows users to customize settings effortlessly using the NewFeed configuration front-end software. The relay's onboard database stores fault records and event records, providing a comprehensive record of system performance.

The NewFeed Relay has a small footprint of 45mm, allowing the IED to be integrated into any existing switchgear ideally in a weatherproof MCC.

The crown jewel of the NewFeed Relay lies in its protection features. Adhering to ANSI standards, it covers an extensive range, from overspeed and undervoltage to thermal protection and breaker failure. Advanced control features, coupled with switchgear controller logic, enhance its capabilities, offering continuous breaker state monitoring and load current feedback to detect unauthorized operation.

A standout feature of the NewFeed Relay is its spectrum analyzer, capable of detecting harmonics up to the 9th on any of the three-phase currents. This feature is pivotal for ensuring optimal performance and power quality. The inclusion of a simulation function adds an extra layer of utility, enabling personnel training and relay functionality testing.

Memory management is addressed thoughtfully in the NewFeed Relay. With the inclusion of a memory module, relay configurations can be stored, aiding in field maintenance and providing nonvolatile storage for protection settings. Additional accessories, such as an external memory module and expanded I/O module, enhance the relay's flexibility and functionality.

In conclusion, the NewFeed Motor and Feeder Protection Relay signify a paradigm shift in power distribution. With its comprehensive feature set and seamless integration capabilities, this relay stands as a beacon of innovation, ensuring the efficient and secure integration of diverse energy sources into our power grids. As the world embraces renewable energy, the NewFeed Relay is at the forefront, safeguarding the future of power generation.

Quality cables key for solar photoelectric

THE demand for electricity from renewable energy sources has been increasing significantly for years - in order to meet this demand, the generation of electricity through photovoltaics is essential.

In this process, energy from the sun's rays is converted into electrical energy in solar cells using the photoelectric effect. To make access the converted energy, solar cells are connected to modules and integrated into photovoltaic systems.

Photovoltaics now represent the second-largest share of renewable energy generation in Germany, directly behind wind power.

In 2019, almost 30-million tons of carbon dioxide were saved. This makes photovoltaics a sustainable and environmentally friendly form of energy.

Important to photovoltaic systems is the safe and long-lasting cabling of the individual modules among each other, as well as also the cabling of the elements with the inverter.

Due to the occasional extreme weather conditions outdoors, strict requirements are placed on the cables.

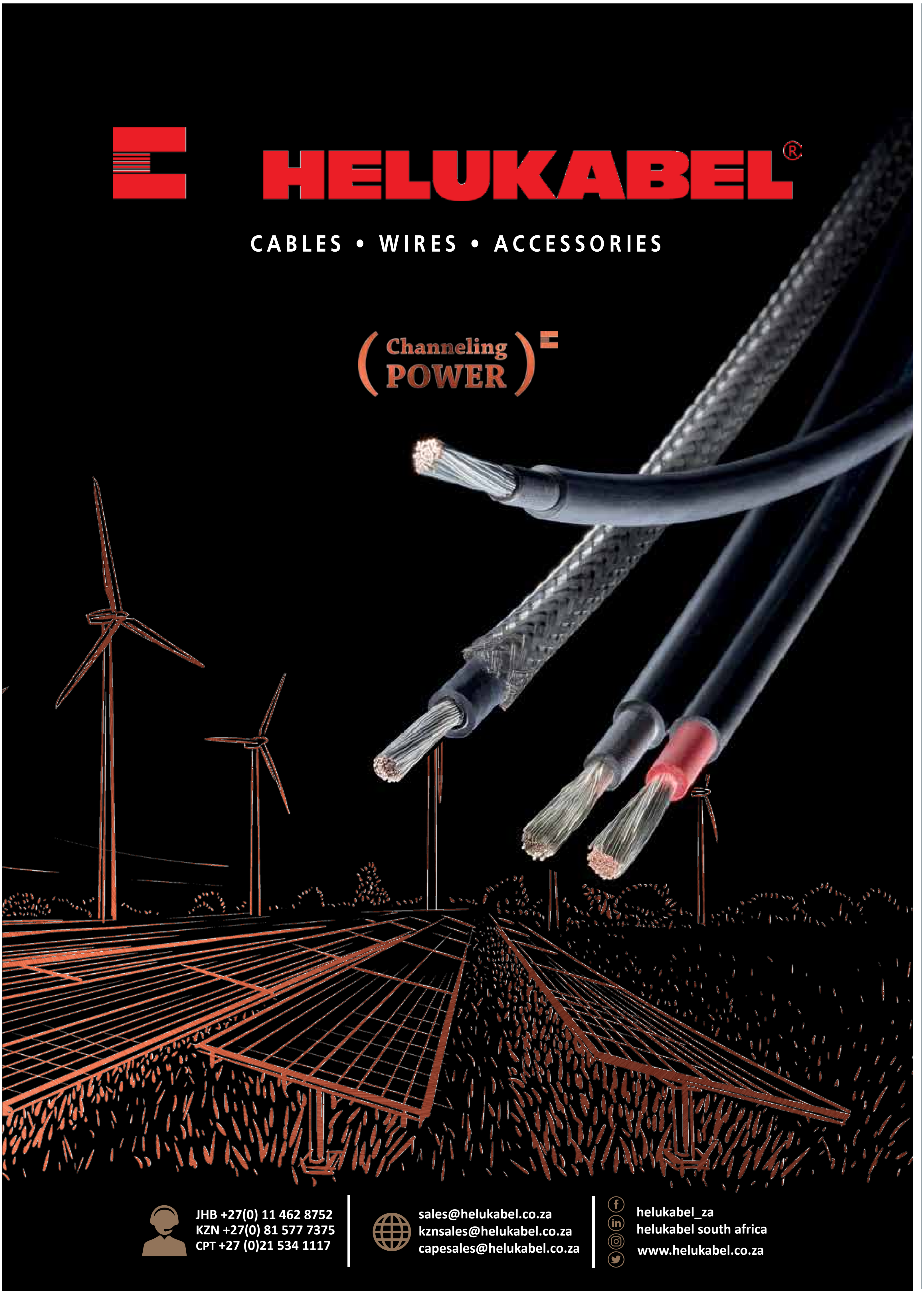
For the cabling of solar modules, HELUKABEL offers the SOLARFLEX brand of high-quality cables certified by TÜV.

Thanks to special sheathing materials and insulating materials, they are not only flame retardant and halogen-free, but also resistant to ozone, UV, acids and alkalis, hydrolysis and ammonia.

Even rodents don't stand a chance against this cable because our SOLARFLEX cables are also available with rodent protection.

For the infrastructure cabling of solar parks, HELUKABEL has various ground and medium voltage cables available directly from stock. Our aluminium cables are a lighter and more cost-effective option.

> "Important to photovoltaic systems is the safe and long-lasting cabling of the individual modules among each other..."



Business owners share electricity-saving tips

SOME of Cape Town's inner-city business owners are heeding the call to conserve power for the continued prosperity of the city's vital central business district.

Leading property developers, restaurateurs, and established merchants have given their full backing to the Cape Town Central City Improvement District's (CCID) "Switch on to Switching Off" campaign, which encourages every CBD stakeholder to stave off load-shedding by implementing a range of power-saving measures.

The campaign takes the form of a step-by-step guide that recommends a variety of simple yet effective stakeholders who own or rent property or who work, live, or visit the CBD can take to save electricity.

These include energy audits to identify areas of high energy consumption, upgrading to LED lighting; optimising heating, ventilation, and air conditioning (HVAC) systems, promoting energy-saving behaviour, using energy-efficient office equipment, and installing renewable energy systems.

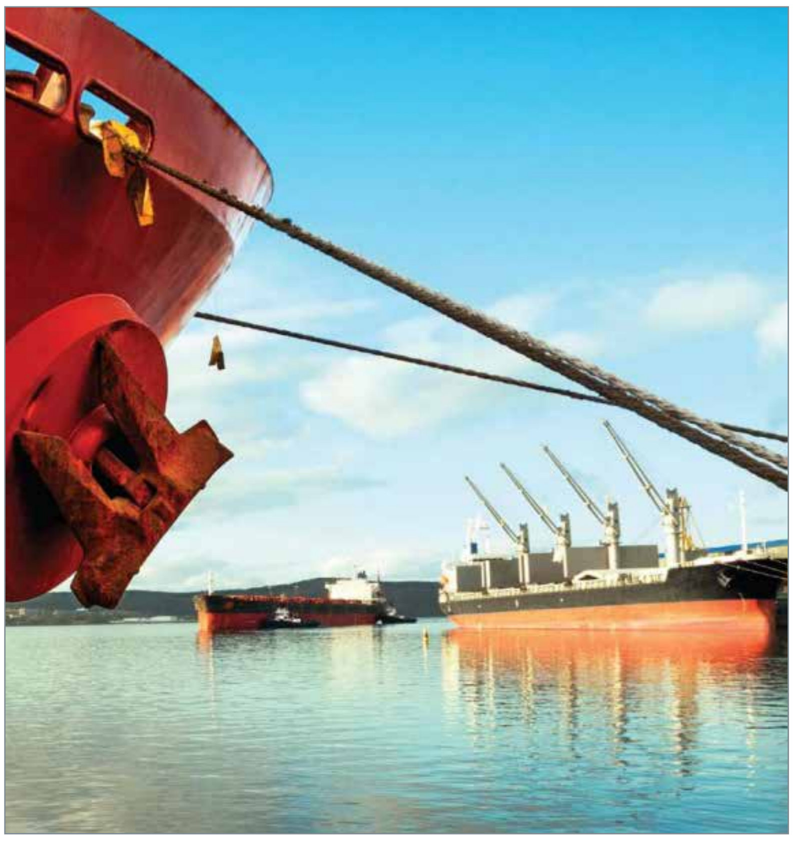
Grant Elliot, chief operating officer at Thibault REIT, believes there is a misconception that conserving energy comes at an additional expense.

"Generally speaking, energy conservation saves money in the long run. If money does need to be spent upfront, it will mostly create a return on the investment, especially if you consider where electricity prices are and are going to be. Income returns in excess of bank interest rates are frequently achievable," he says.

