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Liquefied Natural Gas destined for Ngqura

THE long process of establishing a Liquefied Natural Gas (LNG) import facility at Ngqura is underway. As one of the Top 12 Presidential Priority Infrastructure projects identified in March this year at the Sustainable Infrastructure Development Symposium South Africa (SIDSSA), the project receives preparation support through Infrastructure South Africa and the Industrial Development Corporation. The LNG Terminal in Ngqura is also registered as a Strategic Integrated Project (SIP).

Transnet National Ports Authority (TNPA) said last week, 25 September, that it has approached the market for an Environmental Assessment Practitioner (EAP) to conduct the Environmental Impact Assessment (EIA), encouraging interested parties to submit proposals for the envisaged LNG terminal at the Port of Ngqura.

The Request For Proposals (RFP) process will see the appointment of a service provider contracted to assess the environmental compliance and sustainability of the proposed LNG terminal. As a first step in the development process, this involves conducting a detailed analysis of ecological and local regulations to determine critical environmental authorisations. These include a seismic survey, marine ecology, climate change impact assessment and socio-economic assessment to support the project.

Timelines are on the fast-track. The RFP for the EIA closes on 30 October and TNPA said an RFP for pre-feasibility studies is planned to be issued during the 2024/25 financial year.

A new energy era

There are currently no LNG reception terminals in South Africa and, of the 170 worldwide, only 11 are in Africa.

Mandated to develop the country's port capacity, TNPA is in the process of developing major LNG terminals at the ports of Ngqura, Richards Bay and Saldanha.

At Richards Bay, TNPA has appointed a joint venture between Vopak and Transnet Pipelines (TPL)

to develop and operate what is being called the Zululand Energy Terminal (ZET). Phase 1 of the ZET is aiming for completion in 2028 and includes a 170,000 m3 Floating Storage Unit (FSU) and an onshore regasification facility with a capacity of 2 million tons per annum (MTPA) of LNG.

Phase 2 could be completed as early as 2032-35 and will include an LNG tank with a 220,000 m3 capacity, potentially replacing the FSU and an increased regasification capacity of 5 MTPA.

TNPA said last week that it is in the process of concluding a Terminal Operator Agreement (TOA) with the state-owned Strategic Fuel Fund (SFF) to build and operate an onshore LNG regasification facility at the Port of Ngqura for 30 years. TNPA said the TOA was the outcome of a Section 79 process and directive issued by the Minister of Transport.

TNPA sector specialist: oil and gas, Linda Myeza explains that the capacity of the Ngqura LNG facility will serve the Eastern Cape off-take demand with the initial demand being for Gas to Power (GtP) customers and other industrial users.

The LNG terminal will be located adjacent to the port's eastern breakwater. Deputy port engineer, Luxolo Dodi says the location of the berth is such that the port can accommodate the development of other initiatives in the Port Development Framework Plans (PDFP) concurrently.

Dodi says TNPA expects construction work to be completed on the LNG berth by 2028/9. "The terminal should be operational not long after that, as the developer can work simultaneously on the Floating Storage Unit and regasification system," he says.

The capacity of the new facility is not specified but TNPA has allocated a ballpark budget of R2,1 billion for port infrastructure design and construction.

Dodi explains that, at the Ngqura plant, the SFF is responsible for the operation and interaction with the market to secure off-take contracts. "They will be the main drivers of off-take. The baseline market is GtP, and we will have additional off-take as the market grows. For example, if there is demand for fuelling LNG-



The LNG berth at the Port of Ngqura could be operational as early as 2028. This picture is of the Polskie LNG Expansion Project, Świnoujście, Poland. Image: Bigstock

The LNG berth at the Port of Ngqura could be operational as early as 2028. This picture is of the powered vessels and industry, we will accommodate that going forward."

Myeza points out the importance of timing among the various stakeholders. "We are building the terminal now, but the off-takers need to build their facilities on time. It is very complex and there is a lot of interdependence. By the time we are finished, they have to be ready."

The Ngqura LNG terminal operator, the SFF is part of a new energy company introduced by the President earlier this month. In a policy statement, President Ramaphosa said the new state-owned petroleum company, the South African National Petroleum Company (SANPC) has been formed following the merger of the CEF subsidiaries, iGas, PetroSA and the SFF. It concludes a process started by the Department of Mineral Resources and Energy in November last year.

In a media statement, the SANPC said that the new company will be incorporated as a subsidiary of the CEF until the National Petroleum Bill is promulgated into law.

"With the combined strengths of the three subsidiaries, a solid financial position, and robust stakeholder support, the SANPC is well-positioned to leverage [the market] benefits and seize the R95 billion market opportunity," the state-owned company said.

Demand for gas

Myeza says there is a positive outlook for market demand for LNG in South Africa and the country only has one importer currently, Sasol, which brings in LNG via Mozambique.

"We know from industry usage that there is a need for LNG as an energy mix, for both commercial use and decarbonisation reasons," he says.

The Industrial Gas Users Association of South Africa (IGUSA) has been warning of the looming 'gas cliff' that the country faces when Sasol cuts off its supply in mid-2027. The other major market segment is the thirst for gas to fuel power plants.

South Africa imported the majority of its 4.7 billion m3 of gas consumption in 2023 from Mozambique and it needs to find alternative supply to fuel industrial users and for GtP

plants.

The GtP power programme as per the IRP 2019 and Draft 2023 includes both continued on page one ...

LNG Facts

- LNG stands for Liquefied Natural Gas. It is natural gas that has been cooled to a liquid state, at about -162°C, for shipping and storage.
- LNG takes up about 1/600th the volume of natural gas in its gaseous state.
- Despite its cold storage temperature, LNG is not explosive unless mixed with air in specific proportions.
- The first commercial LNG plant was built in Cleveland, USA, in 1941.
- Many LNG terminals have the capacity to power millions of homes for a day with just one tanker's load.
- The largest LNG terminal in terms of capacity is Ras Laffan in Qatar.

Source: www.asap.nl

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Electric bus assembly plant to set up in East London



From left: ELIDZ CEO, Thembela Zweni, SIGA e-mobility innovation officer, Pat Nodada, EC MEC for Economic Development, Environmental Affairs and Tourism (DEDEAT), Nonkqubela Pieters, CCIG vice president and CEO of the EV Technology Company, Simone Tassi and AIDC component suppliers and investor support, executive manager Rowan Govender

A COLLABORATION agreement has been signed between two government entities, the East London Industrial Development Zone (ELIDZ) and the Automotive Industry Development Centre (AIDC) Eastern Cape and a Chinese OEM, China City Industrial Group's Electric Vehicle Technology Company (CCIG) and SIGA e-Mobility, a South African automotive company.

SIGA e-Mobility has, in the last ten years, manufactured commercial vehicles for several major global OEMs in South Africa.

The agreement will see SIGA e-mobility and CCIG combining their technology and expertise to assemble electric buses for the African market at a facility in the ELIDZ.

According to AIDC Eastern Cape CEO, Thabo Shenxane, the entity received a request from the Chinese Auto player last year to assist in finding a local partner that would utilise CCIG technology for manufacturing electric busses for the African market.

"We issued a request for South African companies with the requisite experience and manufacturing capability to express their interest. Following a rigorous process, we shortlisted

and ultimately recommended SIGA e-mobility to CCIG Electrical Vehicle Technology company," said Shenxane.

CCIG vice president and CEO of the EV Technology Company, Simone Tassi, commended the AIDC Eastern Cape for their agility, and efficiency in undertaking the assignment, as well as ensuring adequate due diligence in the search for the local partner.

"Within twenty minutes of our first meeting with SIGA e-mobility, we were confident that their experience in the automotive sector, their technical know-how, and their existing capacity would make them the best partner for establishing our footprint in the African commercial vehicle market," said Tassi.

Earlier this month, a collaboration agreement was signed between the ELIDZ, AIDC Eastern Cape, CCIG and SIGA e-mobility at the CCIG factory in China. The visit and signing ceremony were part of the Eastern Cape China Investment and Trade Mission, led by Premier Lubabalo Mabuyane, to promote economic ties between China and the province.

Speaking at the signing ceremony, MEC for Economic Development, Environmental Affairs

and Tourism, Nonkqubela Pieters, said the partnership is a significant milestone for the Eastern Cape province.

"It cements a unique collaborative effort that will see our province grow and diversify the footprint of the automotive sector. This collaborative effort is a first for our province, as it is not only attracting foreign direct investment but also ensures meaningful participation of a South African automotive player. Additionally, it facilitates the transfer of technology and skills and increases socio-economic benefits for the citizens of our province," she said.

According to SIGA e-mobility innovation officer, Pat Nodada, the partnership with CCIG is a crucial part of the company's plan to expand its footprint to the Eastern Cape.

"Our company built the first electric busses for the City of Cape Town almost 10 years ago and we have worked with all major global OEMs in the last ten years to deliver BRT busses in South Africa. This project is the next step in realising our vision of establishing a multi-OEM platform to produce new energy commercial vehicles for Africa. We are already in discussions with other brands to utilise our facility," said Nodada.

He mentioned that the ELIDZ's existing automotive ecosystem, the city's port and the extensive auto supplier base were key factors in choosing East London as the preferred location for their investment.

ELIDZ CEO, Thembela Zweni, has welcomed this new investment and committed the ELIDZ to working together with all role players to ensure the project's success.

"There is already a world-class factory that has been identified and prepared for this partnership. The ELIDZ is ready to not only help settle the investment but also facilitate access to infrastructure, incentives and other support mechanisms required to operationalise this investment," said Zweni.

The ELIDZ says the zone is home to over 20 automotive suppliers. In the last 20 years, it has attracted more than R8 billion in private sector investment from various countries including Germany, the USA, Canada and China.

According to the ELIDZ, South Africa is in the advanced stages of developing a legislative and incentive framework to encourage the adoption of new energy vehicles. This initiative responds to the growing global focus on reducing energy emissions and achieving global sustainability goals. This move has created an opportunity for the province, and the ELIDZ specifically, to position itself as the manufacturing hub for new energy vehicles in the country.

LNG for Nqgura

... continued from page one

Eskom and Independent GtP generation. There is a total of 3,000 MW with 2,000 MW out in the market as the RFP for Gas Independent Power Producer Procurement Programme (GASIPPPP). The remaining 1,000 MW, earmarked for Coega Zone 13, will be issued in the later stage.

Sasol and Eskom

Meanwhile, Eskom and Sasol signed a Memorandum of Understanding (MoU) on 20 September to collaboratively explore and research potential future LNG requirements.

The collaboration aims to determine the potential volumes that South Africa requires to establish a viable LNG import market along with the enabling infrastructure and will be facilitated by government-to-government relations where necessary, they said in a joint statement.

The MoU, under which Sasol and Eskom will collaborate to drive an intensive initial phase of research and planning, was signed with the full support of the Minister of Electricity and Energy, Dr Kgosiensho Ramokgopa, who delivered the keynote address at the signing ceremony.

"We have made it clear that we are serious about LNG solutions for the country, and that our demand for gas across both industrial and energy frontiers will unlock these solutions," said Minister Ramokgopa.

"This collaboration between our two energy champions – one public, one private – will provide a data-driven and commercially sound basis for gas-fed industrialisation and for us to explore the well-worn path to lower carbon energy that the global north has already taken by scaling gas to power.

Gas has emerged as the second-largest contributor to global electricity production, experiencing rapid growth as many countries shift from coal to gas in their energy mix to enable positive implications for climate change, as gas typically emits less CO₂ per unit of energy."

The research findings from the first phase of the Sasol-Eskom collaboration will guide the necessary role players and investors required to offer the best prospects for South Africa's energy market, while outlining the challenges associated with the long-term commitments required for LNG imports, Sasol and Eskom said.

The critical role of legal reforms to unlock SA's wind energy future

AS South Africa continues its journey towards a sustainable energy future, wind energy has emerged as a crucial element of the country's renewable energy mix. With its rich wind resources and increasing demand for clean energy, the sector is well-positioned to contribute significantly to the nation's energy goals. Despite this promising outlook, several significant challenges could impede its growth.

Lena Chirwa, board member at the South African Wind Energy Association (Sawea) and head of legal and corporate affairs - sub-Saharan Africa at Enel Green Power, explains that as the wind energy market in South Africa matures, the complexities of project development, grid connections and regulatory compliance have increased significantly.

"Given the many challenges, the role of commercial law has become crucial in advancing the sector and highlighting the urgent need for legal reforms. This has transformed commercial law into an indispensable tool for navigating the complex legal and regulatory landscape of renewable energy projects."

One of the primary hurdles is the regulatory environment, where existing regulations are often complex and outdated, leading to administrative bottlenecks that impede project development. Simplifying and modernising these regulations is essential for fostering a more supportive environment that promotes innovation and attracts investment.

Financial constraints also pose a significant challenge, with the perception of the high financial risks associated with wind energy projects making it difficult to secure funding.

"To attract both local and international investors, it is essential to have legal reforms that clarify risk management strategies and provide financial incentives. Such reforms can help mitigate perceived risks and accelerate the deployment of wind energy projects," adds Chirwa.

Furthermore, land acquisition for wind farm projects presents another critical obstacle. The process can be lengthy and contentious, involving multiple approvals and potential disputes that cause delays. Here, effective legal frameworks are needed to streamline land acquisition processes, reduce delays and resolve conflicts efficiently, facilitating quicker project execution.