Neil Swart, co-owner of the popular Harrington Street restaurants Belly of the Beast and Galjoen, says he has introduced induction stoves and a charcoal oven in his kitchens.

Green shipping fuels made in South Africa - World Bank

A World Bank blog makes the case for green hydrogen becoming a major economic driver for the South African economy.



SOUTH AFRICA has the potential to become a leading producer of green hydrogen.

Green hydrogen will be in high demand as countries aim to reduce carbon emissions, especially in sectors like transportation and heavy industries.

The country is actively pursuing the Hydrogen Economy as a strategic development opportunity, aiming to capture a significant share of the global hydrogen market, thereby generating economic growth and jobs.

The Hydrogen Economy is projected to contribute 3,6% to South Africa's GDP and create 380 000 jobs by 2050. The country is attracting private sector interest in green hydrogen projects, solidifying its position as a hydrogen investment destination.

The maritime sector can kickstart this new industry by being a consumer and enabler. Deep-sea shipping, being globally regulated, can provide a stable demand for green hydrogen.

To reduce the shipping fleet's carbon footprint, around 64% of its fuel mix is projected to be hydrogen-based by 2050. Green ammonia or methanol are the most promising hydrogen-derived fuels for ocean-going ships.

For the sector to meet its 2030 target, 5-million tons of green hydrogen would be needed for shipping alone. Seaports will need to supply green fuels to ships and serve as clean energy hubs for the export of molecules. Currently, 40% of fossil-based fuels are handled in ports, and 20-million tons of ammonia are traded on ships every year.

With support from the Public Private Infrastructure Advisory Facility (PPIAF) and PROBLUE, the World Bank's blue economy program, the Bank has assisted South Africa in exploring the requirements for establishing green marine bunker fuel value chains at the ports of Saldanha and Boegoebaai.

The study revealed that supplying ammonia as ship fuel in Boegoebaai, Saldanha, and Cape Town will require up to 120 000 tons of green hydrogen by 2035.

Additionally, both projects have the potential to develop into green hydrogen hubs, each offering a unique value proposition.

In the Saldanha study case, around 1.6 GW of renewable energy would be needed to produce 50,000 tons of green hydrogen annually, which is equivalent to 280,000 tons of green ammonia. Out of the estimated capital expenditures of around $2 billion, 66% is allocated to investments in solar farms and wind turbines. These investments are crucial for obtaining the "social license" for green hydrogen, adding affordable generation capacity to the energy grid.

A two-hour drive from Cape Town, the port of Saldanha is an ideal location to aggregate demand from multiple hydrogen users, which can help to reduce investment risk. For example, the conversion of the mothballed Saldanha Steel plant to run on green hydrogen shows promise. This project has the potential to become one of the largest first-mover projects in Sub-Saharan Africa, creating over 8 000 direct and indirect jobs in the next few years. By 2027, the facility could start producing green direct reduced iron (DRI) for the European steelmaking market.

The Boegoebaai mega project, in contrast, will boost the country's position as a mega exporter of green molecules.

The Northern Cape provincial government has set out an ambition to develop 40 GW electrolysis capacity, producing around four million tons of green hydrogen annually. This will require around 80 GW of renewable energy. Boegoebaai, located 20 km south of the Namibian border, offers ample available land for the gradual expansion of solar parks and wind farms.

The site provides favourable conditions for developing a vertical hydrogen value chain, including domestic production of photovoltaic modules and electrolyzers.

Mining contributes 28% to the Northern Cape's GDP. The new port at Boegoebaai will not only facilitate the export of green molecules but also enable the cost-effective export of minerals like manganese, a critical mineral for the energy transition. South Africa is the largest manganese producer, serving around 25% of global demand.

Both Saldanha and Boegoebaai account for a pipeline of hydrogen projects registered as Strategic Integrated Projects (SIPs). SIPs are projects of great economic or social importance to the country and receive expedited approval and shorter delivery timeframes.

South Africa has around 20 projects linked to green hydrogen across the country, including many projects in other provinces. Recently, the three Cape provinces signed a memorandum of understanding to foster collaboration and synergies in the development of green hydrogen.

The Hydrogen Economy presents a significant opportunity globally, but the cost-competitiveness of green hydrogen compared to fossil-based alternatives is a challenge. Green hydrogen projects require access to affordable capital, which is scarce in emerging economies despite their favourable solar and wind resources.

The bankability of projects is complicated by the reliance on long-term contracts and the absence of a global spot market. Only around 10% of announced projects have guaranteed offtake, and the price of green fuels is not yet competitive with oil-based alternatives.

De-risking early mover projects is crucial, and unique demand sources like global shipping can help achieve that. As a truly maritime nation, South Africa has lots to offer.

Rico Salgmann, Transport Specialist, The World Bank, Maximilian Weidenhammer, Maritime Transport Consultant, Global Transport Unit, World Bank, Dominik Englert, Economist, Transport Global Practice, World Bank

Where is the gas coming from?

Robin Hayes questions the economics of gas to power proposals of the new IRP.

THE 2023 Integrated Resource Plan (IRP) released by the Department of Minerals Resources and Energy (DMRE) in December last year has been roundly pilloried by academics, energy experts and most journalists alike as being 'shoddy'.

Deeper analysis of the IRP (by others) indicates that by 2030 gas to power (GTP) will provide up to 12GW of the total of 82GW that the country is projected to need to satisfy economic and population growth,

Gas to the rescue?

The exemplary performance of Eskom's two OCGT (Open cycle gas turbine) plants – originally intended for peak lopping and an emergency backup for Koeberg, in the case of the Ankerlig station has proved invaluable in the delivery of fairly continuous output of more than 2GW ever since loadshedding began some 15 years ago.

Why the Government didn't install more of these gas to power plants to combat the energy shortfall is probably the same reason why it's taken them more than 10 years to produce the Gas Master Plan, which incidentally still hasn't been released for public comment since its supposed completion in October last year.

It seems like a no brainer as both the OCGT plants constructed by Eskom in 2007/8 were completed in less than two years and the more modern CCGT (combined cycle gas turbine) plants offer greater efficiencies of up to 65%.

If we discount the two OCGT plants at Ankerlig (Atlantis) and Gourika (Mossel Bay) and the proposed the 3GW planned installation at Richards Bay currently under contention by environmental groups, would mean that of the possible 12GW total, 9GW or so of new builds is needed to meet the IRP target in 2030.

Where is the gas coming from (maybe)

It is abundantly clear, according to industry sources, that the majority of the gas would be imported as the vast quantities required are unlikely to be realised in this timeframe by even a combination of our 60 trillion cubic feet (TCF) off shore and less than 100 TCF onshore estimates.

Reality check: 1,5GW continuous generation will consume about 1 TCF per decade but local large scale gas production has still to get out of the starting blocks.

A potential 'saviour' for this level of power production could come from the Orange Basin in the deepwater offshore, across the border from where they have made the largest discoveries in West African oil and gas history.

Our Namibian neighbours will be boasting about 10 billion barrel equivalent resources, while we can't even get seismics going due to a combination of ignorance and paid-for antagonism by 'renewables' and environmental lobby groups.

Imported LNG needs offtake infrastructure to be developed in Richards Bay, Coega, Saldanha or wherever, and from there to the eventual CCGT plant (wherever that might be situated!) would have to be by pipeline.

There's no indication in the IRP where these plants might be located or the infrastructure necessary to transport the gas from origin to turbine.

Renergen's CEO Stefano Marani adds that any LNG brought into the country will most likely be gasified at that scale, so transport is only possible via pipeline. 12GW represents something over 2m gigajoules per day which is many times more than the current pipeline infrastructure can handle, so solving the grid connections may be easier than solving natural gas transport lines.

That said, people always come up with creative ways to solve a problem, so it will be interesting to see who submits bids.

Hopefully the Gas Master Plan will, when released to the public, answer some of the obvious questions that the IRP raises but in the meantime, those involved in the extraction of natural gas on shore at least, are noncommittal over GTP and who would blame them.

As one said: "… very little onshore gas will go to power anyway (at least, in the field). It is being targeted, for now, at thermal industries and transportation fuel, as compression to pipeline and conversion to CNG and LNG are all more commercially attractive than GTP; with both Eskom and NERSA standing in the way of commerciality. It's an interesting situation, in a power-starved country…"

Hisense launches HVAC branch in Cape Town

HISENSE, and Filibiz, the agent for Hisense Heating Ventilation and Air Conditioning (HVAC), launched the first South African Hisense HVAC Cape Town partnership branch late last year.

Over the past 15 years, Hisense has offered an extensive range of home and entertainment appliances in South Africa.

This presence was heightened in the HVAC category after Filibiz became the South African distributor for Hisense RAC & LCAC products.

The collaboration was initiated in early 2020, just before the onset of the pandemic.

The opening of this new branch aligns with Hisense's broader HVAC market strategy in South Africa.

Luna Nortje, the assistant vice president of Hisense South Africa, expressed the significance of this expansion, stating, "With the launch of the Cape Town branch, our primary objective is to reinforce Hisense's presence in the region and offer our valued partners faster access to a wide range of HVAC products, spare parts, and the personalised attention they rightfully deserve."

Hisense's HVAC solutions prioritise energy efficiency, reducing carbon footprints, and contributing to a greener future for the HVAC industry in South Africa.

As climate change and energy efficiency become critical global concerns, Hisense and Filibiz are at the forefront of delivering responsible and sustainable solutions.

Hisense HVAC is making a significant mark on the African continent, expanding its footprint across the region, including Mauritius, Madagascar and Seychelles.

Both Filibiz and Hisense are confident in the quality and innovation that Hisense Air Conditioning brings to the HVAC field in Africa.

The extensive history, robust research and development capabilities, state-of-the-art manufacturing facilities, and stringent quality assurance systems ensure that Hisense provides high-efficiency and reliable energy solutions.

Unleashing innovation: The AxiBlade Fan by ebm-papst

IN the dynamic realm of ventilation and drive engineering, ebm-papst stands as a beacon of innovation and reliability.

With a rich catalogue boasting around 20 000 products, ebm-papst is not just a provider; it's an engineering partner sought after in diverse industries.

At the heart of this technological prowess is our Green Intelligent EC Technology, a commitment to high efficiency and sustainability.