Additionally, integrating wind energy into South Africa's national grid involves technical and regulatory challenges. Developing robust legal frameworks to support seamless grid connections and infrastructure investments is essential for ensuring that wind power can be harnessed and distributed effectively across the country.

The role of commercial law is becoming increasingly critical in overcoming the challenges faced by the renewable energy sector. As the sector experiences rapid growth, commercial law has had to adapt, demanding a more in-depth engagement with technical aspects and a stronger grasp of regulatory policies. This transformation underscores the importance of legal expertise in navigating the complexities of renewable energy projects.

Commercial lawyers play a critical role in navigating these complexities, with Chirwa adding that she has adapted to engage more

deeply with the technical aspects of a project, and garnered a deeper understanding of the regulatory policies related to the industry.

"As commercial lawyers, our involvement in contractual negotiations is essential for addressing risk allocation issues and streamlining transaction processes," she says. "By managing these aspects effectively, we contribute significantly to the successful implementation of renewable energy projects."

Looking at global examples, Germany in particular, underscores the argument for legal reforms in South Africa's wind energy sector. Here, regulatory changes, such as streamlined permitting processes and clear legal frameworks, have played a pivotal role in positioning the country as a global leader in wind energy.

Drawing parallels to these successes can highlight the potential impact of similar reforms in South Africa, making a compelling case for how targeted legal changes could accelerate the country's renewable energy adoption.

To fully realise the transformative potential of wind energy in South Africa, it is not enough to merely identify the challenges. Action is required, and legal reforms that streamline regulations, mitigate financial risks and simplify land acquisition processes will unlock new opportunities for innovation and growth.

The future of South Africa's renewable energy sector depends on the willingness of stakeholders - government, investors and legal professionals alike - to adapt and collaborate. By embracing these changes, South Africa can not only meet its energy goals, but position itself as a leader in the global shift toward a sustainable future.

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DWS hands over Makhanda water treatment plant, wages war on leaks

THE R393 million James Kleynhans Water Treatment Plant has been handed over to Makana Local Municipality as a means to address ongoing water shortages in Makhanda, formally called Grahamstown.

The Minister of Water and Sanitation, Penny Majodina handed over the plant on Friday, 20 September 2024 after it had undergone an upgrade to increase its treatment capacity by an additional 10 megalitres per day, to a total of 20 megalitres per day.

The project was funded by the Department of Water and Sanitation through the Regional Bulk Infrastructure Grant (RBIG), with Amatola Water Board as the implementing agent.

Speaking during the handover, Minister Majodina emphasised the importance of effective operation and maintenance of the infrastructure in order to improve the delivery of water to the affected communities.

"I cannot overemphasise enough how important it is for the local municipality to ensure that the water treatment plant is well maintained. The maintenance of infrastructure is not just a nice thing to do, but an obligation by law that it should be done," Majodina sternly said.

The Plant is set to benefit 97 815 people and has created employment opportunities for 90 locals during construction.

Meanwhile, in Gqeberha, the minister undertook oversight inspections of bulk water leaks meters, which have been installed in different parts of the Nelson Mandela Bay Metro as an intervention from the Ministry of Water and Sanitation to help the Metro to address non-



Minister of Water and Sanitation, Penny Majodina supported by Makana Local Municipality Mayor, Cllr Yandiswa Vara in Makhanda and Deputy Mayor, Babalwa Lobishe in the Nelson Mandela Bay Metropolitan Municipality in Gqeberha, as well as several officials from the Department and from Amatola Water.

revenue water challenges.

Part of the national department's intervention was a directive to the Metro to implement

a robust leak detection and fixing programme aimed at addressing the amount of water that is unaccounted for.

The Nelson Mandela Bay Metro supplies approximately 310 megalitres per day of water to 1.3 million residents, within its boundaries, and smaller municipalities outside its boundaries.

In the past several financial years, 40-50% of the water supply was deemed non-revenue water. Therefore, the programme is aimed at reducing water losses to 20%. The installation of Generation Meter Adapters (GMAs) and District Meter Area (DMA) meters will introduce the ability to indicate areas where the highest water losses occur and where to implement interventions.

"South Africa is a water-scarce country, it is therefore unacceptable that water is being lost through leaks which then affect water security. Through the leak detection and fixing programme, it is evident that the war on leaks can be won," said Majodina.

Thus far, 12,429 water leaks have been successfully repaired on the water reticulation network and 34,494 on domestic repairs.

Majodina reiterated the department's commitment to effectively implement bulk water projects in several parts of the Eastern Cape, to ensure water security for current and future generations.

She was supported by Makana Local Municipality Mayor, Cllr Yandiswa Vara in Makhanda and Deputy Mayor, Babalwa Lobishe in the Nelson Mandela Bay Metropolitan Municipality in Gqeberha, as well as several officials of the Department and from Amatola Water.

Gauteng collaboration to build EC's capacity as a competitive automotive hub



Coega's acting chief executive officer, Themba Koza, shakes hands with Automotive Industry Development Centre Gauteng Province Chief Executive Officer, Andile Africa, after the official signing of a Memorandum of Understanding between the two entities.

THE Coega Development Corporation has signed a Memorandum of Understanding with the Automotive Industry Development Centre Gauteng Province to advance the growth and competitiveness of South Africa's automotive sector.

Signed on Friday 20 September, the partnership seeks to enhance skills development, foster innovation, improve localisation and drive sustainable investment in the automotive sector, in line with Coega's foundational performance culture of innovation and continuous improvement.

The Memorandum of Understanding (MoU) focuses on enhancing the capabilities of the local workforce by providing advanced training programmes aligned with global automotive standards; promoting research and development initiatives that support the integration of cutting-edge technology within the sector; and working together to upskill and train local SMMEs to fully partake and exploit the current and future new markets presented by developments in the sector.

The collaboration with the Automotive Industry Development Centre (AIDC) in Gauteng Province (GP) marks a significant milestone for Coega in strengthening its role in the Automotive Hub on the continent and the suitability of its location for the production of New Energy Vehicles (NEVs) and related components.

Gqeberha is home to leading original equipment manufacturers (OEMs) and suppliers in the automotive sector. Through partnership, there is potential to enhance South Africa's

global competitiveness in the sector while creating job opportunities and driving economic development in the region, in line with the National Development Plan (Vision, 2030).

"Today marks an important moment for the South African automotive sector as we embark on this partnership with Coega. By signing this MoU, we are not just committing to collaboration, but to a shared vision of innovation and sustainability. Our

joint initiatives will improve skills development and empower local SMMEs, driving our industry forward. Together, we are laying the groundwork for a competitive and resilient automotive ecosystem that can thrive in the global market, unlocking new opportunities for economic growth and job creation. The partnership promises to create a robust platform for automotive industry stakeholders and pave the way for sustainable growth in one of South Africa's most critical sectors," said Andile Africa, chief executive officer of AIDC GP.

Coega and the AIDC GP have been working diligently to identify and explore opportunities that support the growth of the automotive industry, focusing on critical areas of sectoral growth to stimulate regional economic development.

The signing of this MoU is a landmark moment for Coega and the automotive industry in general. It not only strengthens Coega's commitment to fostering an environment conducive to investment and innovation, but also highlights our dedication to equipping our workforce with the necessary skills to thrive in this evolving sector.

Together with the AIDC, we are poised to unlock new opportunities for economic growth and job creation, ensuring that the Eastern Cape becomes a key player in the automotive landscape of the continent, said Themba Koza, Coega's acting chief executive officer.

In conclusion, the partnership between Coega and the AIDC GP presents a strategic

opportunity to leverage the unique advantages of the Coega SEZ, facilitating a robust ecosystem for automotive manufacturing and related industries.

Coega's acting chief executive officer,

Themba Koza, shakes hands with Automotive Industry Development Centre Gauteng chief executive officer, Andile Africa, after the official signing of a Memorandum of Understanding between the two entities



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An agricultural revolution in Lusikisiki

By providing scaled access to inputs, training and support, the Grow the Growers project is developing lucrative and sustainable livelihood pathways for small farmers while improving food security for the community.

After the successful implementation of the IDC-funded social employment programme in Lusikisiki, Sanral provided funding for a three-month extension, which concluded in July. The project was focused on scaling agricultural initiatives, enhancing food security and connecting small-scale farmers to commercial markets.

Many families in Lusikisiki struggle to access and afford nutritious food. Despite this, agricultural activity in the area remains limited. Where

farming does occur, it is mainly subsistence-based and often relies on ineffective or unsustainable practices. The Grow the Growers Project was designed to significantly scale sustainable agriculture in the area, establishing thriving family gardens and small farms by providing access to quality inputs, training and support.

"We are thrilled with the impact of the project," says Andile Maphumulo (pictured), social sustainability manager at consulting engineering and infrastructure advisory firm Zutari. "The Grow the Growers Project has established year-round family gardens at scale and has empowered small farmers to produce vegetables for commercial markets."

A total of 1,068 families were



empowered to establish a 50 sqm home garden, each growing five different vegetables, and capable of feeding a family of four year-round. This initiative has significantly enhanced food security in the area.

In addition, 28 high-potential farm-

ers were equipped to scale up vegetable production for commercial markets. Each farmer received extensive training, access to essential inputs such as seeds and fertilisers, and support with aggregation and supply logistics. A sustainable market link was established, resulting in reliable contracts to supply Wild Coast Food Markets.

The project also launched micro-nursery businesses. Each farm received a high-quality tunnel, providing a controlled environment for seedling growth. Farmers can now grow and sell quality seedlings, previously unavailable, to local growers. As a result, these farmers can generate additional income and accelerate vegetable production for home gardens in the area.

Participants were trained in effective and ecologically friendly practices that promote the long-term health of the soil and ecosystem. These practices included effective mulching, composting, and eco-friendly pest management using locally available plants such as aloe, tobacco, and wild garlic.

Project manager Amelia Visagie says that about R5.5 million in stipends flowed into the community between April and June, a significant stimulus to the local economy. The thriving gardens have generated excitement about agriculture as a viable, lucrative livelihood pathway. As interest continues to grow, she hopes that the gardens will spread in a widening circle of impact throughout the community.

Additional mooring units extend vessels' operating times

TRANSNET National Ports Authority (TNPA) has enhanced its ability to curb shipping and cargo-handling delays caused by long waves that impact vessels berthed at its ports, thanks to the delivery of six more hydraulic shore tension units destined for the ports of Ngqura and Cape Town.

From the 52 units procured by TNPA in September 2023, this batch brings the total number of mooring units delivered to 12 and adds to the eight that were installed in the Cape Town and Ngqura ports prior to this acquisition.

Shipping and cargo handling operations at the Cape Town and Ngqura ports are often impacted by strong winds reaching 35 to 50 knots

and high sea swells exceeding 3.5 metres. Such inclement weather conditions cause operational and safety disruptions leading to delays in vessel movements. A hydraulic tension mooring unit is a system placed on the quayside to ensure the safety of docked vessels by mitigating the severity of long-wave effects on vessels. The benefits include minimised downtime and safety incidents during operations.

Commenting on the delivery as one of the shipping lines that are benefiting from the installed shore tensions, national operations manager at CMA CGM South Africa, Leon Reddy, said: "The introduction of the shore tension units at the Port of Cape Town has significantly

improved our vessel operations. With the ability to keep our vessels stable and secure alongside the berth, we have seen a notable reduction in vessel movement and ranging. This has resulted in increased container productivity and reduced port stay times, leading to improved overall efficiency and reduced costs. We support TNPA's initiative to invest in additional shore tension units and look forward to continued cooperation to enhance port operations."

TNPA has procured 52 shore tension units with an allocation of 16 units for the Port of Cape Town with six delivered, 14 for the Port of Durban, eight for the Port of Port Elizabeth, six for the Port of Ngqura with all six delivered, four for the Port



of Saldanha and four for the Port of Richards Bay. The phased delivery

of the rest of the units will be completed by early 2025.

DWS calls to save water for future generations

BY NTHABISENG DHLAMINI,
COMMUNICATOR AT THE
DEPARTMENT OF WATER AND
SANITATION

OPINION | WATER is one of the most precious resources on our planet, yet it remains alarmingly susceptible to mismanagement, pollution, and overconsumption. The ongoing battle for water conservation requires a collective effort from all stakeholders – governments, communities, and individuals alike. The Department of Water and Sanitation (DWS) is actively engaging various players in this struggle, emphasising the need for responsible water usage for the sake of future generations.

Water scarcity is not just a problem for the developing world; it is a global challenge that affects urban and rural communities alike. As populations grow and industries expand, the demand

for clean, accessible water rises dramatically. In Gauteng, for instance, daily water loss hovers around an alarming 33%. Most residents diligently pay their water bills, yet they face regular supply disruptions, highlighting the urgent need for infrastructure improvements and public collaboration.

The government cannot tackle these issues alone. The responsibility of conserving water extends to every individual connected to the water supply. Everyone should recognise their role in safeguarding this vital resource, participating actively in solutions rather than waiting for the government to do it all. This shift in mindset is essential for fostering sustainable water supply.