Enter the AxiBlade range, setting a new standard for large axial fans. AxiBlade isn't just a fan; it's a game-changer in energy efficiency and noise reduction. With sizes ranging from 630 to 910, and different motor designs featuring EC technology, AxiBlades are versatile all-rounders, individually configurable for each application.

In the realm of refrigeration, particularly in plants like evaporators or condensers, the larger AxiBlade fans in sizes 800 and 910 shine.

With an impressive airflow capacity of up to 40 000 m3/h and a maximum pressure range of 350 Pa, these fans redefine what's possible.

Recently, ebm-papst played a pivotal role in a collaborative retrofit project with HC Heat and Dunair Airconditioning, orchestrating a major overhaul of Makro Amanzimtoti's Ice Storage Plant.

This engineering marvel demanded a delicate balance between efficiency and precision.

A specially designed sub-frame was placed above existing chillers, showcasing innovation in action.

Lovemore Brothers skillfully rigged the condenser coils, aligning seamlessly with the collaborative efforts of Afcon and HC Coils.

Ebmpapst's fans ensured the cooling system's efficiency, reflecting our commitment to excellence. This endeavour isn't just a retrofit; it's a testament to the spirit of innovation, precision, and the vital role played by products like the AxiBlade in achieving engineering milestones.

In the world of ebm-papst, it's not just about fans; it's about redefining what's possible in the pursuit of excellence and innovation.

SA coal miner prioritises uptime with Booyco Engineering HVAC man-on-site contract

RECOGNISING the importance of mobile equipment uptime, a leading South African coal miner has renewed its man-on-site maintenance contract with Booyco Engineering.

This ensures the heating, ventilation and cooling (HVAC) systems on the surface mining equipment is kept in optimal condition, so operators can always work in comfortable conditions as required by law.

Keeping its mobile equipment operators comfortable in hot, cold or dusty conditions is a priority for a South African coal miner, so it has renewed its man-on-site HVAC maintenance contract with Booyco Engineering for another three years.

According to Booyco Engineering MD Brenton Spies, the performance of HVAC systems is operationally and legally critical for companies wanting to optimise their uptime and production levels. Regular maintenance by specialised technicians can make sure that mobile equipment owners can achieve this vital goal, says Spies.

"The conditions on many South African mines are demanding – especially the variations in temperature and the high levels of dust," he says. "For this reason, the law requires that working conditions do not present any physical hazards to operators – including extreme temperatures."

He highlights that underperforming HVAC equipment can result in a contravention of the Occupational Health and Safety Act – as driver cabs have extensive window space for improved visibility. This exposes operators to considerable heat in summer, he explains, and cold in winter – as the windows provide little insulation from ambient temperatures outside.

"Our man-on-site contract with this surface coal mining operation gives the customer three of our trained and experienced technicians – with vehicles – who work on the mine site to ensure ongoing maintenance is conducted," says Spies. "This includes maintenance of the equipment's air conditioners at intervals of 500 hours, 1 000 hours, 2 000 hours and 4 000 hours."

Regular cleaning of HVAC systems is also important, as mines are dusty environments where these installations can be quickly blocked up by fine particles. Cleaning ensures not only better machine uptime, but also prolongs the lifespan of the HVAC system.

"In addition to the valuable preventative maintenance that the man-on-site arrangement allows, the technicians can also attend to any unexpected HVAC breakdowns on production equipment," he explains. "To comply with strict health and safety regulations on mines, these technicians have passed all the mine's medical requirements and have pit licences to drive their vehicles to where they are required – without undue delay."

The technicians on the contract have more than 15 years of collective experience with the company, and are equipped with necessary Air Conditioning and Refrigeration Academy (ACRA) accreditations, as well as being certified for the safe handling of gases. They are also provided with the lifecycle analysis of each component in the HVAC systems on site, to enhance the impact and efficiency of their work.

"By having a specialist on site, a mine has someone who can focus on the HVAC aspects of the mission critical mobile equipment," concludes Spies. "This allows the mine to focus on the business of mining."

DOCKYARD OFFERS ESSENTIAL MAINTENANCE AND REPAIR SERVICES

Armscor Dockyard is ISO 9001 certified and manages and operates the Naval Dockyard as the South African Navy's (SAN) third-line maintenance and refitting authority. The Dockyard focuses on repairing, maintaining and supporting submarines, ships and shore-based facilities for the commercial and defence industries. Other services include manufacturing low to medium-precision components through additive and subtractive manufacturing technologies.

WHY CHOOSE US

Dockyard offers a one-stop shop where all requirements for ship repair can be met. Workshop facilities are geared to support a range of vessels of different sizes and different hull structures such as frigates, fishing vessels, submarines, survey boats and yachts. Our dry dock has even accommodated the expeditionary vessel SA Agulhas.

SERVICES OFFERED:

Vessel and Facility Maintenance and Repairs – Dockyard's workshops are powered by highly skilled and effective personnel who ensure that necessary solutions for the maintenance and repair of vessel hulls, propulsion plants, primary systems, mechanical auxiliary systems, electrical systems, electronic systems, weapon systems, and offshore facilities.

Fabrication Solutions – A wide range of machining services, including turning, milling, boring, honing, and drilling, are provided to enable the production of low- to medium-precision components. Additionally, Armscor Dockyard runs a foundry that facilitates the casting of non-ferrous metals. The chemical cleaning bay (2m2x2m bins), spray booth (13x4.8m), and blast booth can assist parts that need surface preparation (11x6.5m).

Engineering Services – A materials testing facility is part of Armscor Dockyard and provides a variety of services, including corrosion surveys, non-destructive testing, condition-based testing, and metallurgy.

Docking and Carnage Services – The Armscor Dockyard is made up of a deep water port, covered repair sheds, graving dock, and synchro lift, all of which can provide the access needed for maintenance and where equipment must be removed and installed. The site is equipped with 2 sheds where weather critical work can be performed, and includes water and electricity supply for all vessels on the hard.

CONTACT US FOR MORE INFORMATION

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High-strength bolting solutions for marine services

BMG's Nord-Lock Expander System pivot pin components offer dependable solutions that combat the challenges of lug wear in the marine and shipping sector.

Pivots, which are at the centre of any rotational movement, often experience lug wear, which occurs due to the clearance between the bore and the conventional pin. This is commonly repaired with line boring – a technique associated with high costs and protracted downtime.

"Through Nord-Lock's advanced Expander System – which embraces advanced pivot pin technology - BMG specialists are able to supply the correct pivot to prevent problems that lug wear causes to mobile cranes at harbours, in order to maximise uptime, enhance safety on site and minimise maintenance costs," says Maryna Werner, fasteners sales manager, BMG.

"The Expander System – which comprises an assembly that includes an axle tapered at both ends, two expansion sleeves, two tension washers and two fasteners – has been designed for convenient onsite repairs.

"Even in a situation where the lugs are badly worn, a repair can be made in the field, with minimum downtime. The sleeves of the Expander System simply expand to conform with the wear pattern and lock the system in place, without the need for time consuming and costly welding and line boring. Once retorqued, the system locks from both sides, significantly increasing stability.

"This system has also been designed to improve safety on site. By replacing a traditional straight pin with an Expander System pivot pin of the same diameter, the risk of axle breakage is reduced and the strength of the machine is enhanced through the system's double sided axial locking design.

There are many other benefits, which include a permanent solution to lug wear, quick and easy installation and removal, increased service life of bushings, bearings and seals and greater safety. A key advantage of this system over conventional pivot pins is pressure distribution.

A conventional system only distributes the load onto a very small area, where the Expander System distributes pressure over the whole contact area in the direction of the force.

"There is no need for additional fastening holes, threads or welding of locking rings on the machine and no need for fine machining in the lugs, as this system makes it possible to use wide tolerances. The Expander System can also be combined with Nord-Lock washers for enhanced efficiency in vibration-intense applications."

BMG's customised Expander System pivot pins are specifically adapted to suit exact requirements, through the use of specific materials, hardening treatments, surface coatings and the correct tolerance for each application.

This system is also suitable for use in many other industries, including construction, steel, railway, bridge building, mining and quarrying, forestry and agriculture, manufacturing and processing, shipbuilding, power generation, oil and gas, transportation and machine building.

BMG specialists work closely with customers in all sectors, to offer a complete service solution, where the team's technical expertise supports quality structural fasteners and fastening components.

Axess Group wins inspection contract with MODEC for FPSO Léopold Sédar Senghor

Matthew (right) with Fernando Siqueira, Senegal Country Manager at MODEC (left), Jules Y. Diop, Co-Founder and President of Gainde Marine Offshore (center) during the contract signing.

AXESS Group has won a long-term inspection contract with MODEC for FPSO Léopold Sédar Senghor in Senegal. This contract follows the completion of several baseline surveys in China and Singapore during the construction phase.

The scope of work includes annual certification scopes for lifting gear, DROPS surveys, remedial actions and support with all rigging operations.

As part of its commitment to sustainable growth, Axess Gainde Senegal is concurrently initiating a training programme for local engineers and technicians in Senegal, designed to equip them with the skills and knowledge necessary for effective collaboration on projects with MODEC and other clients. As part of the programme, they will visit other entities within Africa for knowledge exchange and exposure to the Axess culture, which is important for building an emerging entity.

With a robust local team, the necessity for international mobilisations is effectively mitigated – a key strategy employed by Axess to minimise carbon footprint globally.

"This contract holds great significance for us as it is our first major engagement in Senegal since the establishment of the office in 2022.

"We are delighted to have earned the trust of MODEC, allowing us to contribute to the country's inaugural oil development. On a global scale, we have worked on 11 of their assets in the last five years, underscoring our commitment to delivering added value," Matthew Trichardt, Regional Manager – North-West Africa at Axess Group said.

The FPSO will be deployed at the Sangomar field located approximately 100 km south of Dakar, Senegal.

The Sangomar Field Development is expected to be Senegal's first offshore oil development.

3C Metal Belmet to fabricate main frame structural steelwork De Beers Marine's generation crawlers

3C Metal Belmet South Africa has been commissioned by De Beers Marine to fabricate the main frame structural steelwork for two next-generation crawlers for Debmarine Namibia's newest diamond recovery vessel, the MV Benguela Gem.