The DWS has shown commitment by organising extensive



Ntabiseng Dhlamini

community outreach initiatives, including Imbizos (public meetings), educational campaigns, and competitions among school students. These efforts aim to cultivate awareness and responsibility around water conservation. When communities come together – recognising the importance of water as a shared resource – they can more effectively devise strategies for conservation and management.

Participating in these events gives community members a voice in the water management discourse. People can learn about local water challenges and explore practical solutions as a community. Through this collective engagement, the DWS emphasises that the fight against water wastage is not just a governmental task; it relies on grassroots participation.

A significant aspect of the water crisis relates to infrastructural issues,

such as leaks and illegal connections. Municipalities are charged with responding promptly to reported leaks, ideally within 48 hours. Additionally, they need to focus on replacing antiquated infrastructure, including old pipes and malfunctioning valves. Without these reforms, the existing challenges only compound.

The problems are not only technical; they involve illegal water connections that divert resources from the broader community. Municipalities must make a concerted effort to disconnect these unauthorized tap-ins. This action is essential to ensure that the available water supply reaches those who pay for it, thus balancing the load on existing water services.

While significant changes must occur at the municipal level, individuals should also play a transformative role in their households. Everyday actions can lead to substantial improvements in water usage. Simple steps, such as fixing leaky faucets, taking shorter showers, and using water-efficient appliances, can contribute significant-

ly to conservation efforts.

Education is vital here; communities must promote water-saving habits through workshops, campaigns, and neighbourhood initiatives. By sharing tips and strategies for daily water conservation, individuals can collectively reduce their water usage, helping ease the demand on local supplies.

The fight for water sustainability demands a holistic approach involving all stakeholders. While the DWS is pivotal in driving initiatives and policy changes, the active cooperation of community members is indispensable. Each citizen must recognise that their actions matter in this collective endeavour. As we act and innovate within our homes and communities, we can alleviate pressure on municipal systems and contribute to building a more sustainable water future.

In conclusion, saving water is not just an immediate concern; it is a crucial act of stewardship toward future generations. Our collective effort today will lay the groundwork for water supply tomorrow.

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Foot and mouth update in the Eastern Cape

In an update issued on 13 September, the Department of Agriculture said it had declared a Foot and Mouth Disease (FMD) Disease Management Area (DMA) on 26 July 2024 to include parts of the Kouga and Kou-Kamma Municipalities in the Eastern Cape Province.

The primary objective of the DMA is to prevent the spread of FMD from the affected areas, where outbreaks have been ongoing since May 2024. The DMA encompasses regions where control measures are strictly enforced to minimise the risk of disease transmission beyond the designated boundaries.

Current status of infected farms

Currently, 33 farms in the Humansdorp area and one farm in the East London area have been confirmed as positive for FMD and have undergone vaccination. The Minister of Agriculture has expressed serious

concern over the recurring clinical signs on certain farms within the DMA that were previously infected or vaccinated.

This points to ongoing virus circulation on these farms and highlights the high risk of outward spread. Strict biosecurity measures are essential. Clinical signs of FMD have also been detected on two farms near the borders of the DMA. This serves as a strong warning to the farming communities in the area to rigorously enforce biosecurity protocols on their farms and adhere to the movement restrictions imposed within the DMA.

Vaccination strategy and progress

An additional 36 farms have been pre-emptively vaccinated to mitigate the severity of clinical signs in case of infection. Since the outbreak's onset in May 2024, a total of 96,906 cattle and 635 sheep have been vaccinated in the Eastern Cape. Over 12,000

animals have also received a second vaccination following reports of virus flare-ups on certain properties.

Designated abattoirs

To assist farmers in reducing the number of animals on infected and/or vaccinated farms, the Director of Animal Health has designated two abattoirs for the slaughter of cloven-hoofed animals from farms under FMD quarantine. Four farms have been granted permission for controlled slaughter at these abattoirs. So far, 56 cattle have been slaughtered in the Humansdorp area and 40 in the East London area. Controlled slaughter ensures that FMD risk materials are properly processed or disposed of, with only safe products released into the local market. Meat from farms under FMD restrictions is not eligible for export due to certification limitations, but it remains safe for human consumption.

Truck order enhances pit-to-port logistics operation

FAW Trucks Southern Africa is proud to commemorate the significant handover of a FAW truck tractor and tipper fleet to BlackMagic Logistics Solutions through the FAW Isando branch.

This pivotal deal enhances the logistics company's current operations by securing the transportation of goods from rail siding to the warehouse of its Gqeberha business unit.

BlackMagic Logistics Solutions (BMG) is a pit-to-port handling and hauling company, providing yellow equipment and road haul services to both internal and external customers. With operations spanning from Gqeberha to the Northern Cape, Vanderbijlpark, Saldanha, and Gezina in Pretoria, BMG is a key player in the logistics sector.

The partnership between FAW Trucks Isando and BMG was forged

through a series of discussions and assessment of product-to-service fit. BMG was particularly impressed with the level of support, assistance, and guidance from the FAW Isando sales team, as well as the warm welcome, accommodation, and transparency demonstrated at the Gqeberha-based manufacturing plant. This laid the foundation for a strong and collaborative relationship.

The fleet

BMG's fleet operates across several key regions, and the addition of FAW trucks to their fleet is a testament to the trust and confidence they have in the FAW Southern African product range, as well as the brand endorsement and support of the Isando team.

BMG became aware of the FAW

brand and the range of trucks through media exposure and internal technical assessments. Their thorough evaluation process highlighted the superior quality and reliability of the FAW vehicles.

The FAW JH6 28.500FT, with its powerful 500HP engine, stands out as a top choice for long-haul applications. Its 13-litre, 6-cylinder, turbocharged, and intercooled diesel engine ensures optimal performance and fuel efficiency, making it ideal for BMG's extensive transportation needs. The truck's full floating extended high roof cab with an innovative flat floor design provides exceptional driver comfort, which is crucial for long-distance hauls.

Additionally, the 18m³ tipper is perfectly suited for heavy-duty tasks, offering robust performance and reliability. Its high-capacity design allows

for efficient transportation of bulk materials, making it an excellent fit for BMG's operational requirements.

BMG's initial thoughts on the FAW tipper and truck tractor (TT) models were overwhelmingly positive. The affordability and robust features of the models were key selling points. BMG acquired a fleet mixture of both model units that are designed to meet the demanding needs of their operations, offering exceptional performance and user-friendly features.

The professionalism, responsiveness, and expertise demonstrated by the FAW team have significantly contributed to this positive assessment of the total deal. BMG has been particu-



larly impressed with the seamless communication and the tailored solutions provided to meet their specific needs.

Looking ahead, BMG is eagerly anticipating the ongoing support service from FAW. Given the high standards already set, they are confident that the continued partnership will not only meet but exceed their expectations. This ongoing support is crucial for ensuring the optimal performance and longevity of their FAW vehicles, thereby enhancing their operational efficiency and overall business success.

Know when to buy or rent a commercial property



COMMERCIAL property, whether rented or owned, will impact a small business's cashflow, so making an informed decision will depend on a few factors that are unique to the business. Offering advice on this topic is Kevan Govender, regional investment manager at specialist small and medium-sized enterprise financier, Business Partners Limited.

"One of the key advantages of owning commercial property is that you will have free rein over any improvements. Having the freedom to design the space to reflect your business' aesthetic may be beneficial from a branding point of view. Furthermore, commercial property could provide a safety net in the unfortunate event that your business needs to close. In these cases, the property can be used as a way of earning rental income. Alternatively, if at any time your business needs to downscale, a portion of the property can be leased out to earn additional income. Better yet, proceeds from selling the property can serve as a retirement cash nest," says Govender.

Key benefits

One of the key benefits of renting is the ability to claim the monthly rental amount as a tax-deductible expense. In the case of businesses that own their own property, only the interest portion is tax-deductible.

As Govender explains: "The advantages and disadvantages need to be carefully considered within the context of the current state of your business and the growth plan you have set out. There is no blanket solution

for all small businesses." In some cases, the repayment due on a bond may be less or marginally more than the cost of renting. In other cases, renting may give business owners access to prime locations that may not be affordable as an option to buy. On the other hand, owning property in prime locations could see the value of that property increase substantially over time. This could be seen as a profitable investment that will reap positive returns and inject capital back into the business when it comes time to sell. Another aspect to consider is whether the size and nature of the commercial property you intend leasing or buying, aligns with your growth strategy.

Funding

"Entrepreneurs who elect to purchase commercial property will need to decide how they will fund this purchase. For those entrepreneurs, we offer up to 110% of the financing required, which allows small businesses to hang onto the initial capital outlay they may have needed for a deposit," he says.

Business Partners is a specialist risk finance company for formal small and medium owner-managed businesses in South Africa and selected African countries. The company actively supports entrepreneurial growth by providing financing from R500,000 to R50 million, specialist sectoral knowledge and added-value services for viable small and medium businesses. Since its establishment in 1981, Business Partners has provided business finance worth over R21,5 billion in over 72,000 transactions facilitating over 671,000 jobs.



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DISASTER MANAGEMENT, FIRE PROTECTION & SECURITY

Mobile devices can be a major security threat – handle the risk effectively

BY NEMANJA KRSTIĆ, OPERATIONS
MANAGER - MANAGED SECURITY
SERVICES AT GALIX

OPINION | SINCE the pandemic, companies have become a lot more open to individuals using their personal devices for business purposes. However, this introduces an additional layer of complexity and risk when it comes to security.

When personal devices have access to sensitive and potentially mission-critical business information, it becomes imperative that they are not only secured effectively but that people are fully aware of appropriate behaviours and practices. For many businesses, this can be a significant challenge as it requires specialised skills and tools.

However, engaging with a Managed Security Services Provider (MSSP) can be beneficial in ensuring that mobile security threats do not become the weakest link in a company's security chain.

Drawing the line

Bring Your Own Device (BYOD) has become common practice, and while this offers a level of freedom to employees, it also comes with additional risks for business. Clicking on suspicious links, browsing on unsecured networks, and installing applications from unauthorised sources are all actions many people take without thinking, and when using a personal device, they feel at liberty to do so.

The problem is that these behaviours could infect devices with malware or expose you to ransomware, and on a device that has access to company infrastructure and storage, this has the potential to spread into the company environment. In addition, mobile devices are easily lost or stolen, which puts company-related applications with access to corpo-



rate infrastructure into the wrong hands. With access to senior or an executive personnel's mobile device, it also makes it easier for those with malicious intent to impersonate them and exploit the information contained on the devices for criminal gain.

Mitigate the risk

Built-in security measures on mobile devices are insufficient, particularly from a corporate perspective. It has become imperative to better manage mobile devices to enable businesses to react quicker to mobile security threats, and Mobile Device Management (MDM) has become an important part of a comprehensive endpoint security management solution.

MDM offers functionality such as remote wipe capabilities so that devices can be wiped of all company-related information or completely reset to factory default if they are lost

or stolen. It also enables enhanced access control and identity management on top of multi-factor authentication by detecting which network you are connecting from, the MAC address, and your IP address, and comparing this to standard behaviours to flag anything outside of these parameters.

An expert partner

Effective and comprehensive IT security has never been more important, but it has also never been more complex. Many businesses simply do not have the capacity to take on an in-house IT security team, which means MSSPs are the ideal partner to help mitigate a variety of security threats, including mobile risks. MSSPs can provide guidance on the next best steps for securing the mobile device environment as well as in developing detailed and comprehensive BYOD policies.

They can also provide services pertaining to continuous monitor-

ing and improvement, vulnerability assessments, device scanning, best practice configuration for MDM, endpoint security, and enforcement of the policies around BYOD. Should a device be compromised, they can provide the necessary capacity and skill set required, to ensure organisations can encrypt and remotely wipe the device, following best practices to ensure that access to company data and networks remains secure.

In addition, expert MSSPs offer comprehensive and continuous security awareness training that can prove vital in combatting mobile security threats effectively. Organisations can have the latest and best technologies in place and the most comprehensive policies, but humans will always remain the weakest link. To effectively address evolving security threats, ongoing awareness and education are critical to changing the culture around how we perceive and handle the risks. A security mindset needs to become second nature to reduce risk.

Innovative helmet for wildfires

ROSENBAUER has created a helmet that meets all the demands of combating forest and wildland fires and is also suitable for technical rescues.

The new Heros H10 meets five European protection standards and is suitable for various applications, including wildfire fighting, technical rescue and high-angle and water rescue.

The increasing incidence of wildfires and floods due to climate change has altered the requirements for personal protective equipment for firefighters. In response, Rosenbauer has completely redesigned the Heros H10, creating a helmet that meets all the demands of combating wildfires, vegetation fires, and technical rescues. Development began in July 2021, resulting in a versatile and robust helmet that meets

five European standards. The helmet stands out for its lightweight design of only 800 g, excellent ventilation, and comprehensive protection.

The Heros H10 is available from the beginning of September.

The Heros H10 meets five European standards (EN 16471, EN 16473, EN 12492, EN 1385, and EN 397), making it unique. This allows it to be used not only in forest and wildland firefighting and technical rescue but also as a mountaineering and white-water helmet. Additionally, it meets the standards for work and industrial safety helmets. It is certified for both the European and Australian markets.

Being light weight and with improved ventilation, the new helmet offers high comfort even during long operations. It impresses with its robustness, being made from highly

heat- and flame-resistant plastic. The break-resistant helmet shell provides high protection against mechanical impacts such as falling branches or rockfalls. The helmet also protects against shocks, penetration, flames, smouldering ash, and electrical and chemical hazards.