The scope of work includes the steelwork fabrication of the crawler's track and main frames, which will be delivered to the De Beers Marine Mining Systems Workshop, where the full final assembly of the crawlers will be done by De Beers Marine.

The work involves about 200 tons of fabrication, intricate structural assemblies and mechanical components, shop detailing, heat treatment, machining and assembly at the Cinco workshop in Cape Town Harbour, South Africa.

For the fabrication phase, the team is using Easy-Laser's advanced measurement and alignment technology in conjunction with line boring machinery to obtain tolerances of less than 0.05mm over a length of 5 meters.

The team is assisting De Beers Marine in developing machining and measurement techniques for complex machining requirements.

The work requires machining of 34 complex assemblies, ranging from half a ton to 58 tons and assembly before delivery. The team will conduct a trial fit of the crawler main frames and track frames, which involves three machined assemblies weighing more than 100 tons.

3C Metal Belmet says it is very pleased to be once again carrying out important work for the MV Benguela Gem, having previously delivered major scopes for the construction of the vessel, such as the general treatment plant facility and crawlers.

The MV Benguela Gem was launched in March 2022 and is operated by Debmarine Namibia, a joint venture between De Beers Group and the government of the Republic of Namibia.

The MV Benguela Gem produces around 1.4-million carats of marine diamonds annually, bringing in a revenue of more than $669.5-million every year.

3C Metal Belmet is a multinational company focused on delivering turnkey engineering, procurement, construction and installation services to heavy industries, including the oil and gas, petrochemical, renewable energy, power generation, marine and mining industries.

It specialises in structural steel and piping fabrication, with a core speciality of high-pressure (HP) piping processes and techniques.

Inovance brings advanced motion control to South Africa

INOVANCE and its South African distributor, Motion Tronic are launching the Easy Series PLC in this country, bringing its flexible, high-performance motion control solution to customers across South Africa in a wide range of industry sectors.

With the ability to deliver the simplest to the most complex motion control, the advanced EtherCAT-enabled Easy Series can be programmed to meet any requirement.

Motion Tronic director, Bradley Douglas said: "Motion Tronic is pleased to be able to offer its customers the opportunity to cut costs and improve their overall competitiveness with the Easy Series range, which has multiple communication protocols. I am excited about the potential of the Easy Series PLC to transform motion control for businesses in South Africa."

The compact footprint of the product, and its suitability for a wide range of applications, makes it an excellent addition to Motion Tronic's portfolio of Inovance products.

"Inovance and Motion Tronic chose to bring the Easy Series PLC to South Africa because it is a high-end product and gives OEMs the ability to solve a wide range of problems. The company's commitment to research and development is clear in the quality of its products, and the Easy Series PLC is no exception."

The recent impressive growth in output by South Africa's manufacturing sector bodes well for production. Figures from StatsSA show that it expanded by 1,2% month-on-month in June 2023, and 5,5% year-on-year.

South African manufacturers are seeing activity increase, and many are turning to industrial automation technologies to handle higher output, improve their overall efficiency, and reduce costs. Inovance's Easy Series PLC is therefore expected to prove popular with Motion Tronic's customers.

The Easy Series PLC was launched in Europe in November 2022 at the well-known Smart Production Solutions (SPS) exhibition in Nuremburg, Germany.

Explaining how the product can help companies in South Africa to meet their production goals, Inovance's David Bedford Guaus, strategic marketing manager for AC Drives and Servos said: "I am proud to be able to offer the Easy Series PLC to South African customers through our strong and effective partnership with Motion Tronic. Inovance's advanced Easy Series PLC provides the simplest to the most complex motion control through its complete range of products."

Emphasising how the Easy Series PLC offers flexibility from simple to complex motion control, Guaus pointed out that it features PLCopen compliant axis control and multiple communication protocols such as Modbus RTU, EtherCAT (on the Easy5xx models), optional CANopen (except on the Easy301 model), and Ethernet/IP and Modbus TCP (both available in the Easy320 and Easy523 models).

This is provided alongside ST, LD and SFC language support to ensure compatibility with a wide range of existing systems and applications.

"The Easy Series PLC is the next level in PLC motion control, with simulation mode for offline debugging, real-time fieldbus, axis group for linear and circular interpolation, and CAM table functionality. The PLC series also supports function block and function for encapsulation, code reusability and scalability.

Industrial automation giant, Inovance and its South African distributor Motion Tronic, based in Durban, were both founded in 2003.

Together they provide South African OEMs with a wide range of world-leading industrial automation technology and services, including installation, commissioning, mechanical and technical support.

Abrasive cut-off disc by Superflex

WHEN it comes to the cutting of tubing, structural steel, and bar stock, abrasive cut-off discs, metal circular bandsaws and oxy-acetylene cutting torches are among the most popular methods.

> "Abrasive cut-off discs are manufactured with either rough or smooth sides."

Although the metal saw continues to be the preferred cutting-off method for large cross-sections like steel beams and plates, the abrasive cut-off disc, offers much greater speed and economy compared to a steel circular or power saw blade on a host of small to medium-sized materials.

Studies have indicated that the abrasive cut-off disc will generally outperform the metal saw and cutting torch, with cuts being made with a diameter of 50mm to 150 mm.

Apart from being the most economical solution for this application, using an abrasive cut-off disc also increases production due to many more cutting points present on the cut-off disc compared to circular steel or power saw blades.

These cutting points are a multitude of sharp abrasive cutting edges, commonly referred to as cutting teeth on the disc's face that cut through the workpiece like teeth of a saw as the disc rotates at a high speed.

Formally, abrasive cut-off discs were only used in applications where the material was either too hard or too delicate for a steel saw. Nowadays, they are being recognised as an efficient and high-production tool capable of cutting all types of metals, including steel, brass, copper, glass, ceramics, carbides, and most composite materials.

However, when it comes to dry cutting, two factors should be considered – discolouration and burning.

Discolouration occurs when excessive heat is generated in cutting and can be eliminated by improving the cutting action with a different disc specification or the use of a rough-sided disc.

The discolouration is particularly problematic when machining operations follow the cutting-off process, which is referred to as surface or skin-hardening, which affects machinability.

While discolouration can be managed, burring cannot be eliminated in dry cutting without sacrificing disc life. Finer grit discs produce a lighter burr which is easily removed, but generally, they have a higher rate of longevity than the coarser grit discs.

When it comes to the longevity of abrasive cut-off discs vs disc feed or pressure, it needs to be noted that the longevity of an abrasive disc is dependent on the rate at which the abrasive grains are dulled and ultimately released by the bonding system to produce new sharp edges.

When a low rate of disc feed is used, the pressure is correspondingly light.

For the abrasive grains to cut and remove the metal as chips (sparks), a reasonable amount of pressure is required. If this pressure, due to the low rate of disc feed, is too light, the abrasive grains will rub rather than cut this will cause excessive heat build-up and softening of the bond will follow, causing the disc to wear prematurely.

Organic or resin bond refers to the substance that holds the abrasive grains in place. The bond is also often referred to as the grade, or hardness of a disc, which does not signify the hardness of the abrasive grains themselves but the hardness of the bond holding them in place.

Abrasive cut-off discs are produced in two main minerals, also known as abrasive grain types. Alumina Oxide grain stays sharper for longer and is mainly used for applications on high tensile strength steel and other metals, while Silicon Carbide grain is more suited to applications on Non-Ferrous metals with lower tensile strength, such as carbons, brass, and copper.

Abrasive cut-off discs are manufactured with either rough or smooth sides. Smooth-sided All Superflex abrasive cut-off discs are reinforced and commonly used throughout the foundry and construction industries because of its very high resistance to breakage combined with fast cutting action and low rate of wear. The cut-off disc owes its strength to the built-in reinforcement. Grinding Techniques is continually committed to the development of these products and our Superflex range carries a variety of abrasive cut-off discs for multiple applications on both Ferrous-and Non-Ferrous metals, each with its own advantage dependent on the dimensions of the material to be cut.

First Cut ensuring customers get quality and affordability

FOR many companies, a tough economic climate has meant tightening their belts and looking for more cost-effective products and services.

First Cut – a leading distributor of cutting, welding and grinding consumables and equipment – says this is why it has met halfway with suppliers to ensure that cost-effective products are not inferior products.

"With the current market pressures in South Africa, we know that customers are looking for affordability while still wanting quality," says Zelda Vorster, First Cut's commercial director.

A proudly local, quality product

Looking at First Cut's product portfolio – including a range of locally-manufactured blades - their Messer welding electrode range is an example of a 'proudly local' product.

These high-quality electrodes can be used for every application and material, from galvanised steel to stainless and even so-called 'problem' steels.

As this is locally produced, First Cut has been able to control stock levels. There are also no import taxes and freight costs, with a knock-on pricing benefit accordingly.

"We are, therefore, able to focus on producing a quality product at a very competitive price," says Vorster.

The two brands in First Cut's portfolio of hand tools and power tool accessories (PTA) are Eclipse and Starrett, respectively.

'Eclipse-ing' the DIY market

The range of Eclipse hand tools includes pliers, nippers, bolt cutters, various clamps and vices and swivel bases.

As hand tool specialists, Eclipse continually enhances their range and adds new and innovative products to meet market demand. Interestingly, some of this demand arose directly due to the global Covid-19 pandemic.

Reducing cost-per-cut

Starrett saws come with specialised bimetal saw technology. The advantages of this technology are higher resistance to tooth breakage, smoother and faster cuts, longer blade life, and reduced cost per cut.

In-house training and technical support from suppliers such as Starrett have ensured that First Cut staff know what product to supply for specific industry applications. It is certainly not a 'one-size-fits-all' approach regarding blades, says Vorster.

Power tool accessories - with an edge

First Cut offers a diverse assortment of local hand tools and power tool accessories. This includes drill bits, hole saws, jig-saw blades, band saw blades, reciprocating saw blades, levels and tape measures.

Power tool accessories (PTA) have been a part of First Cut's range for some time, but the range has been extended and is receiving favourable attention in the market.

A final word on 'safety first'

First Cut is in continuous negotiations with suppliers to ensure customers get the quality and affordability they need. This also means supporting smaller businesses that may not be able to absorb major price increases. Another consideration in the supply-demand chain is safety – which is vital to First Cut, with its 'safety first' ethos.

SAIW spearheads internationally accredited training for Malawi's NDT Sector

IN an effort to enhance their technical capabilities and establish a testing and training centre, experienced professionals from Malawi have completed an intensive training programme provided by the Non-Destructive Testing (NDT) division at the Southern African Institute of Welding (SAIW).

The training initiative, supported by the International Atomic Energy Agency (IAEA), aimed to equip the students with the necessary skills and certifications in non-destructive testing techniques.

The SAIW has been involved with the IAEA since 2000 as part of the African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA).

The SAIW, as the AFRA Anglophone Regional Designated Centre (RDC) for NDT, has been involved in the direct training of more than 160 NDT Personnel in four methods up to Level 3 from more than 17 English-speaking countries in Africa.

Malawian expertise

The Malawian delegation was made up of Stephen Chalimba, Bill Gwaza and Christopher Kasonga from the Malawi Bureau of Standards and Barness Mphande, from the Malawi University of Business and Applied Sciences (MUBAS).

Chalimba highlighted the support received from the IAEA and the proximity of South Africa as major factors in choosing SAIW for training. He mentioned the potential for tapping into South Africa's expertise and specialised services after the training.

Gwaza also emphasized the significance of international welding accreditation for Malawi's welding sector.

"Local Malawian industries are increasingly seeking experts with international qualifications for key new build and renewal/maintenance projects in key economic sectors including the hydropower, agro-processing and mining industries. The establishment of international qualifications will provide Malawi with a competitive edge and meet industry demands," he explained.

A comprehensive curriculum

The SAIW training program, which began in January 2023, covered a wide range of non-destructive testing techniques under the guidance of the SAIW's in-house NDT experts, including Personnel Qualification and Certification Manager Manager Harold Jansen and Senior Lecturer Jan Cohen who have provided valuable insights and instruction throughout the training sessions.

The students received theoretical and practical training in liquid penetrant testing, magnetic particle inspection, radiography testing, ultrasonic testing, visual inspection testing, and eddy current testing. The comprehensive curriculum also enabled them to gain hands on experience and enhance their theoretical knowledge.

The Malawian students also completed exams for the Visual Testing Level 2 and Eddy Current Testing modules before concluding their training program. The knowledge and skills gained during their time at SAIW will be instrumental in their future endeavours to enhance the welding capabilities in Malawi.

Forging future growth

Upon completion of the training program, the students have just returned to Malawi and will now focus on establishing an NDT testing and training hub of excellence. The testing centre will be located within the Malawi Bureau of Standards, while the training centre will be located at the Malawi University of Business and Applied Sciences. This collaborative effort aims to ensure a seamless integration between the two facilities and cater to the growing demand for international welding accreditation and non-destructive testing services in Malawi.

Looking at the broader significance of the programme the SAIW's Harold Jansen comments; "The collaboration between the SAIW and the Malawian institutions, supported by the IAEA, marks a significant step towards strengthening technical expertise and promoting international standards in welding and non-destructive testing in Malawi. With the establishment of the testing and training centre, the country is poised to meet the increasing demand for skilled professionals in key industries such as agro-processing, power generation, and petroleum.

"The acquired expertise and certifications of the Malawian students will also play a pivotal role in driving economic growth and ensuring the longevity of critical infrastructure projects in the country," he concludes.

Air Products focused on providing the industry with skilled welders

AS an industrial gas manufacturer, Air Products is reliant on the skills and knowledge of engineers and technicians, but most importantly, that of artisans throughout their operations. Within the business, there is a strong focus on skills development, especially with regard to the growth of technical skills such as welding.

In an effort to contribute to the upliftment of welding skills in the country, Air Products committed to providing funding for internationally accredited welding courses. The Cosmo Training Academy was selected as the training facility. The initial group consisted of 20 students, and six apprentices were selected after various assessments and practical tests.

Back L – R: Silence Mashaba, Sean Young (Air Products), Zodwa Tomile (Air Products), Pierre van Nieuwenhuizen, Rozanne Heroin and Rossouw van der Merwe (Cosmo Group). Front L – R: Kingsley Nyatlo, Lesego Mahlanya, Tshiamo Mmutle, Gertrude Khubeka and Lerato Malepe.

According to Sean Young, Welding Specialist at Air Products and the facilitator of this project, all six of the students recently completed the course and have all shown tremendous potential. He further mentions that the second group of students are scheduled to start their assessments.

"We have selected the Cosmo Training Academy as our training partner. The Cosmo Group forms an important part of our distributor network, and more importantly, we have confidence in their course and the academy. To top it all, the Welding Facilitator/Trainer, Rozanne Heroin, was recently named the winner of the #JouYster competition by Solidarity. This award is given to the top artisan in the Solidarity network".

Pierre van Nieuwenhuizen from the Cosmo Group mentions that they appreciate Air Products' drive to improve welding skills in the industry.

"The Cosmo Training Academy aims to provide world-class accredited welding training as we are aware of the need for skilled welders in the industry, and in South Africa. As an accredited Air Products distributor, we have received support from them from the onset and we are excited about the future of these apprentices".

Hydrogen Meets KELLER'S Gold

Hydrogen is a trending topic AND a booming market, Revolutionizing Hydrogen Measurement is KELLER's Gold-Plated Pressure Sensors for Unparalleled Stability and Innovation.

What is unique about the pressure sensors for hydrogen applications?

KELLER manufactures isolated piezoresistive pressure sensors for the type of pressure measurements invented by KELLER founder Hannes W. Keller. The great advantage of the piezoresistive measuring principle is its high stability.

The chip that measures the pressure is installed in an oil-filled cylinder and sealed by a steel diaphragm. This ensures the best possible isolation.

The piezoresistive pressure sensors are also considered one of the most stable for hydrogen applications.

Without additional actions, however, an oil-filled sensor can also have a disadvantage. Under certain circumstances, hydrogen molecules can split into two hydrogen atoms at higher temperatures.

> "Gold has much smaller pores than stainless steel. The hydrogen can hardly penetrate the gold layer."

These atoms are smaller than the pores of the steel membrane. This allows the atoms to penetrate through the membrane into the oil chamber of the pressure sensor.

In the oil chamber, they fuse again to form a hydrogen gas molecule (H2), which leads to offset errors due to the expansion. The offset is called the signal deviation of the target value.

After all, it must be considered that the medium is gas. The phenomenon described is called "permeation".

For this reason, KELLER uses gold-plated steel membranes for hydrogen pressure sensors. Gold has much smaller pores than stainless steel. The hydrogen can hardly penetrate the gold layer.

This defusing action, together with fully welded sensors without internal seals, confirms KELLER's competence and strength in the pressure sensor market, including for hydrogen applications. The typical pressure ranges for applications with hydrogen are from 0...2 bar to 0...1000 bar.

KELLER offers exactly the suitable sensors for these applications. In addition, the hydrogen pressure sensors are compatible with the EC79 standard for automotive applications.

Elen electrical enclosures innovative stainless steel enclosures with unique gasket

ELEN Enclosures, an industrial enclosure specialist with 35 years of experience, offers comprehensive ranges of 304L and 316L stainless steel enclosures from two globally reputed European manufacturers at very competitive prices.

Stainless steel enclosures are primarily intended for and suited to corrosive environments where hygiene is important, such as food and beverage, packaging and pharmaceutical industries, as well as other corrosive industrial environments.

The newly upgraded ECOR range from Italian manufacturer ETA includes 33 sizes of single-door wall-mounting enclosures ranging from 300x200x150 mm to 1400x800x300 mm and 3 sizes of double-door enclosures of up to 1200x1200x300 mm.

Made from 1,5 mm thick laser welded bodies with new, improved gutter profiled opening, increased internal depth and doors with formed corners, the enclosures are certified to IP66 sealing for single-door and IP55 for double-door.

They are supplied complete with aluzinc galvanised mounting plate. Accessories such as canopies, internal doors, and distribution board chassis are available in both stainless or mild-steel powder-coated options.

The enclosures have a brushed-satin-finish and are supplied with an easily-removable protective film to protect against scratches during delivery or machining.

The range introduces a major innovation in enclosure technology by way of an in-situ two-component foamed silicone compound door gasket.

The silicone gasket is resistant to a greater number of aggressive chemicals and has a higher temperature resistance (-50 oC to +200oC) to polyurethane gasket (-40 oC to +100oC), which is currently the industry norm.

This widens the range of environments in which the enclosures can be used, i.e. from refrigeration plants to steelworks and foundries, as well as in the harsh industrial conditions found in chemical plants, refineries, water treatment, paper, pulp and textile industries. Stainless steel grades 304L and 316L offer better corrosion resistance than 304 and 316, respectively, and are particularly applicable to the weld points of an enclosure. While Elen Enclosures has obtained local EX certification for the standard range, the ECOR supply program also offers a version complying with ATEX directive and conforming to Ex II 2GD, Ex e II T6 and Ex td A21 T85ºC for use in Zone 1, 2, 21 and 22 hazardous area applications.

The ATEX-approved range is supplied with a continuous formed-in polyurethane door gasket. Elen Enclosures' workshop is highly experienced in the production of junction boxes certified for use in zoned hazardous areas.

Other stainless steel products from ETA include EMOX monobloc floor-standing cabinets, ENUX modular suite cabinets, EGRAN terminal boxes, SHX push-button boxes, ECOR Sloped-Roof enclosures and ZBX Control Desks, all of which are available from Elen Enclosures. Online catalogue at www.elen.co.za and www.eta.it .

Please enquire at sales@elen.co.za or call on +27 11 472 2220.

Complete food safety from Europe's leading spray nozzle manufacturer

CONSUMERS naturally assume that food arrives on the store's shelves in a hygienic-free state, containing no substances that are considered harmful to your health.

The assumption is that most reputable food manufacturers do everything in their power to ensure that only quality ingredients are used in their processes.

However, with highly automated production processes food comes in contact with a large number of different materials and substances during the production process.

In Europe, regulation (EC) No. 1935/2004 is a mandatory requirement for any properties with materials or articles that come in direct or indirect contact with foods.