Another advantage of the new helmet is its compatibility with the interior fittings of its predecessor models. Various components of the Heros line, such as the Heros 30 or Heros Titan, can be easily reused. Additional components, like a central helmet lamp or a position light on the back of the head, can be easily attached, optimising user synergies. The helmet also impresses with its easy adjustability without tools. The user-friendly handling greatly facilitates operational hygiene.

Another special feature of the



Heros H10 is its generous size range from 48 to 67 cm head circumference with one helmet shell. Additionally,

the Heros H10 has a sophisticated design, emphasizing the characteristic features of the Heros system.

Trust in layers: Building a stronger business with multi-factor authentication

BY KUMAR VAIBHAV, LEAD SENIOR
SOLUTION ARCHITECT -
CYBERSECURITY AT IN2IT

OPINION | CYBER threats lurk around every corner; therefore, businesses must prioritise their security measures as never before. The stakes are high; a single data breach can lead to financial ruin, loss of customer trust, and long-lasting reputational damage. Among the various strategies available to fortify defences, Multi-Factor Authentication (MFA) emerges as a powerful ally. By adding layers of security that go beyond traditional passwords, MFA not only safeguards user access but also empowers more security to any application by making sure there is no unauthorised access.

Understanding MFA

MFA is a security protocol that requires users to provide multiple forms of verification before accessing sensitive systems or data. This verification typically falls into three categories: something you know,

such as a password or PIN; something you have, like a mobile device, hardware token, or smart card; and something you are, which includes biometric verification methods such as fingerprints or facial recognition. By requiring more than one form of verification, MFA significantly reduces the risk of unauthorised access, even if a password is compromised. This layered approach to security is essential in an era where cybercriminals increasingly exploit weak passwords and phishing attacks to gain entry into valuable systems.

Reducing the risk of data breaches

Data breaches can have devastating consequences for businesses, including financial loss, reputational damage, and legal repercussions. Imagine waking up to find that sensitive customer data has been leaked, or that your company's financial records are in the hands of cybercriminals. MFA serves as a formidable barrier against such breaches by ensuring that even if a hacker obtains a password, they cannot

access the account without the additional authentication factors. This makes unauthorised access significantly more challenging, thereby protecting sensitive data and systems from potential threats.

Enhancing compliance

Data privacy regulations are becoming increasingly stringent; compliance is not just a checkbox; it's a necessity. Many industries are subject to regulations that mandate specific security measures to protect sensitive data. Implementing MFA not only helps organisations comply with these regulations but also demonstrates a commitment to data security. This proactive approach can prevent costly fines and enhance the organisation's reputation among customers and stakeholders, positioning the business as a leader in ethical practices and data stewardship.

Building customer trust

Customers are more vigilant than ever about the security of their personal information. They want to know

that their data is safe and that the companies they engage with prioritise their security. By implementing MFA, businesses can reassure customers that they take data protection seriously.

This commitment to security can enhance customer trust and loyalty, providing a competitive advantage in the marketplace. When customers feel secure, they are more likely to engage with your brand, leading to increased sales and long-term relationships.

Supporting remote work

With the rise of remote work, securing access to corporate systems has become more critical than ever. The traditional office environment has transformed, and employees now connect from various locations and devices. MFA provides an additional layer of security for remote access, ensuring that only authorised personnel can access sensitive information, regardless of their location. This is particularly important as employees use personal devices to connect to corporate networks, increasing the potential attack surface for cybercriminals.

By implementing MFA, organisations can embrace the flexibil-

ity of remote work while maintaining robust security.

Tips for implementing MFA

To effectively implement MFA, organisations should start by evaluating the various methods available and selecting those that best fit their needs. Options include SMS codes, authentication apps, or biometric verification. It's crucial to consider both user convenience and security effectiveness when making this selection. Additionally, educating employees about the importance of MFA and how to use it effectively is vital. Providing training can help reduce resistance to adopting new security measures and foster a culture of security awareness within the organisation. Regularly reviewing and updating MFA methods ensures they remain effective against emerging threats. Monitoring access logs to identify unusual activity can help organisations respond quickly to potential security incidents and refine their MFA strategy over time.

Engaging with third-party IT providers can bring valuable expertise to your MFA implementation. These professionals can assess your current security posture, recommend appropriate MFA solutions, and assist with the integration process, ensuring a seamless transition to enhanced security measures.

METALS, ALLOYS & FABRICATION

Regional branch serves Eastern Cape's non-ferrous metal market

COPALCOR, South Africa's premier supplier and manufacturer of semi-finished non-ferrous metal products, continues to provide critical materials to industries across the country. With a wide range of products including aluminium, copper, brass, bronze, stainless steel, cast iron and lightning protection and earthing materials, Copalcor serves key sectors such as electrical infrastructure, general engineering, machining workshops and the marine and automotive industries.

"The company's Gqeberha branch plays a significant role in supporting Eastern Cape industries with these essential materials," says Christiaan van As, regional sales manager at Copalcor.

Copalcor's product range is extensive with various alloys offered in different forms such as sheets, plates, busbars, rods, hollow bars and other profiles. Bronze, known for its excellent corrosion resistance, strength and wearability, is widely used in applications requiring durable components, particularly within the marine and general engineering sectors. In addition to the company's core products, Copalcor also supplies stainless steel and cast iron round bars, which are integral to industries requiring strength, machinability and resistance to corrosion and wear, making them ideal

for use in construction, manufacturing and heavy-duty equipment. Copalcor's products cater to a wide array of industries, each relying on the company's expertise and materials to maintain operational efficiency and safety. Electrical, mining, construction, automotive, marine and engineering sectors within the Eastern Cape Province can all be serviced from the Gqeberha branch ensuring timely access to essential stock.

"Our earthing and lightning protection systems are designed to safeguard infrastructure from electrical surges and lightning strikes. These materials ensure the safe dissipation of electrical currents, reducing the risk of damage and injury. Coastal areas are particularly vulnerable to thunderstorms and lightning protection is thus essential. Industries such as telecommunications, construction and energy rely on Copalcor's earthing solutions to protect their operations," says Van As.



Ganene Ellis and Christiaan van As

for use in construction, manufacturing and heavy-duty equipment. Copalcor's products cater to a

safe dissipation of electrical currents, reducing the risk of damage and injury.

Coastal areas are particularly vulnerable to thunderstorms and lightning protection is thus essential. Industries such as telecommunications, construction and energy rely on Copalcor's earthing solutions to protect their operations," says Van As.

Copalcor remains a cornerstone of South Africa's industrial landscape, having commenced operations way back in 1948. Over the years, various name changes have occurred, from McKechnie Bros to Denver Metals to BESA (Brass Extrusions South Africa) to Copalcor (short for Copper Alloys Corporation).

With branches in all major centres, the service and quality offered to customers remain a top priority for the company.

Stainless steel awards showcase excellence in the industry

THE 2024 Sassda and Columbus Stainless Awards marked a significant showcase of innovation, sustainability and excellence within South Africa's stainless steel sector. Attended by 200 industry professionals, including manufacturers, suppliers, fabricators and designers, the event heralded the return of these prestigious awards after a five-year hiatus. Celebrating 60 years of stainless steel excellence in South Africa, the awards honoured individuals and companies that have made significant contributions to the industry. The night saw top achievers across several categories recognised for their exceptional work.

Welcoming guests, Southern Africa Stainless Steel Development Association (Sassda) executive director Michel Basson remarked, "The 2024 Sassda and Columbus Stainless Awards mark a triumphant return after a five-year hiatus. We are proud to not only honour the companies and individuals who have made exceptional contributions to the stainless steel industry, but also highlight the crucial role our industry plays in supporting people, the planet and the South African economy."

Key Winners of the 2024 Sassda and Columbus Stainless Awards included:

Sustainability Awards:

- Winner: Eco Clarity - Innovative technology in recovering fats, oils, and grease from food service establishments, converting waste into biodiesel using 304L stainless steel components.
- Runner up: Mpumatech - Recognised for its sustainable



Overall Winner - ND Engineering

solution in mining, replacing corroding mild steel split sets.

- Special merit award: Venter Consulting - Groundbreaking work in manufacturing closed vane impellers, raising standards of innovation and manufacturing excellence.

Duplex Stainless Steel Awards:

- Winner: ND Engineering - Work on the multipurpose pulp tank for Sappi Ngodwana, highlighting the benefits of duplex stainless steel in production efficiency.
- Runner up: ND Engineering - exceptional use of duplex stainless steel in Sappi Saiccor's Project Vulindlela.

Business Excellence Awards:

- Winner: ND Engineering - Acknowledged for its relentless

focus on creating customer value through innovation and leadership in the stainless steel industry.

- Runner up: Anderson Engineering - Recognised for its quality, innovation, and customer engagement in the food, pharmaceutical, and personal care sectors.

Ferritic Stainless Steel Awards:

- Winner: Mpumatech - For its innovative use of stainless steel split sets in underground mining, improving safety and efficiency in challenging environments.
- Runner up: Guardiar - For reducing complexity and environmental impact through innovative use of ferritic stainless steel.

Export Achievement Awards:

- Winner: Ener-G-Africa - Advanced biomass stove and eCO2pot, pro-

viding sustainable energy solutions to millions across sub-Saharan Africa.

- Runner up: ND Engineering - For its contributions to global energy saving technologies and the supply of complex stainless steel components to Europe.

Austenitic Stainless Steel Awards:

- Winner: Fabrinex - Collaboration with Eco Clarity on a sustainable management system for fats, oils, and grease waste.
- Runner up: Vinco Steel - Recognised innovative handling of grapes in the wine industry.

Lifetime Achievement Award

The gala also honoured Sakkie Nel, who was presented with the Lifetime Achievement Award for his decadeslong contribution to the stainless steel sector. Nel's leadership and vision have left an enduring impact on the industry.

Overall Winner

The evening culminated in ND Engineering being awarded the Overall Winner title thanks to its consistent excellence across multiple categories. The South African-owned company was lauded for setting industry benchmarks in innovation, sustainability, and customer value creation.

Chairperson's remarks

Reflecting on the evening, Sassda chairperson Bertus Griesel said, "As we celebrate the 60th anniversary of Sassda, we not only honour our rich history but also look toward an exciting future filled with new challenges and opportunities. This milestone is a testament to the collective vision, resilience, and dedication of our industry. The achievements recognised tonight, reflect the innovative spirit and commitment to excellence that will guide us into the next chapter of our journey."

Seifsa calls for action over talk at Ministerial conference

MAKING the re-industrialisation of South Africa a reality was a key focus at the Metals and Engineering Industries Ministerial Conference and Banquet Dinner on 17 September 2024.

Lucio Trentini, CEO of the Steel and Engineering Industries Federation of Southern Africa (Seifsa) which organised the event, said the Metals & Engineering Sector was ready to roll up its sleeves and, in partnership with the government, help to build an inclusive economy that creates jobs and eradicates poverty.

"We, business and government, are all in this together. We share a vested interest," Trentini said. This sentiment was echoed in Seifsa president Elias Monage's introduction.

"The time to act is now." Monage stressed "that the re-industrialization project requires a clear industrial poli-

cy framework that will unlock the value inherent in the metals and engineering sector".

During question-and-answer sessions with attendees, the issue of implementation was raised frequently, with government and industry leaders insisting that action was necessary to turn policy into reality.

The view that South Africa's Seventh Administration in the form of the Government of National Unity (GNU) had brought a degree of stability to the country was repeated by panelists and members of the audience throughout the conference.

In his speech, Deputy Minister of Finance David Masedo said this political outcome which implied stability had already benefited the rand whose continued strength "is a critical requirement for low inflation, which is one of the anchors of the country's fis-

cal stance". Lower inflation results in lower interest rates which would ease the debt service burden on the fiscal purse and allow room for this money to be diverted to other productive uses in the economy.

The GNU was well represented by Minister of Transport Barbara Creecy, Minister of Employment and Labour Nomakhosazana Meth, Minister of Public Works and Infrastructure Dean Macpherson, Deputy Minister of Finance David Masedo, Deputy Minister of Electricity and Energy Samantha Graham-Mare and Deputy Minister of Water and Sanitation David Mahlobo, who all provided insightful analysis at the Conference.

Minister of Trade, Industry and Competition Parks Tau was the keynote speaker at the Banquet Dinner and was clear that the government is a willing and committed partner for industry in the drive to build South Africa. Tau stressed that the current economic challenges are not just roadblocks, they are invitations for the private sector to come to the party in new and meaningful ways.

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Aluminium - a 'green' metal of the future

TO achieve sustainable development goals in various fields, it is important to identify materials that are effective, long-lasting, and ecological.

Aluminium has emerged from the list of metals expected to determine the future, especially in the building construction and car manufacturing industries. As the world transforms to sustainable infrastructure and electric vehicles (EVs), aluminium is set to feature in this situation since it is recyclable and lightweight. The Aluminium Federation of South Africa (AFSA) proposes the shift to aluminium to make the future more sustainable and expands on the metal's role in construction and EVs.