This applies to the wide range of products manufactured by LECHLER for the food and beverage industries.

As a leading nozzle manufacturer and supplier to these industries, LECHLER must also test their products to ensure food compatibility.

As the LECHLER nozzle range complies with the EU framework regulation and FDA guidelines, plant manufacturers and producers can be assured that nozzles supplied from their exclusive agent for Southern Africa, Industrial Nozzles and Systems (Pty) Ltd meet regulations.

Industrial Nozzles and Systems, established in 2000 has forged numerous relationships with both local and national OEM and end-user customers.

"The security of our end-users knowing that what you procure is what is delivered is critical, considering how the market is being flooded with imitation parts" says Steve Smith, MD Industrial Nozzles.

Traditionally, LECHLER attributes the greatest importance to hygiene and care for the relevant production processes.

For this reason, the company has actively devoted resources for many years to this area, which includes plastic or Stainless Steel nozzles and accessories.

These have proven to be highly reliable, with prolonged service life. Most of Lechler's product range is suitable for contact with food and complies with the requirements of the commission regulation (EC) No. 1935/2004, the FDA guidelines.

Depending on the product, special machines, containers, cooking utensils, conveyor belts and many other equipment used, there is direct contact with food.

Sometimes this contact or transfer surfaces with the packaging material are prolonged, when food has to be prepared for transport and preserved.

LECHLER's precision nozzles perform a wide range of tasks, from complex cleaning work to product preparation and finishing the end product.

Efficient and food-compatible nozzles used for plant cleaning include: Rotating Tank Cleaners, Flat Fan nozzles, Full Cone and Hollow Cone nozzles.

Where contact between nozzles and product is very direct, such as found in an industrial bakery where special plastic nozzles from LECHLER are used to spray on the bread crust at the end of the baking process to provide a fresh gloss.

A manufacturer of meat patties, can make use of innovative nozzles from Lechler, where precise amounts of liquid is sprayed on the identically sized ground meat products, to compensate for any over spray.

In special washing installations, full cone nozzles from Lechler clean e.g. vegetables / fruits to remove stubborn contamination such as soil, fertiliser or pesticides.

Transforming food waste into animal nutrition: how the Shoprite Group feeds 3000 cattle a day

BY converting 1 000 tons of food waste into animal feed over the past six months, the Shoprite Group is providing enough fodder for up to 3 000 cattle daily as part of its commitment to environmental sustainability and advancing the circular economy.

The retailer is repurposing food products – returned from Shoprite and Checkers supermarkets to its distribution centres in Brackenfell, Western Cape, and in Centurion, Gauteng – that are no longer fit for human consumption, thereby preventing waste from ending up in landfills.

Dried goods such as rice, pasta, maize products, cereal products, flour, chips, snacks and seeds now supplement hominy chop, a byproduct of maize milling, in the group's animal feed formula. This has resulted in maintaining high-quality feed.

The group does this by reviewing its ordering, replenishment and ranging processes, using technology and data analytics to identify food waste hotspots.

"Secondly, any surplus food which is still fit for human consumption is donated to registered beneficiary organisations. Over the past financial year, these donations impacted 544 beneficiary organisations, including community centres, disability care, aftercare facilities, shelters, old age homes, orphanages and soup kitchens. This enabled us to serve 67-million meals over the period," notes Raghubir.

Only when surplus food is no longer fit for human consumption is it then assessed for animal feed eligibility and composting.

The Shoprite Group is targeting zero organic waste to landfill by 2025 and this year 72 000 tonnes of waste avoided landfill.

"By embracing this hierarchical waste management model, we have adopted industry-leading practices to reduce, reuse and repurpose waste," says Sanjeev Raghubir, Head: sustainability and CSI for the Shoprite Group

Rooibos breakthrough in Chinese Market

THE South African Government recently welcomed the decision by the People's Republic of China to substantially reduce tariff rates on imports of South African Rooibos tea.

Rooibos tea is a unique South African tea that has gained a strong foothold in global markets with hundreds of millions of rands of annual exports in 2022. South Africa led efforts at the World Customs Organization (WCO) for a specific tariff code applicable only for rooibos tea.

China, the world's largest tea market, previously had tariffs ranging from 15% to 30% on rooibos tea. This has now been reduced to 6%.

In August last year, South Africa's Minister of Trade, Industry and Competition, Ebrahim Patel raised the tariff duties on rooibos tea with his counterpart, the Chinese Minister of Commerce, Wang Wentao, during the 8th meeting of the China-South Africa Joint Economic and Trade Commission. He requested that China consider a request to reclassify rooibos tea and to reduce the duties. Following further consideration from the Chinese side, the Customs Tariff Commission of the State Council of China advised it will be adopting the new tariff code of the WCO to categorise Rooibos tea under tariff code HS 1211.90.39 with an import tariff rate of 6%.

According to the Rooibos Council of South Africa, approximately 20 000 tons of Rooibos is produced in South Africa every year, generating employment for more than 5 000 people. China featured as the 7th largest recipient market in 2023 for South African Rooibos out of a total of 45 countries currently importing Rooibos tea.

Minister Patel welcomed the decision by the Customs Tariff Commission of the State Council of China.

Commenting on the decision, he said: "Our rooibos tea is refreshing, delicious and healthy. This decision will enable more South African rooibos tea to be available to Chinese tea drinkers, creating more jobs in South Africa. Rooibos exporters can now ramp up their exports of tea to China!"

"China is currently South Africa's largest global trading partner, with Chinese customs reporting two-way trade of more than R900-billion. We look forward to continuing our engagements with our Chinese counterparts as we seek to shift our exports from mainly minerals to a greater basket of value-added agricultural and industrial products. I wish to commend Minister Thoko Didiza and her team for the close collaboration and hard work to get this decision finalised," Minister Patel said.

Minor adjustment, major impact

KHS Nature MultiPack now available with a universal adhesive.

WHAT initially seems like just a minor adjustment actually constitutes a major further development that produces even more reliable, future-proof technology: for its Nature MultiPack (NMP) KHS has produced a universal adhesive that can be used on practically all outer coatings on both aluminium and tin cans.

This makes it easier for many beverage producers to convert to this environmentally-friendly style of packaging.

Since this system became successfully established on the market, the demands made of the adhesive especially have continuously increased.

The Dortmund systems supplier has answered this call and now enables customers to create appropriate packs with the new one-fits-all system for beverage cans, thus also helping them to achieve their sustainability targets.

KHS helps its customers by providing specific advice and developing and implementing environmentally friendly and circular systems.

These include its NMP. As one of the most sustainable types of secondary packaging, this future-proof technology does away with secondary packaging completely, holding packs of six beverage cans, for instance, together with just a few dots of adhesive.

To date, choosing the right adhesive was something of a challenge: numerous advanced tests had to be run to check how an ideal amount of the same creates the perfect balance between high pack stability and easy-to-remove beverage cans when applied to the different coatings can manufacturers use on their containers.

"There's a huge variety of can lacquers, running into several hundreds worldwide," says Dr. Matthias Caninenberg, head of Nature MultiPack Technology at KHS.

Dr. Matthias Caninenberg, head of Nature Multi-Pack Technology at KHS.

They often have very different surface properties, from matte to glossy.

"The discrepancies in chemical and physical properties such as roughness are enormous," he explains.

Universal adhesive makes elaborate testing redundant

These dissimilarities affect the effectiveness of the adhesive which is why elaborate testing at the KHS laboratory used to be required. For interested canners, this was a procedure that, first and foremost, was very time-consuming, Caninenberg states.

In developing a universally applicable adhesive for practically all outer can lacquers used worldwide, KHS has now risen to this challenge.

The new consumable satisfies stringent requirements to ensure stability during transportation, among other things.

In order to do so, the adhesive had to prove its worth both on a laboratory scale and in industrial application. Caninenberg is more than pleased with the results.

"The goal of producing a universal adhesive that works on practically all coatings was again exceeded. During qualification and practical application in industrial production, it was shown that our exacting requirements were met."

The implemented one-fits-all solution enables beverage producers to form the perfect NMP from all standard formats and sizes.

"On the one hand, both matte and glossy containers can be processed without complex adhesive changeovers being necessary; on the other, future customers no longer have to keep to a given selection of surface lacquers," Caninenberg notes.

This makes pack production more flexible and efficient, which in turn also has a positive impact on the supply chain.

"A selection of predefined lacquers no longer has to be kept in stock. This cuts down on the amount of cost and effort needed and greatly simplifies production processes,"

Caninenberg explains. "We've thus completely eliminated any entry thresholds when it comes to investing in this standardized, environmentally-friendly technology."

Investment improves ecobalance

Nature MultiPack also cuts costs – in the long-term the system is less expensive than other kinds of secondary packaging as beverage producers save on both materials and resources. This plant engineering is also ideal when specific company sustainability strategies are to be implemented – especially when in the future taxes will possibly be levied according to the amount of CO2 equivalents generated rather than the style of packaging.

Independently validated LCA analyses show that a company's carbon footprint can be massively reduced where NMP technology is used.

The KHS Innopack Kisters Nature MultiPack packaging machine is available in a version that outputs up to 45 000 containers per hour and in a high-capacity variant produces a maximum of 90 000 cans per hour.

For both speeds of machine three optional modules are available: a distributor, a pack turner and a handle applicator to create NMPs with a carrying strap.

This can also be fully omitted to give customers the best possible ecobalance.

Doing without the necessary modules for the above makes the machine up to 50% shorter, cutting the length down to just 10,8 m.

"With our further developed adhesive we provide a flexible, cost-efficient and extremely sustainable solution. Thanks to its resource-saving technology, this will ultimately score with consumers," Caninenberg sums up.

Monitor Engineering: Which tank cleaning nozzle is right for you?

TANKS and mixers are used during the production processes in most industries.

While the products in the tanks vary, the challenge remains the same: How to clean your tank efficiently?

Based on our experience with different sectors and considering Sinner's circle (which deals with the factors that should be considered for optimal cleaning), we have separated four main aspects that should be taken into consideration when choosing your ideal tank cleaning nozzle:

Time

The available time for cleaning your tank is crucial for selecting the equipment you need.
A long cleaning process has a big impact on productivity, but a short cleaning process might not deliver the required results - and is likely to be less sustainable.

Temperature

Hot water is a known solution for removing residues.

But beware. Always observe the proper temperature for your equipment.

The costs involved in heating the liquid are another important factor to take into account.

Chemicals

With some types of residues, it is necessary to resort to chemicals for better cleaning results. Therefore, it is important to pay attention to the material of your equipment and its resistance to corrosive and acid products.

Impact

When we talk about tank cleaning, the impact is the aspect that will bring more results and savings to the cleaning.
Selecting the ideal spray impact reduces the use of chemicals, provides a shorter cleaning cycle, and, consequently, limits water and energy usage.

Selecting the ideal equipment for your operation

At Spraying Systems Co, we have a large range of tank and tote cleaning solutions. Whether your operation's tanks, you have the right product for any tank measuring up to 30m in diameter.

When choosing the equipment for your operation's tanks, you should look for a model that will perform efficient cleaning in the least amount of time, with the least amount of resources, and with a high impact.

The basics sound very simple, but unfortunately, we replace inefficient tank cleaning solutions, specifically static spray balls, on a daily basis.

If you want to make sure that you're getting the most out of your tank cleaning solution, be sure to contact your local spray specialist.

We offer no-charge onsite tank cleaning audits where our experts can help you understand the characteristics of your tank cleaning operation and help you meet your goals.

UPM Raflatac reveals the power of labels to drive purchasing and influence tasting experience

UPM Raflatac, a sustainable self-adhesive paper and film product supplier, released a new neuromarketing study showing the power of different label materials and finishes to shape consumer perceptions and drive purchasing.

Focused on white wine labels, the research carried out in collaboration with partners in the packaging value chain, ARGEA, SenseCatch, Kurz, and Krämer Druck, shows that label material and finishes all have a significant part to play in consumer purchasing behaviour and post-purchase enjoyment.

The research has been summarised in a book featuring a foreword by Uwe Melichar, a sustainable packaging expert, designer, and Pentawards jury member. The book is available in three languages and as a digital version.

A wine's label plays a pivotal role in the consumer's decision to buy it or not.

In fact, according to a study on the wine sector conducted by wine.net, it was found that 82% of a sample of 2 000 consumers relied primarily on the label to choose their favourite wine. Many other studies have also commented on the link between the perceived taste of wine and expectations and how these are influenced by the label's colour, shape, paper, printing technique, and overall design.

The new neuromarketing insights for wine label design study were undertaken using a scientific research method that examined the interplay of the human senses to form an overall picture of the wine buyers' purchasing journey.

It was designed to analyse consumers' visual impressions and emotional perceptions while observing the white wine labels, exploring the role of fine embellishments and the touch of the label material on consumers' experience, expectations, and, finally, on tasting.

The study assessed 32 labels of the same shape and size produced by combining six types of paper supplied by UPM Raflatac with five KURZ finishings.

The graphics and textual content of each label were the same but differed in terms of paper characteristics (tint, degree of opacity, thickness, degree of roughness, and tactile effect) and enhancements (colour, thickness, relief – embossing/debossing – and gloss).

The labels were industrially printed by Krämer Druck, as occurs in the real production process, to generate a label identical to that found on the shelf, which was then affixed to bottles of the same shape and colour.

The entire customer journey was then reconstructed - from looking at the shelf and selecting the wine to tasting the product.

The sampling was undertaken by 30 German consumers (50% women), and white wine drinkers aged 25 to 56.

The results of the study demonstrate that the appearance of the label and its tactile sensation influence its attention-grabbing ability on the shelf and the product-tasting experience, both in terms of perceived quality and taste.

When it comes to purchasing behaviour, the effectiveness of the wine label was shown to be strongly driven by its colour, tactility, contrast, and paper-finishing combination, with the findings showing the following:

- **Colour** – consumers are more inclined to purchase bottles with labels that have gilded and glittering finishes and have light and opaque paper.
- **Tactile dimension** – purchasers prefer embossed paper with a good degree of relief, and smooth embossed finishes with tactile effects are appealing.
- **Contrast** – consumers are drawn to contrast and prefer features such as textured paper with a matte surface and glossy embossed finish.
- **The paper-finishing combination** – the effectiveness of individual details depends on the combination of elements.

Stefano Pistoni, Senior Business Development Manager at UPM Raflatac, comments: "This comprehensive neuromarketing study clearly illustrates that the label is part of a multi-sensory storytelling, both narrating and anticipating a person's experience with the wine."

"It doesn't just play a key part in guiding a consumer to purchase the wine, but it also has an important post-purchase role, influencing consumption anticipation and the experience of tasting. These findings are important, as they will help reshape the decision-making process across the wine value chain for design agencies and brands."

Graco launches QUANTM pump

The new electric-operated double diaphragm pump for industrial and hygienic applications is a big leap forward in pump innovation.

GRACO, a leading manufacturer of fluid handling equipment, announces the release of the company's next-generation electric-operated double diaphragm pump, QUANTM™.

The QUANTM pump features a revolutionary new electric motor design that is up to 8X more efficient than a standard pneumatic pump.

The innovative QUANTM pump is suitable for nearly any fluid transfer application. It offers a wide range of materials of construction to support multiple industrial and hygienic applications, including chemical processing, water treatment, paint manufacturing, food and beverage, pharmaceutical and more.

"The QUANTM pump isn't a new twist on old technology. It's an entirely innovative design that changes how pumps perform in factories and other installations around the world," said Bart Clerx, product marketing manager EMEA.

"We're excited to have created an advanced, extremely efficient design that is lightweight and provides significantly lower lifetime costs than other pump technologies. The pump modernises operations by greatly reducing energy costs. This empowers industrial manufacturers to protect and grow margins and measurably contribute to energy savings, compliance and environmental stewardship efforts."

The breakthrough electric QUANTM pump is designed to be a highly reliable drop-in replacement for current pneumatic pumps or greenfield construction.

This pump is built for harsh industrial or hygienic environments, yet its innovative and efficient design is lightweight and easy to maintain. With built-in controls and no gearbox, the pump fits seamlessly into most fluid transfer applications.

"Our new QUANTM pump is the perfect solution for upgrading your less-efficient air-operated pumps," continues Clerx.

"The same great self-priming, stalling, seal-less design is a must-have for in-process applications, filling systems and hygienic applications. The powerful new FluxCore™ motors and drives deliver up to eight times more continuous torque at low speeds than conventional motors. The plug-and-play installation allows you to replace existing pumps without additional investment or infrastructure rework easily."

THE NEXT GENERATION

Internships, Skills & Development Programmes

Empowering Futures: Unleashing Success through the City's Jobs Initiative

Alderman James Vos visited the SEED Rocklands Abundance Centre in Mitchells Plain to meet with local youth participating in a Mixed Farming Systems learnership. The 15 unemployed young people were recruited for the programme via Jobs Connect, the City's workforce development initiative.

THE SEED Rocklands Abundance Centre in Mitchells Plain has taught learners how to grow plants, flowers, and vegetables, which are then used to support local feeding schemes, while the plants and flowers are used in the manufacture of hair products, washing powder, soaps and more.

Ultimately, the group are given the skills to start and run their own agri-businesses.

"Opening the doors to such opportunities for Capetonians who need it most is exactly why my team and I conceptualised Jobs Connect. The digital platform eliminates much of the stress of looking for work, which research shows can cost up to R1 500 per month by offering a streamlined, user-friendly, and cost-effective online system," said Alderman James Vos.

Recently, Jobs Connect, which is managed by Leelyn Management, collaborated with Smile FM in securing 12 914 job opportunities for Capetonians in just a few weeks before Christmas 2023. This was well above the campaign's target of 10 000 jobs.

"I'm thrilled that the City's initiative could be used for such a valuable and impactful campaign. On top of that, the bulk of the jobs created 9 147 are in call centres across the metro and came via CapeBPO, the City's Special Purpose Vehicle in the industry. This highlights the City's active role in creating sector-specific employment opportunities,' said Vos.

Jobs Connect, launched in 2021 by the City, is data-free for MTN and Vodacom users and allows users to create an online profile that serves as their digital CV.

Thereafter they complete a digital numeracy and literacy assessment. Both the CV and the assessment certificates are downloadable.

Alderman James Vos (centre), the Mayoral Committee Member for Economic Growth, with staff and learners at the SEED Rocklands Abundance Centre in Mitchells Plain.

Once registered and assessed, people can go through the platform to see what training and learnership opportunities are available.

Job-seekers are also able to drill down to opportunities by area. Individuals who are selected for an interview are then automatically notified by Jobs Connect via SMS or Whatsapp.

"My mission is to make the jobs queue shorter and through our projects, programmes and partnerships, we are doing just that. Through dedicated projects, mechanisms such as the Jobs Connect programme, and strategic partnerships, we are making headway in addressing unemployment in Cape Town. I am grateful for the impact and positive change we're creating together," said Vos.

To get onto Jobs Connect, work-seekers need to register their details on the website, https://jobsconnect.leelyn.co.za/, and complete a literacy and numeracy assessment.

Resolving the talent shortage with a skills-based approach

The skills shortage remains a pressing priority for organisations trying to keep up with the radical revolutions of digital, AI, machine learning and quantum

ACCORDING to Statista, more than half of global organisations have hit the skills shortage roadblock, and it has fundamentally affected their business.

Although the percentage has dropped from 70% in 2022 to 54% in 2023, there remains a need for organisations to find people who can plug the holes with skills that are relevant and revolutionary because the cost to the business is too high.

The Industrial Development Corporation (IDC) found that the skills gap cost is more than $6,5-trillion in missed product releases, poor competitiveness, and lower customer satisfaction.

Mandla Mbonambi, CEO of Africonology, believes that companies need to find a better way of creating a talented workforce that allows both organisations and employees to thrive.

"Focusing on the people you have within your business and providing them with the opportunity to upskill or reskill is a smart move," he says.

"Adopting a skills-based approach means your employees are receiving the support and development they need to thrive within your organisation. It also means you are creating skills pathways that allow employees to move into other roles that may be more urgent or relevant to the company. By allowing for ongoing skills and employee development, you are building a talented workforce that is agile, engaged and committed."