Aluminium as a sustainable metal

Aluminium has attributes that are particularly favourable for industries seeking to minimise carbon emissions. They are lightweight, not easily susceptible to corrosion and are quite durable and long-lasting. The most essential attribute of the product is that it is recyclable. Aluminium can be recycled without degradation, and up to 75% of the primary aluminium produced is still in circulation today.

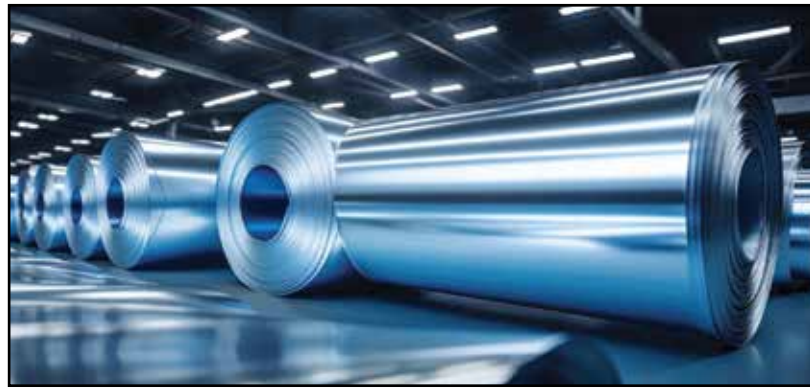
This significantly helps the fight against carbon emissions as recycling

aluminium uses only 5% of the energy required to deliver new primary aluminium. Aluminium is advantageous over ferrous metals, including steel, concerning carbon footprint, especially in construction and automotive uses.

Since it helps cut down embodied energy, minimises waste, and promotes the circular economy, it has a central role in sustainability in different organisations across the world.

Construction and architecture

Aluminium has been widely employed in construction activities mainly because of its versatile nature and strength. Its uses include but are not limited to the production of windows and roofs and in some cases, complete structural and exterior systems of structures. Due to its light weight, aluminium makes it possible to reduce the use of other bulky materials in the construction industry, increasing the use of new design methods. This leads to energy saving in construction processes, which is very important as the construction industry tries to minimise any negative effects on the environment. Furthermore, aluminium's strength and non-corrosive properties ensure that structures built from it can serve for a long time, thus reducing



the need for frequent repairs and reconstruction and the consequent negative environmental impact. Famous buildings like the Empire State Building and the Norton Rose Fulbright South Africa, Sandton also show that aluminium can help construct long-lasting, beautiful, environmentally friendly architecture. These structures explain how the material can be used practically and how it can help reduce the energy used in building construction.

the Automotive industry

Another major application area is the automotive industry, where aluminium is rising, especially in the context of EV vehicles. Conventional

automobiles have their body made of steel, but aluminium has been considered a viable option to make cars lighter and hence more fuel efficient. This is because lightweight vehicles use less fuel, and electric cars can cover more distance on a single charge as it improves the battery performance and efficiency. The use of aluminium is becoming popular among many automotive industries for the construction of vehicle bodies, battery casings and other parts.

For instance, Tesla, Audi and Ford have utilised aluminium extensively in some of their cars. Tesla's Model S has an all-aluminium body, which enhances its range and performance.

Environmental and economic impact

The environmental advantages of aluminium do not end at its recyclability or the energy it saves in transportation and construction. It also enhances the circular economy, where materials are utilised, reclaimed, and repurposed, thus minimising the need for raw materials mining.

However, the manufacturing of aluminium remains a rather energy-consuming process, and there is a need to develop new energy-efficient technologies for smelting and using renewable energy sources in aluminium production. Technological advancements like low-carbon aluminium production are useful in overcoming these challenges and improving the material's sustainability.

Prospects

With the current global emphasis on sustainable construction and automobile production, aluminium will remain significant. As the technology in extraction, production, and recycling of aluminium continues to advance in the future, aluminium is set to remain a sustainable material. Its ability.

Cranes and hoists are industry's unsung workhorses

HIGH-capacity overhead cranes often make headline news because of impressive size and technical complexity. Their smaller and simpler cousins – workhorses of the factory and general engineering workshop – should not be overlooked.

This is according to Marc Kleiner (pictured), managing director of crane and hoist manufacturer Condra. He was commenting on a slew of recent orders taken for Platreef Mine, ranging from a giant 40/5-ton double-girder headgear crane, through smaller single- and double-girder cranes, hoists and crawls, to no fewer than nineteen chain blocks, including a 2-ton explosion-proof chain hoist.

All are for installation at Platreef Mine's Number Two Shaft, part of the Platreef PGM project near Mokopane in Limpopo.

Often the go-to company for buyers seeking proven ability at the more complex end of the technical design spectrum, these orders high-

light Condra's capabilities in smaller and more standard lifting equipment. Nevertheless, the standout machine for Platreef remains the very large headgear crane: a 40/5-ton double-girder electric overhead travelling giant spanning 17 metres, which will itself weigh almost as much as its 40-ton maximum load.

Murray & Roberts Cementation supplied the procurement recommendation for this machine, which will install and maintain the shaft's headgear-mounted winders and sheave wheels, raising and lowering component parts over a lifting height of 94 metres. The order was placed by Ivanplats itself.

Switching to a long list of other overhead cranes and hoists ordered from Condra for Platreef by consulting engineers Dowding Reynard and Associates, Kleiner emphasised their importance.

"These are all workhorses," he said. "Even the smallest 2-ton explosion-proof chain hoist will play an important role."

Condra's first deliveries to Platreef took place in late 2023, comprising a short-headroom hoist for the mine's tailings filter, and a K-Series hoist for the mill feed conveyor. Both are being used for maintenance work.

A 5-ton single-girder overhead crane for the mine's filter building followed soon afterward, with a 10-ton double-girder overhead crane for the plant workshop. One of these machines was dust-ignition-proof rated to ATEX Zone 21/22 standard. Control of both is by radio remote with manual pendant back-up.

"Compared with the headgear crane, these are simpler, more straightforward machines, but each one meets an important requirement," Kleiner said.

Elaborating on the headgear crane

itself, Kleiner explained that design challenges had included the delivery of above average lifting speeds over the very high lifting height of 94 metres. The 40-ton main hoist will travel at up to 8,4 metres per minute, and the 5-ton auxiliary hoist at up to 12,2 metres per minute. Both speeds are variable.

Kleiner explained that the modularity of Condra's hoist range had made it possible to accommodate the Platreef specifications, with careful design of the crane's end-carriages facilitating installation at lowest possible cost to the customer.

"We replaced the normal one-piece end-carriage with a double-bogey design," he explained.

"This will allow a 35-ton tower crane to lift the headgear crane into position one girder at a time. Without the doubled-bogey arrangement, the

entire crane would have had to be lifted into position as an assembled unit, a more difficult operation."

Other features of the headgear crane include an automatic storm brake to counter wind loading, a full-length work platform, and radio control with mobile pendant back-up. Platreef has been under development since 2020 by Ivanplats (Canada-based Ivanhoe Mines' South African subsidiary), and comprises three vertical production shafts, two ventilation shafts, a concentrator and associated supporting infrastructure.

Beginning this year, mine production 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.



How microgrids can make metals, mining and minerals 'greener'

BY JOHAN PRETORIUS, MMM
SEGMENT LEAD, ANGLOPHONE
AFRICA AT SCHNEIDER ELECTRIC

OPINION| THE mining, minerals and metals industry forms a critical part of material supply, all essential as the world continues to move towards a digital transformation.

However, the industry also contributes an estimated four to seven percent of the globe's greenhouse gas (GHG) emissions.

Moreover, the International Energy Agency (IEA) Critical Minerals Market Review, notes a record deployment of clean energy technologies is propelling huge demand for minerals such as lithium, cobalt, nickel and copper.

"From 2017 to 2022, the energy sector was the main factor behind a tripling in overall demand for lithium, a 70% jump in demand for cobalt, and a 40% rise in demand for nickel," says the report.

This surge underscores the urgent need for sustainable practices in an industry that continues to grow in leaps and bounds and is traditionally reliant on high-carbon energy sources like diesel.

Microgrids play an important part in taking the mining, minerals and metals to a greener posture also known as green mining, minerals and metals.

For one, it is particularly well-suited to an industry where operations are often located in remote areas with limited access to reliable elec-

tricity, and a combination of energy sources.

By integrating various energy sources – such as solar, wind, battery storage, and diesel generators – microgrids provide a stable and continuous power supply, essential for the uninterrupted operations of mines, cement plants, and steel mills to name a few.

In Africa, we are seeing countries like Kenya, Tanzania, Zambia, and South Africa adopting micro-grid technology. These nations are exploring the technology to not only ensure reliable power supply to mining operations but also to align with global sustainability requirements.

The benefits of microgrids go beyond their ability to easily operate in conjunction with renewable solar

and wind energy generation and include:

- Higher resilience – Microgrids can generate and store power independently from any main power grid offering a more resilient approach to maintaining power stability. By having the option of either acting in coordination with the existing grid or acting as an independent island, the steady, predictable supply of energy greatly minimises an operation's power-related downtime.
- Supports migration from fuel furnaces to electric furnaces – In the glass and steel industries, a sustainability trend towards the electrification of furnaces is helping to reduce costs and to lower global carbon emissions.

- Easier management – microgrid management solutions such as Schneider Electric's EcoStruxure Microgrid Advisor architecture provide a Human Machine Interface (HMI) for site managers, process the various demand/response requests, optimise output decisions based on energy tariff rates and weather forecast predictions, and factor in user consumption constraints.

Innovations such as Electric Arc Furnaces (EAF) and Direct Reduction Iron (DRI) are helping to eliminate the use of high emissions fuel furnaces. Microgrids play an important role in supporting these new processes as alternative and additional sources of renewable energy.




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MOTORS, DRIVES & TRANSMISSIONS

Growing local range of planetary drives enters new markets

SEW-EURODRIVE is rolling out an even greater selection of planetary drives as part of its strategy to 'close the loop' in its product offerings by expanding into more industry sectors.

Among the new ranges being introduced into South Africa are its SEW PPK series and the SEW P2.e series of planetary gear units – both showcasing new opportunities for industrial gearbox users. According to Jonathan McKey, national sales and marketing manager at Sew-Eurodrive, these new additions to the local range highlight the company's global engineering and applications capabilities.

"The PPK series was originally developed by Sew-Eurodrive in Brazil, for instance, to serve their large and thriving sugar sector," says McKey. "Our design and engineering experts in Germany then further leveraged these advances when they developed the SEW P2.e series – aimed at larger applications."

He emphasises that both series



Jonathan McKey national sales and marketing manager at Sew-Eurodrive

built upon the key benefits that planetary gear units present to customers: a compact solution for space-constrained conditions, alongside

high torque and low speed outputs. The SEW PPK series delivers 10 to 18 kNm of torque with a ratio range from 65:1 to 390:1, while the

SEW P2.e series encompasses torque ratings from 24 to 124 kNm with ratios from 15.2:1 to 332:1.

"The SEW PPK satisfies the need for a lower torque requirement, and is well suited to southern hemisphere markets," he explains. The ratio can be further reduced by the addition of a primary reducer before the planetary head, to reach ratios up to 10,650:1 – for a much lower speed capability.

The SEW P2.e was then developed with all these benefits, but with a broader spectrum of diversity in its speed – up to 100 rpm – as well as in ratio and torque, he says. While most planetary gearboxes have a three-stage design, the SEW P2.e can also be supplied in a two-stage model.

Greg Lewis, Sew-Eurodrive business development manager for projects, points out that the company has been careful to retain the same critical dimensions as previous SEW P-series models. This allows customers to migrate seamlessly to the

more versatile SEW P2.e units without altering their operating environment or infrastructure.

"In the agricultural sector, sugar mills are big users of planetary units," says Lewis. "The SEW PPK series, arising as it did to serve the needs of sugar mills in Brazil, has exciting opportunities for application in African countries."

McKey highlights another important aspect of these planetary ranges: their reduced weight compared to traditional technologies.

"A sugar mill's crystalliser, for example, will conventionally have a multi-gear solution which applies considerable weight and strain on the system," he explains. "A compact planetary unit from Sew-Eurodrive can now deliver the same results with much less weight – within an integrated design. The benefits are also felt in less wear on components like bearings and the civils structures, which leads to less maintenance being required."

Device adds safety to belt installation and maintenance

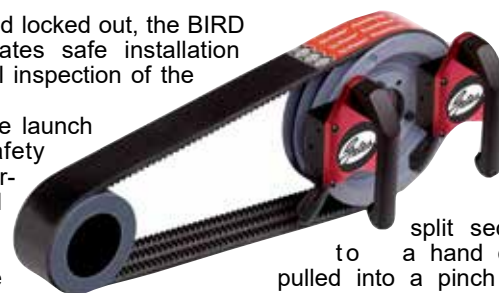
BMG's Power Transmission division has the solution to avoid dangers during installation and maintenance procedures in many industries. An easy-to-operate rotation device from Gates enhances safety for operators during installation and maintenance processes.

"BMG takes great care during product selection to ensure we are able to offer our customers the latest safety equipment designed to enhance safety onsite, optimise

productivity, minimise downtime and extend the service life of every system," explains Carlo Beukes, BMG's power transmission division, business unit manager. "Included in BMG's extensive range of safety products is our handy Gates Belt Installation and Rotation Device (BIRD) that has been developed to prevent an operator's fingers and hands from getting caught in pinch points during routine installation and maintenance. While a drive is

shut down and locked out, the BIRD device facilitates safe installation and rotational inspection of the drive.