The skills-based approach is also a way of creating a more agile workforce which is far more sustainable for the organisation as you can now fit employees to the demand.

As the IDC says, a holistic culture of learning is important, and this is echoed by the World Economic Forum (WEF), which states that a skills-first approach can improve diversity, upward mobility, flexibility and employee retention.

It provides employees with a road to better positions within the organisation, positions they may not have been eligible for or even thought of applying for, and it allows for companies to access talent that previously may have been overlooked.

"A skills-based approach is a smarter way of resolving the talent crunch," says Mbonambi.

"In addition to filling gaps in the business and reducing the cost of talent limitations, it allows you to create a relevant, skilled workforce. These individuals may not have degrees or have gone to a university, but they have proven their abilities in coding, DevOps, security or AI. By providing them with additional training and support, they become invaluable assets to your business."

Companies have already shown a trend towards becoming more reliant on non-traditional workers for skills and roles that are considered high-value.

It is a forward-thinking approach that puts value on a person's ability to learn, grow and engage in continuous professional skills development rather than on their status.

"Companies need to capture and hold the right talent," says Mbonambi.

"Organisations will likely lose people who want more autonomy and flexibility if they don't offer skills development pathways and internal opportunities."

The same principle applies to collaborating with a third-party company that specialises in high-end DevOps or security. Is your service provider taking a skills-based approach to the development of its talent?

The best people should be working on your projects because the company has attracted a wide range of people who fill the roles with expertise and talent.

This is particularly true of highly complex and in-demand skill sets such as DevOps. Having access to an exceptional talent pool of people who have the opportunity to evolve their abilities and expand their knowledge constantly is a huge relief for companies that are facing high costs (in-house DevOps can be expensive) and slow transformation journeys thanks to limited skills and DevOps complexity.

"Attracting and finding skilled people should be a part of a DevOps company's skill set," concludes Mbonambi.

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- Production, Processing, Engineering Solutions & Value Chain
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Bad luck for SA, good for ANC

OPINION

ON THE CONTRARY

The columnist is a journalist and editor based in Onrusrivier. His awards for journalistic excellence include the Mondi and the Sanlam Awards.

Pieter Schoombee

"HOEZIT!" Of course it was Luke the Dude, entering the local Pub and Grill to join the usual congregation of convivial conversationalists conspiring to save our town and the world. Not the country; we have our limits.

"Why are you acting like a TV ad?" enquired Jon the Joker. "You selling insurance now?"

"Oh," pondered Bill the Beard staring into his lager, "You mean that ad, in the car. I prefer the one where Frans Steyn kicks the rep out. More realistic."

"Speaking of realism, let's get real and talk government," opined Stevie the poet. "Do you remember that during last year the ANC didn't have enough in the bank to pay their own staff their salaries? Again and again. Then matters got really serious when an irate supplier of printing services, Ezulweni, finally got fed up with the ANC ignoring the R102 million it owed them and started proceedings to attach our governing party's assets.

"Instead of paying them, the ANC paid lawyers. The matter went all the way to the Appeal Court, where the ANC also lost. 'Woefully', in the words of the esteemed court. By late November Ezulweni was ready to attach, first whatever assets could be found in the ANC bank accounts, then the rest."

"I am sorry to interrupt," interrupted The Governor, "but it is my duty to notice empty glasses and I see a lot. Another round?" "What? Yes!" we all chorused to get rid of him.

Having downed the remainder of his Light, Stevie continued: "Well, here's the deus ex machina. In the meantime another narrative was unfolding, on the international stage.

Remember how South Africa's first reaction to the murderous October 7 assault on Israeli civilians was to support Israel? And then to backtrack? In the United Nations we claimed neutrality, while the previously profitable relationship with Israel was unravelling.

"So, rewind. None of this went unnoticed in the Middle East and soon we had a new friend in Iran. Min Naledi Pandor visited Tehran to meet the president, Ayatollah Seyyed Ebrahim Raisi, and foreign minister Amir-Abdollahian. On the same trip she attended the Cairo Summit for Peace with Pres Ramaphosa.

"On 29 December, SA brought a case of genocide against Israel at the International Court of Justice. This cost us the friendship and confidence of not only Israel. 210 members of the US House, its parliament, expressed their disgust. Our membership of AGOA is on the line. Yes, of course the rand and stock market went down as foreign investors left."

"How stupid was that? Anybody could foresee that would happen!" snarled Bob the Book.

"Ah, but there's more to it than that," smiled Stevie. "Stupid for South Africa, yes, but very clever for the ANC. Here's why: Before any assets were lost, Ezulweni was paid the full R1,2 million plus interest and costs, as were others owed money and all debt in the ANC's bank accounts. They now have billions available for the upcoming elections."

"Hmm," pondered Big Ben, "makes one think…"

"No," said The Prof, "makes one drink."

Doing so, he had the last word: "Please register to vote."

E-mail: noag@hermanus.co.za

How Generative AI is Driving Better Patient Outcomes in Healthcare, Life Sciences

Linda Saunders, Director of Solution Engineering at Salesforce South Africa

Amid economic uncertainty and rising consumer and patient expectations, healthcare and life sciences leaders understand the imperative to invest in AI and automation to drive greater efficiency.

From drug discovery to clinical operations, AI has accelerated the pace of innovation in recent years, from drug discovery to clinical operations. Today, the application of generative AI, in particular, has the potential to revolutionise industry approaches to medical research, diagnosis, and treatment entirely.

The future of tech in healthcare opens many opportunities, yet whether these are truly realised hinges on trust and compliance.

Improving operational efficiencies

The life sciences industry heavily relies on accurate and accessible data for research, development, and clinical trials. However, it has lagged behind in adopting digital tools that can enhance efficiency and accuracy.

According to Salesforce research, 88% of healthcare and life sciences organizations have not yet realised their digital transformation goals.

By securely connecting and activating patient data from various sources, pharma and medtech companies can identify potential patient or study risks. Keeping critical data accessible and organised is where AI shines, providing a traceable digital history of events that promotes patient safety and regulatory compliance.

Better patient outcomes through personalisation

Tremendous medical advancements demonstrate the promise of AI in medicine. When it comes to improving outcomes for breast cancer patients, for example, it is accelerating the pace of progress in identifying subtle differences in cell patterns, which can inform more effective treatment decisions.

In healthcare, powered by the right data, unified health insights within patient profiles are allowing organisations to identify risks, engage and personalise treatment like never before.

AI technologies are helping providers to meet patients where they are, to plan visits more efficiently, optimise their schedules, and review patient data with ease. All of this improves the patient experience and enhances the quality of care.

Healthcare sales professionals are also using AI to boost engagement, delivering personalised and regulatory-approved digital content tailored to different stakeholders and creating more meaningful interactions.

The benefits of personalised content are not limited to sales professionals. AI-powered chatbots are playing a crucial role in delivering timely insights to field representatives, ensuring contract compliance, accurate pricing, and efficient inventory management, empowering healthcare professionals to concentrate on more critical areas of patient care.

Ultimately, these technologies are helping healthcare leaders drive better collaboration and data sharing and inform business decisions.

The alignment of AI and healthcare is poised to revolutionise health and life sciences. But the benefits will only be realised if data privacy and security remain top of mind.

Improving trust and customer satisfaction is one of the top priorities for HLS business leaders, according to Salesforce research, making it a crucial aspect of AI and automation implementation in the industry.

Embracing AI, data, and CRM, and the priorities of stakeholder leaders can pave the way for a more efficient and innovative industry that is trusted by patients and consumers alike.

THE BEE IN MY BONNET COLUMN

Six months with solar

Robin Hayes, this time, scribes as a homeowner, rather than a political commentator, relates his experience with alternative solar energy after six months of usage.

I actually took the plunge into alternative energy at home eight years ago when I had had enough of the frustration of load shedding by buying and installing a 7kVA generator.

That alternative worked well – albeit with some shortcomings - but I shudder to think how much money I've laid out for fuel over the seven and half years of operation.

It was the cost of operation that was the last straw that broke this camel's back – the cost of a litre of petrol was R12,15 when I installed the generator; as we all know, it's practically doubled since then.

I soon established a routine of manually switching the generator on and off and keeping a supply of petrol on hand, 'just in case'.

Apart from the running costs, the other major shortcoming was the noise; even though I constructed a homemade acoustic box with ventilation, the noise level exceeded the permissible number of decibels – I know, I checked with a sound level metre, after a neighbour complained.

When the generator running costs exceeded R4 000/month, I decided it was time for a different approach, especially as residential solar had come down in price since my initial calculations favoured the generator solution back in 2015.

Solar happiness!

Our solar installation was commissioned in July 2023, and despite a few hiccups, the installer was very competent. Mindful of Johnny come lately types, I approached a major solar component supplier who keeps a database of their approved installers, and quotes from two of them led to a decision.

Bliss! The system has been trouble-free since installation, but I do have to still keep an eye on the load shedding schedules to ensure that I don't overload the system, which I have done three or four times without damage, fortunately.

The standout from installing a solar system – it is not fit and forget - you have to become a bit savvy of how the thing works and what loads you can put on the system during load shedding. A smartphone app reveals all you need to know.

Any appliance with a heating element must be viewed with circumspection - geysers, electric hobs and ovens don't count as they are not connected to the solar system, but toasters, electric kettles, irons, microwaves and air fryers can cause an overload if used together during load shedding as their combined current draw overloads the invertor. This also applies to swimming pool pumps and irrigation systems that utilise boreholes and irrigation pumps.

Simply switching something off restores the equilibrium!

Modern dishwashers and washing machines are much more energy efficient these days and I have managed to use either during load shedding, but not together.

The switch to a gas hob and using an air-fryer has made my oven practically redundant anyway, so in general, I'm a happy chappie – more so as the solar installation also has reduced my grid electricity charges by about 25% due to the smart technology which uses solar or battery power in preference to grid power even when there isn't load shedding.

Clearly, the watchword is to ensure upfront that the capacity of the solar system – number of panels and the capacity of the battery(s) is adequate for ones needs, and that should be able to be calculated by any competent installer – a retired couple will need a much smaller installation than a family of five, with a swimming pool, garden irrigation and air conditioners!

An altogether happier Eish this time.