"Prior to the launch of this safety device – operators would need to pull on the belt or grab the edges of the or sprocket to turn the drive dur-



pulley

ing installation or inspection of the drive. Regardless of the care taken, this procedure is dangerous – a

split second can lead to a hand or finger being pulled into a pinch point, causing devastating injuries and costly downtime.

"Apart from focusing on safety, our commitment to customers in all sectors is also to concentrate on Return on Investment (ROI). We encourage our customers to implement a preventative maintenance programme across belt drive systems – especially on drives operating under heavy loads, extreme temperatures, high speeds and on critical equipment – to ensure more uptime of production and to extend service life of equipment and components."

Prime gearbox solutions tailored to meet pump applications

I-MAK, a premium global brand in the stable of bearings and power transmissions specialist, Bearings International (BI), has led the global market with a wide portfolio of gearbox and drive solutions for over 50 years. With more than one million references and hundreds of different product lines, I-MAK's unique power transmission solutions cater to a large scale of applications in virtually all industrial segments. I-MAK gearboxes are widely used for diverse pump applications in the oil & gas and food & beverage sectors around the world.

I-MAK's IR Series of helical gearboxes is perfectly adapted to meet the stringent demands of pumps and transfer technologies which represent key applications across a broad range of industries. "The IR Series is available in twelve different sizes ranging from 90 Nm to 18 000 Nm and is ideally suited for gear and lube pump machinery,"

says Kobus Groenewald, business unit leader industrial geared units at BI. Fitted with either an input shaft or a direct IEC motor coupling and a standard foot configuration, these easy-to-mount and dismount gearboxes minimise downtime and scale up production, subsequently offering key cost-related advantages for end-users.

As a preferred supplier for thousands of crude oil producers, refineries and engineering companies, I-MAK is a key purveyor to Middle Eastern and North American oil & gas industries. The company is actively involved in several major oil & gas projects in the UAE, Qatar and Saudi Arabia. Sipco-I-MAK in Houston, Texas, serves the US oil industry with a dedicated team of experts. All I-MAK products are available in ATEX configuration to meet sector standards in the North American market as well as the needs of technological partners.

I-MAK has enhanced its product offering to the food & beverage industry over the past few years with the addition of several key features to meet this segment's strict hygiene and food safety demands. The application of special easy-to-wash paint and coatings on I-MAK gearboxes limit material deposits and rust, subsequently contributing to the maintenance of top hygienic standards at customers' sites. Moreover, optional food-grade oil and resistance to high temperatures and aggressive environments, reduce the potential risk of oil leakage.

"Innovation, quality and precision are woven into the fabric of I-MAK's world-class quality, affordable, two-year-warranty products which are backed by specialist local and international support," says Robert Sillis, general manager: product management at BI. Our strategic partnership with I-MAK therefore presents the backbone of our blueprint to provide



superior quality, reliable solutions that are uniquely tailored to meet the diverse needs of a raft of industrial applications. The very high local added value of all I-MAK products

aligns perfectly with our mission to enhance production uptime and efficiency, delivering our value proposition of keeping our customers 'in motion.'

New extended warranty for VFDs

INVERTEK Drives, a global leader in variable frequency drive (VFD) technology, has announced a three-year warranty on its Optidrive VFD range, reflecting the company's confidence in the durability and performance of its products.

The decision stems from Invertek's 26-year legacy of innovation and its commitment to rigorous quality control throughout the manufacturing process. Every Optidrive VFD is built in the company's state-



of-the-art facility in Welshpool, UK, where each drive undergoes meticulous testing, and all of its quality assessed components can be traced back to their origin.

This ensures superior product quality throughout its Optidrive Eco, E3, P2, Coolvert, Compact, and Elevator Core range in variants of IP20, IP55 and IP66 / NEMA 4X enclosures.

The new warranty covers all new Optidrive VFDs manufactured from June 1, 2024, with a standard three-year warranty and an optional Warranty Plus extension for up to five years.

"Invertek's commitment to innovation and meticulous manufacturing processes has allowed us to confidently extend our warranty coverage," said Rhyddian Welson, sales and marketing director at Invertek Drives.

Confidence

"Our commitment to quality is ingrained in our culture. We work closely with our suppliers, invest heavily in research and development, and utilise advanced manufacturing techniques at our UK-based global manufacturing facility. This results in drives that are not only easy to use and set up but also deliver lasting

value to our customers."

He added: "For over 26 years, we have focused on delivering VFDs that not only meet, but exceed industry standards. This warranty extension is a testament to the durability and reliability of our Optidrive range."

"We believe in building lasting relationships with our customers, and this extended warranty is a reflection of that commitment. We want our customers to have complete peace of mind knowing that their Optidrive VFDs are backed by one of the most comprehensive warranties in the industry."

Investment in R&D

Invertek's dedication to quality is evident in its continuous investment in research and development, work-

ing closely with suppliers to ensure the highest quality components, and collaborating with a global sales network to provide comprehensive customer support.

The company's focus on user-friendly design also ensures that Optidrive VFDs are easy to set up and operate, minimising downtime and maximising productivity.

The Optidrive range is renowned for its versatility, catering to a wide array of applications across various industries. These include HVAC, refrigeration, material handling, elevators, ventilation, solar pumping, mining, marine, and more. The extended warranty further enhances the value proposition of the Optidrive range, offering customers peace of mind and a long-term return on their investment.

Component specialists accelerate decarbonisation

As the world's largest component and system supplier with a broad portfolio to the commercial vehicle industry, ZF is well positioned to provide the technical expertise, manufacturing flexibility and cross-divisional technology transfer needed to provide cost-effective solutions.

ZF anticipates that customer demand for e-mobility to grow over the next few years.

ZF is leading the charge

towards developing innovative technologies to make commercial vehicles more sustainable. As the industry undergoes its greatest transformation since the invention of the internal combustion engine, ZF will continue to set the pace of innovation by actively responding to customer needs with a full-flex portfolio.

The company showcased as such during this year's IAA Transportation in Hanover, Germany earlier in

September.

Hybrid technologies

ZF is investing in hybrid drivetrain technologies as a rapid solution to reduce commercial vehicle emissions. ZF's latest variant of its successful TraXon 2 transmission, the TraXon 2 Hybrid, is a new concept that effectively enables OEMs to incorporate hybrid technology into their existing design platforms with reduced effort

and complexity. The system facilitates clean, safe and efficient mobility, while bringing total cost of ownership (TCO) benefits.

Hybrid technologies offer significant emissions reduction potential while retaining many of the advantages in terms of range and refilling capabilities. With its extensive experience in developing hybrid technologies for passenger cars, ZF is able to leverage its technical and industrial capabilities to



IVECO BUS and ZF strengthen their collaboration - Domenico Nucera, President Bus Business Unit, Iveco Group, left and Prof. Dr. Peter Laier, Member of the ZF Board of Management and responsible for the Commercial Vehicle Solutions division

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Zero emissions technologies

ZF's family of next-generation electric drives provides all the elements manufacturers need to electrify their vehicles. ZF's E-Mobility Kit employs a unique modular approach, seamlessly integrating components to create a compact, lightweight and powerful system. ZF's in-house development of key components, including inverters, e-motors, transmissions, e-actuators, and electronic control units including software, allows the company to tailor e-drive solutions to the unique specifications of OEM customers across various vehicle applications.

Catering to a wide range of customer requirements, ZF's kit includes a central drive platform – the CeTrax 2 dual and CeTrax 2 – which can slot into the same space as a conventional transmission, as well as an axle drive platform – the AxTrax 2 dual and AxTrax 2 – which sits closer to the wheels, providing greater design flexibility.

OEMs have the flexibility to use complete e-drive systems from ZF or integrate individual components, software, or subsystems. This versatility facilitates a smooth transition to electric mobility, offering electric drive solutions that can either be easily integrated into existing vehicle platforms or provide additional design flexibility to meet various applications.

Electrified trailers

The trailer will play an increasingly significant role in helping to decarbonise road freight transport, whether hauled by an ICE or electric truck. ZF's electric trailer concept, which integrates its in-house developed AxTrax 2 e-Axle together with its trailer EBS and battery system box into a trailer, effectively converts an ICE powered truck into a hybrid. In the case of an electric vehicle, the electric trailer concept effectively extends the vehicle's range.

When pulled by an ICE, the technology can help reduce CO2 emissions by up to 16% through recuperation, while up to 40% with the plug-in-hybrid solution. The concept is possible thanks to the development of ZF's latest electrified traction axle, the AxTrax 2, which was originally designed for trucks, buses and coaches. Integrating its e-mobility technologies such as the AxTrax 2 combined with ZF's leading expertise in braking control systems demonstrates how ZF applies its technical-transfer capabilities to meet a wide range of applications effectively.

ZF also excels in the domain of electrified power take-off solutions (ePTO). ZF's eWorX integrates components including a 50 kW e-motor, inverter and electronic control unit with application-specific software. eWorX powers a range of equipment including hook lifters, skip loaders or loading cranes installed on electric commercial vehicles. Developed in close collaboration with OEMs and body manufacturers, the concept is proving highly successful with demand for eWorX products expected to double over the next few years.

ZF's latest version of eWorX is integrated into the frame of the truck and uses the truck's cooling system. The innovative design reduces installation space and allows the system to be used in a wider range of vehicle applications. Additionally, ZF will soon introduce a next-generation to the ZF eWorX family with a 70 kW, 800 V, cyber security capable drive for electric power take-off solutions as well as a multifunctional, bidirectional I/O device to power applications on electrified commercial vehicles.

OCCUPATIONAL HEALTH & SAFETY

Safety through competence: The foundational role of skills development and lifelong learning

BY SIAN THURTELL, CHIEF
OPERATING OFFICER AT KBC
HEALTH & SAFETY

OPINION | COMPETENCE serves as the bedrock upon which a secure and efficient workplace is built. It equips employees with the skills to execute their tasks proficiently while fostering adaptability to industry change and technological advancements. In the context of workplace safety, competence elevates technical expertise into the ability to accurately assess risks, make well-informed decisions, and respond effectively within dynamic working environments.

Employees with up-to-date knowledge and skills have more confidence in their abilities to identify and mitigate potential hazards, but this confidence requires organisations to invest in ongoing skills development and reskilling to establish the foundation of competency.

Despite being an ongoing requirement, this is a worthwhile investment for safety-conscious organisations, as it will ultimately translate to a substantial reduction in workplace accidents and injuries.

Competence enhances safety

The concept of the "Three Cs of Safety", in which compliance, competence and commitment are inextricably intertwined, highlights the pivotal role of know-how and proficiency in achieving a safe and productive workplace. While commitment and compliance are essential, these are optimally realised when employees are equipped with the necessary skills and knowledge to perform with competence. A competent workforce is more likely to recognise hazards, adhere to safety protocols, and respond appropriately to challenges, which in turn contributes to the advancement of a culture of safety.

To cultivate a competent workforce, organisations must prioritise ongoing skills development and reskilling, which can be achieved in several ways. On-the-job training and coaching offer invaluable opportunities for practical skill acquisition and mentorship, and regular refresher training sessions ensure that employees stay abreast of the



latest safety practices, regulations, and procedural updates for their industry. Additionally, providing access to online learning resources empowers employees to take ownership of their professional development, while encouraging employees to pursue formal certifications demonstrates a commitment to continuous learning and professional growth.

Competence, productivity, and performance

A competent workforce is not only safer but also more productive and efficient. When employees possess the necessary skills and confidence, they are better equipped to perform their tasks effectively and contribute to organisational goals. A skilled workforce is less likely to be involved in accidents or incidents that can disrupt operations and incur costly downtime.

Investing in competence should not be seen as an operational expense, but rather as a move that aligns seamlessly with the organi-

sation's strategic safety objectives. By prioritising skills development, organisations create a safer work environment, reduce the frequency and severity of accidents, and enhance overall operational efficiency. This, in turn, contributes to cost savings, improved employee morale, and a positive business reputation.

Building a competent workforce

Cultivating a culture of lifelong learning is essential to sustaining a competent workforce. By offering diverse learning opportunities, such as formal training, workshops, conferences, and online courses, organisations empower employees to expand their knowledge and skills. Additionally, providing access to mentorship programmes, job rotations, and project-based learning can facilitate skills development and knowledge sharing.

Recognising and rewarding employees for their learning achievements is also vital in reinforcing the importance of continuous development. Celebrating successes, both big and small, motivates employees to pursue further learning opportunities.

Furthermore, creating a psychologically safe environment where employees feel comfortable in raising objections to unsafe working conditions or voicing uncertainty is essential for fostering a culture of learning through accountability. Open communication channels and a willingness to share knowledge and experiences among employees can facilitate knowledge transfer and enhance collaboration.

Promoting competence is indispensable for organisations aiming to create a robust safety culture. As one of the critical pillars of safety - alongside commitment and compliance - competence empowers employees to actively participate in preventing accidents and injuries. When employees possess the necessary skills and knowledge, they are better equipped to identify hazards, understand safety protocols, and make informed decisions in high-pressure situations.

By investing in employee development and fostering a culture of continuous learning, organisations not only enhance safety performance but also cultivate a workforce that is adaptable, resilient, and committed to creating a safer work environment.

The importance of health and safety in construction

IN South Africa, more than 5,900 accidents in the construction industry were reported for 2023. Of these, 32.3% were 'struck by' accidents (produced by forcible contact or impact between the injured person and an object or piece of equipment) signifying the importance of adhering to health and safety regulations. Morag Evans, CEO of Databuild says while this is a legal requirement, these regulations have been designed to help safeguard human lives. Understanding the risks and challenges associated with non-compliance is crucial for every stakeholder in the local construction sector.

Evans says ignoring health and safety regulations is not an option. From a liability perspective, if a company has not made any legal appointments as prescribed by the Occupational Health and Safety Act (OHSA), the liable party automatically becomes the CEO of the business. Furthermore, if injuries occur without the employer taking the necessary pre-emptive steps as prescribed by the OHSA, there will be significant financial repercussions as well as criminal liability, potentially leading to imprisonment.

Employers may face fines up to R1 million for breaches, and in severe cases, imprisonment for up to two years. Moreover, the Department of Labour has the authority to shut down a workplace if it poses a risk to employee health and safety. This can have significant reputational damage on a business which it will find difficult, if not impossible, to recover from, according to Evans.

Navigating challenges

One of the biggest challenges in maintaining compliance with health and safety legislation is navigating the complex regulations and cumbersome government platforms required for reporting Injuries on Duty (IODs). These obstacles can make compliance expensive and daunting, especially for smaller firms that do not have dedicated health and safety resources to call upon.

Evans says one of the ways to overcome this is by appointing a specialist OSHA consulting firm. Such a firm can assist the construction company in setting up the necessary compliance frameworks, training staff, and managing ongoing safety requirements. Having access



to such a partner also means the company can use it to handle IODs if they should occur.

However, to foster a safe working environment, companies must prioritise consistent training and maintain visible safety signs in high-risk areas. Daily reinforcement of standards and consistent disciplinary actions for contraventions are essential. These practices help create a culture where safety is seen as non-negotiable, encouraging every employee to take personal responsibility

for their safety and that of their colleagues.

Technology boost

Advancements in technology offer promising enhancements to health and safety standards in construction. Take for example the growing adoption of wearable devices. These can monitor the health and safety of workers in real-time, providing alerts for hazardous conditions and helping prevent accidents, says Evans.

Drones can be used for site inspections and accessing hard-to-reach areas without putting human lives at risk. There are also digital platforms that can streamline compliance reporting and improve the efficiency of safety audits. Not only do these technologies improve safety, but they contribute to improved efficiencies especially when they are integrated into daily construction practices.

Regardless of the technology available and how sophisticated construction techniques are becoming, the focus must always be on health and safety in what is potentially a volatile environment. Evans says by embracing new tools and methodologies, those operating in the construction sector can significantly reduce risks and enhance safety, ultimately leading to more secure, productive, and successful construction projects.

Prioritising health therefore becomes not just safety and legal priorities. It is also essential from a moral perspective. Reducing construction accidents must remain the priority as we continue to build the world around us, she says.

Chemical safety and compliance linked to impacts on insurance

OPINION | WORKING with chemicals presents inherent risks to be mindful of, not only for the safety of your employees, but also to ensure that your business has the appropriate insurance cover. Insurers often have specific requirements related to the storage and handling of chemicals, and failing to meet these requirements can result in claim repudiation.

Karen Rimmer, head of distribution at PSG Insure advises on the essential considerations and steps that businesses (and individuals) need to take to stay compliant, safe, and fully covered by their insurance policies.

Compliance with legislation

The cornerstone of ensuring insurance cover for businesses working with chemicals is compliance with relevant legislation. Insurers consider applicable laws when assessing

claims, making it crucial for businesses to understand and adhere to the regulations that govern their operations.

Full disclosure of all relevant business information, including the chemicals used on-site, is essential. As Rimmer emphasises, "Failing to provide accurate and comprehensive information to insurers can have significant financial and operational consequences, underscoring the importance of working closely with an insurance adviser to meet compliance requirements."

Documentation and licensing

Businesses must ensure that all necessary licenses, permits, and compliance documentation stay up to date, readily available to enable a smooth claims process. She further advises that maintaining accurate records that demonstrate compli-

ance with legislation, regulations and safety standards is paramount. Businesses should also conduct regular fire safety checks and inspections to validate their adherence to safety protocols and requirements.

Suitable grounds and storage solutions

The building where chemicals are stored must be equipped to handle such materials. Factors such as occupancy classification, building construction, ventilation, and fire protection systems play a crucial role in determining the suitability of the premises for storing chemicals. Rimmer asserts that businesses must adhere to stacking compliance considerations, ensure proper storage locations, and implement fire detection and suppression systems tailored to the types of chemicals used on-site.

Spill response and safety measures

"Contingency plans need to be in place to address chemical spills and emergencies effectively. Employing certified and competent forklift drivers, access to spill response experts and providing appropriate safety equipment and emergency facilities for staff are vital components of proactive risk management. Implementing safety measures such as fire walls, separate storage areas, and proper ventilation systems further enhance the overall safety of chemical handling operations," says Rimmer.

Consult with an insurance adviser

By engaging with insurance advisers to assess specific needs and risks and regularly reviewing and

updating their insurance policies, policyholders can ensure they have adequate coverage tailored to their operations.

Proactively maintaining compliance with safety regulations, implementing proper storage and handling practices, and staying informed about insurance requirements are essential steps for businesses and individuals working with chemicals. As Rimmer concludes, "By prioritising safety, adhering to best practices, and engaging with insurance professionals, businesses and homeowners can mitigate risks, prevent accidents, and ensure they are fully covered in the event of a fire-related incident."

Remember, safety and compliance go hand in hand with comprehensive insurance coverage to protect your business, employees, customers, property and your loved ones."

The role of self-test breathalysers in tackling drunk driving

BY RHYS EVANS, MANAGING DIRECTOR AT
ALCO-SAFE

OPINION | THE Nelson Mandela Bay Municipality's Traffic Services is taking a commendable step towards safer roads with its targeted road safety programme. This initiative, which integrates education and self-testing breathalysers at major taxi ranks in Gqeberha, signifies a shift towards promoting responsible driving habits. However, the programme's long-term effectiveness will rely on two critical aspects: accessibility to testing, and most importantly, education on the subject matter in order for motorists to truly understand and compute the risks associated with drinking and driving.

A multi-faceted approach

Drunk driving statistics paint a grim picture, and the risk of accidents and fatalities escalates dramatically when drivers are under the influence. Therefore, a comprehensive approach is vital to curbing this problem. The introduction of self-administered breathalysers in the Nelson Mandela Bay metropolitan area is intended to empower taxi drivers to make informed choices about their sobriety before getting behind the wheel.

This self-testing mechanism is a positive step, but more is needed: greater accessibility and enhanced education. In terms of accessibility, a wider availability of self-test breathalysers at strategic locations beyond taxi ranks would significantly enhance the programme's reach. Placement in parking areas of bars,

restaurants, and entertainment venues frequented by motorists would amplify its impact.

As for the education aspect, the true power of self-testing lies herein. Strong campaigns are needed to educate the public about the dangers of drunk driving and the legal Blood Alcohol Concentration (BAC) limit, and this knowledge empowers individuals to utilise self-test breathalysers effectively. While having access to self-breathalyser equipment is a crucial first step to curbing drunk driving incidents, the reality is that if a motorist does not understand the reading produced by the device (and the consequential risks attached to this reading), then the exercise may prove fruitless. Motorists need to be equipped with the knowledge on why they should not be drinking and driving.

Address the root cause

While self-testing offers a valuable tool, it's important to address the root cause of drunk driving: a lack of awareness regarding the associated risks. Without a comprehensive education campaign, the effectiveness of self-testing will be severely limited, as many drivers unfortunately lack a clear understanding of the dangers of drunk driving and the legal BAC limits.

Educational campaigns are integral to addressing this knowledge gap and must extend beyond simply encouraging testing.



They should:

- Highlight the dangers: emphasise the devastating consequences of drunk driving, not just for the driver but also for innocent passengers and pedestrians. Vivid portrayals of accidents and victim stories can serve as powerful deterrents.

- Debunk myths: many misconceptions surround alcohol consumption and its impact on driving ability. Campaigns should dispel these myths, stressing that even a small amount of alcohol can impair judgement and reaction time.

- Raise awareness about the process of alcohol metabolism and how factors like weight, food intake, and individual tolerance affect BAC.

- Promote responsible alternatives: educate the public on alternative transportation options like designated drivers, ride-hailing services, or public transport after consuming alcohol.

Expanding the reach of prevention through accessibility

While the current programme for taxi ranks caters to a specific sector, drunk driving is a problem that affects all motorists. To truly make a difference, the accessibility of self-testing needs to be expanded. Potential solutions include the installation of self-test breathalysers at strategic locations, such as bars, restaurants, and event venues where alcohol consumption is common. To raise aware-

ness, this would need to run in conjunction with mobile breathalyser programmes, where trained officials conduct breathalyser checks at public events or social gatherings.

Amplifying law enforcement effectiveness

Law enforcement must still play a critical role in deterring drunk driving, with police officers acting as a visible deterrent on the roads to remind motorists of the potential consequences. However, their effectiveness rests on proper training, as officers need a deep understanding of the dangers posed by drunk drivers, not just the legal aspects. This empowers them to identify intoxicated drivers through standardised field sobriety tests and an accurate assessment of behaviour. Police officers must also be adequately trained on breathalyser testing procedures to become a powerful force in keeping drunk drivers off the roads.

A multifaceted approach

The Nelson Mandela Bay Municipality's programme demonstrates a proactive approach to tackling drunk driving. By combining self-testing with education and potentially expanding accessibility, this initiative has the potential to significantly reduce drunk driving incidents. However, achieving lasting change requires a multi-faceted approach. Sustained public awareness campaigns and increased enforcement measures around self-testing breathalyser stations are essential in fostering a culture of responsible driving.

Update: Compliance regulations and legal requirements

ENSURING compliance with various regulations is critical for businesses to operate legally, ethically and efficiently. The National Occupational Safety Association (NOSA) explains different types of compliance regulations and the importance of staying updated with the latest standards.

Financial compliance regulations

Financial compliance regulations maintain the integrity and stability of the financial system. These regulations protect consumers, ensure fair practices and prevent financial crimes such as fraud and money laundering.

Key aspects of financial compliance regulations include:

- Ensuring financial institutions operate trans-

parently and fairly.

- Mandating financial institutions to report their activities to regulatory bodies ensuring transparency.
- Safeguarding consumers against unfair practices and financial misconduct.

ESG compliance

Environmental, social and governance (ESG) compliance refers to a company's commitment to operating sustainably and ethically. ESG factors are increasingly important to investors, customers and regulatory bodies.

- Benefits of ESG compliance include:
- Reducing environmental impact through sustainable practices.
 - Ensuring fair labour practices, community

engagement and diversity.

- Maintaining transparency, accountability and ethical decision-making.

South African companies are encouraged to follow global ESG standards to attract international investors and maintain competitiveness. NOSA Auditing and Inspection Services has developed a self-evaluation list of selected requirements to assist businesses with ESG compliance.

Crypto compliance

In 2022, South Africa's financial conduct regulator, the Financial Sector Conduct Authority (FSCA), declared crypto assets to be financial products and said they needed to be regulated to protect financial customers from risks

and prevent money laundering and terrorism financing.

On 22 April 2024, the FSCA confirmed that it had approved a total of 75 institutions to be licensed as Crypto Asset Service Providers (CASPs) under the Financial Advisory and Intermediary Services Act.

As of 30 June 2024, the FSCA approved a total of 63 licence applications, bringing the number of licensed CASPs in South Africa to 138. The SA Reserve Bank ensures legal standards for crypto assets and does not currently recognise crypto assets as currency.

Anti-money laundering (AML) and Counter financing of terrorism (CFT)

AML / CFT regulations are designed to detect and prevent money laundering and the financing of terrorism. These regulations require financial institutions to monitor, detect and report suspicious activities.

Key requirements are:

- Criminalising terrorist financing;
- Supporting investigations using financial intelligence;
- Identifying higher-risk businesses and professions.
- The Financial Action Task Force – which sets international standards to combat money laundering, terrorist financing and other financial crimes – greylisted South Africa in February 2023 and adopted an Action Plan with 22 items linked to strategic deficiencies in the country's AML / CFT regime.

South Africa aims to address all 22 items by deadlines ranging from January 2024 to January 2025, with the goal of exiting the FATF greylist by June 2025. To date, 14 of the 22 items still need to be addressed.

Legal compliance courses

Legal compliance courses educate individuals and businesses on how to adhere to legal requirements and regulations in various sectors.

These courses matter because they:

- Help businesses stay informed about frequently changing laws and regulations;
- Prevent legal issues and fines by understanding legal requirements;
- Enhance overall business operations and trust through knowledge of compliance.

Regulatory compliance courses

These courses provide comprehensive training on industry-specific regulations and general compliance principles. The company also offers Consider SafetyCloud's 100+ safety-related training courses, skills programmes, qualifications and work-based learning.

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PUMPS, VALVES, PIPES & FITTINGS

Dewatering specialist's acquisition opens rental opportunities

ATLAS Copco has acquired Integrated Pump Rental (IPR), seamlessly integrating the dewatering pump rental specialist into its specialty rental division, a business area of Atlas Copco Power Technique.

Rand Air, part of Atlas Copco Group, has been a trusted rental partner in southern Africa for over 50 years. Karel Verstraeten, general manager at Rand Air, says, "Our historical strength in South Africa lies in air solutions, and we have a solid presence in power. We are also making significant strides in developing our rental steam offerings, which are new to the local market. However, we recognised the need for enhanced expertise in our pump rental solutions, prompting our decision to acquire IPR. This integration brings a fully operational, well-known and respected pump rental brand into The Atlas Copco Group."

According to IPR managing director Lee Vine, IPR has maintained a competitive edge in the dewatering pump rental market by continuously upgrading its fleet with the latest technological advancements, ensuring enhanced efficiency, reliability, and environmental performance for end-users.

Highlighting the strategic benefits of the acquisition, Verstraeten emphasises that it not only enhances the company's pump rental offerings and unlocks new markets but also facilitates territorial expansion. "With Atlas Copco's strong presence across Africa, our collaboration with

IPR, along with the addition of new expertise, capabilities and resources, positions us to accelerate the growth of our rental pump solutions. This will allow us to expand our footprint, especially in the northern regions of the continent, fully capitalising on the significant potential within the dewatering pump sector across Africa."

Verstraeten further notes that while the primary market impact of this acquisition is essentially on the rental side, it will also ramp up the company's sales efforts. "Leveraging the synergies between Rand Air and IPR, our goal is to grow a competitive hub for all of Africa, enhancing both our specialty rental operations and sales efforts."

In line with its Africa expansion strategy, Rand Air has begun expanding its rental services into other countries on the continent, achieving promising results in Mozambique and establishing a presence in Tanzania. Preparations are underway for the next phase, which will involve extending the company's full pump solutions northward when the time is right. "We have made a strategic decision to start with Zambia, given the country's copper mines and its proximity to the DRC, which is also rich in copper and other rare earth minerals," says Verstraeten.

Ensuring stability and continuity for both companies will be a key priority over the next few months. "We want to reassure our customers of our commitment to maintaining excel-

lent service," elaborates Verstraeten. "Our next focus will be on exploring how we can enhance value through our expanded offerings. While there are some overlapping products, the true strength of our new partnership lies in the unique and complementary qualities each brand brings to the rental table, allowing us to offer greater value across the board, attract new customers, grow our businesses and strengthen our market position especially within the mining, quarrying, construction and wastewater sectors." Vine adds that the partnership with Rand Air will grant access to Atlas Copco's extensive global expertise and resources, further enhancing the mutual benefits of the collaboration.

Verstraeten and Vine agree that Africa's mining industry offers significant opportunities due to this sector's demand for diverse product solutions. Vine notes mining's growing demand for dewatering pumps for effective water management and dry working conditions. "Through our partnership, we can now address previous product gaps, allowing customers to work with a single supplier for all their on-site utility needs, whether temporary or long-term."

Verstraeten emphasises that customers who previously rented pumps from IPR and sourced compressors and generators from other suppliers can now meet all their air and power rental needs from a single source.

"By cross-referencing our combined customer base, we will uncover opportunities to offer enhanced



Karel Verstraeten, GM of Rand Air (left), and Lee Vine, MD of IPR, celebrate their new partnership with a handshake

solutions to customers, some of whom may not yet realise the benefits of our comprehensive air, power, pump, and temperature rental services."

Training will play a key role in assisting both teams to familiarise themselves with each other's products and company cultures. However, according to Verstraeten, IPR, as a dedicated pump specialist, will not be integrated into Rand Air in the same way that power and air services are, given the com-

pany's closer alignment in the rental business.

For both Rand Air and IPR employees, it's business as usual, with the added excitement of engaging with new colleagues from both sides. "While we anticipate some challenges, the overall mood is extremely positive," says Verstraeten.

"At Rand Air, we embrace challenges, and in keeping with our culture of flexibility and problem-solving, our employees are adapting exceptionally well."

New system improves performance of magnetic drive pumps

KSB Pumps and Valves has introduced its ground-breaking MagnoProtect system for the local petrochemical, chemical and general industry markets to enhance the safety and performance of its magnetic drive pumps.

KSB's MagnoChem range of magnetic drive pumps are designed for industries where handling hazardous and valuable liquids without leakage is paramount. Traditionally, these pumps use mechanical seals, often requiring double mechanical seals for extra protection against leaks. However, these double seals demand an additional sealing system using buffer or barrier fluids to prevent the pumped liquid from escaping into the atmosphere. This method, while effective, has significant drawbacks, including the potential contamination of the pumped fluid, with pressurized systems, and the added complexity and cost of maintaining the sealing system. ridah Magoro, KSB's market area manager for petro-/chemicals and energy in sub-Saharan Africa, explains that the contamination of valuable fluids due to seal leaks can result in additional costs.

Recognising these challenges, KSB has developed the MagnoProtect system, which enhances the reliability and safety of magnetic drive pumps by eliminating the need for traditional mechanical seals and their associated drawbacks.

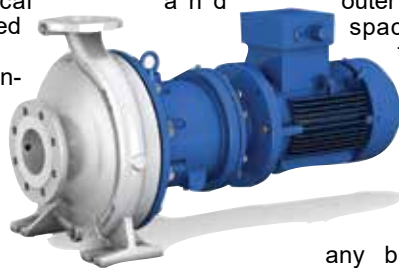
"Compliance with stringent industry standards and regulations is non-negotiable in chemical and petrochemical operations, and our MagnoProtect system ensures that our MagnoChem pumps meet the relevant international standards, including API 685 and ISO 5199. This compliance guarantees that the pumps are suitable for use in highly regulated environments, providing peace of mind to operators and plant managers."

"Our MagnoProtect system is essentially an upgrade to the existing MagnoChem pumps which are designed with a magnetic drive to inherently avoid the leakage issues associated with mechanical seals. The new MagnoProtect system

incorporates a dual shell or "can-design," which is an evolutionary to provide yet another layer of security against leaks."

"To do this it features an inner and outer shell, with the space between these shells filled with a monitoring liquid and maintained at a vacuum. This design ensures that any breach in the inner shell results in a detectable change in pressure in the space, providing early leak detection. The vacuum between the dual shells is continuously monitored. Atmospheric pressure within this space indicates an outer shell breach, while an increase in pressure signals an inner shell breach. This dual monitoring system allows for early detection and preventive maintenance, minimising the risk of hazardous leaks," Magoro explains.

She continues that the new design also features grooves that



help reduce eddy current losses by up to 20% compared to previous models. This improvement not only enhances pump efficiency but also reduces operational costs as a result of energy savings. This efficiency also extends to maintenance. The modular assembly can be quickly replaced which further minimises downtime and ensures that the pump can return to operation swiftly.

Some of the advantages of the MagnoProtect over traditional mechanical seal systems include:

- By removing the need for buffer or barrier fluids, the MagnoProtect system eliminates the risk of fluid contamination. This is particularly crucial for handling valuable or hazardous fluids where purity is essential.
- The reduced need for additional sealing systems and the lower risk of leaks translate to significant cost savings in both operational and maintenance expenses.
- The dual-shell design with vacuum monitoring provides a fail-safe mechanism, ensuring that any leaks are detected early, thus preventing hazardous fluid release

and ensuring a safer working environment.

- An important aspect of the MagnoProtect system is its retrofit capability. Existing MagnoChem pumps can be upgraded with the MagnoProtect system, providing users with the latest safety and efficiency enhancements without the need for a complete pump replacement. This retrofit involves installing the new dual-shell and integrating the vacuum monitoring system, making it a cost-effective upgrade for existing installations.
- Cost effectiveness when compared to Pumps with double mechanical seals and Systems.

"Our new MagnoProtect system represents a significant advancement in the field of magnetic drive pumps and offers improved safety, efficiency and ease of maintenance. By addressing the limitations of traditional mechanical seal systems and providing a better solution for handling hazardous and valuable liquids, users can continue to prioritise safety and efficiency with either new or retrofit systems," Magoro concludes.

Local manufacturer launches patented combi jetting and vacuum pump

WERNER Pumps, a leading manufacturer of high-pressure jetting equipment in South Africa, has patented its wet and dry combination jetting and vacuum truck unit, designed and manufactured locally in South Africa. The company has already built and sold the first few units and believes demand for such trucks will continue to increase.

Sebastian Werner, MD at Werner Pumps, says the company has built on the success of its IMPI Combi Unit, a versatile machine suited to many applications, to fill a gap in the market for a truck that is able to meet dry vacuuming application requirements too.

"We found that customers were looking for a machine that could not only be used in wet

jetting and vacuuming applications, such as stormwater drain or sewer cleaning, but also for dry applications, such as dust suppression on mines or managing fly ash in power generation facilities," he says. "We developed a new version of our vacuum pump to address these needs, and we've seen that the unit performs well in the 'in-between' applications too, such as vacuuming slurry. This makes it a great investment for customers using it for multiple applications. We've already deployed the first unit, and the customer is very happy with its performance."

As with the dry-only system, the high-pressure pump on the Werner wet/dry IMPI system has a capacity of 295l/min at 135 bar and is

fitted with a pneumatically operated regulating valve, making pressure adjustment simple and contributing to operator safety.

The vacuum pump has a 2400m³/hr suction capability, and the vehicle is fitted with a 12.500 litre stainless steel tank. Other features include a hydraulic slewing suction boom, two hydraulic-driven hose reels and multiple toolboxes.

"We're always looking to innovate based on what our customers need," says Werner. "We also love to prove that South Africa offers

great local products and technology that can compete with our international counterparts and even exceed what they offer for the African market."



Electrically operated diaphragm pumps perform in caustic services

BMG's new EVO series electric diaphragm pumps – which form part of Ingersoll Rand's ARO fluid handling products – are designed to enhance energy efficiency and improve fluid handling productivity in many industries, including the chemical and petrochemical sectors.

EVO metallic diaphragm pumps are manufactured in cast iron, aluminium and stainless steel for applications that require durability and tensile strength. Non-metallic options include polypropylene and conductive polypropylene for high corrosion resistance especially useful in caustic services in the chemical industry.

These versatile electric diaphragm pumps – which incorporate features that have previously not been available in a single pump solution – are engineered to deliver high performance and serviceability, enabling users to achieve high efficiency, extended service life and the best cost of ownership.

"The new EVO series integrates key benefits of ARO air-operated pumps, incorporating important features from other pump technologies, to offer an efficient electric diaphragm pump with controllability," says Joe Pinheiro, BMG's national product manager, pumps.

"Conventional electric pumps normally have a double diaphragm design with a direct drive electric motor, while new ARO EVO pumps have a specially designed triple dia-

phragm, with an integrated variable drive, maintenance-free gearbox and control panel. The leak-free design with a secondary containment system, prevents the escape of hazardous fluids and oils and is enhanced by automatic leak detection.

"Due to the high-resistant three chamber design, there is no need for a pulsation dampener. These pumps have a true deadhead when the downstream valve is closed, automatically preventing the pumps from spinning, while holding the pressure."

EVO electrical diaphragm pumps can handle the most aggressive and corrosive fluids and are available from BMG in a choice of two sizes and five different materials of construction.

Size 1" pumps are equipped with a 2.2 kW gear motor and 3.0 kW VFD that provides versatility for small batch and dosing applications. Size 2" pumps are equipped with a 5.5 kW gear motor and 7.5 kW VFD for large fluid transfer applications.

Other important features of EVO electrically operated diaphragm pumps are easy installation and maintenance – even in confined spaces and because this is a single pump system, there is no need for users to purchase accessories.

This system, with built-in control and monitoring capabilities, is IOT ready and offers full integration through PLC or HMI devices.

These electric diaphragm pumps, which conform to stringent international quality and safety specifications, are also supplied with hazardous duty certifications for hazardous environments.

Apart from applications in the chemical and petrochemical sectors, these pumps are designed for use in processing, mining, wastewater treatment, manufacturing and general industry.

Also, in BMG's ARO range are the PRO series air-operated diaphragm pumps, designed to efficiently pump any type of liquid – from clean, light to medium viscosity fluids, to highly corrosive and abrasive fluids. ARO pumps can also transfer large particles without damaging the pump.

Notable features include a seal-less, self-priming design, with low material shear and minimal maintenance requirements. These portable pumps are easy to install and can run dry without damage. Most ARO diaphragm pumps are ATEX certified (CE Ex11 2GD

X) enabling safe use in potentially explosive areas.

This feature makes the ARO pumps ideal for underground applications, such as dewatering.

ARO PRO series air-operated diaphragm pump air motors, which are lubrication-free, have positive sealing characteristics and make use of a specially designed unbalanced air valve to prevent stalling issues associated with operation at low pressures. Exhaust valves divert cold air away from components that are prone to ice build-up.

Metallic and non-metallic air-operated diaphragm pumps are available from BMG in various materials and porting configurations to suit numerous applications, including transfer, loading/unloading/filling, re-circulation, system flushing and batching/blending in many industries.

A range of speciality pumps is also available from BMG, including Stainless Steel sanitary pumps (FDA compliant), 2:1 and 3:1 high-pressure pumps, submersible double diaphragm pumps, air-driven submersible pumps, anti-freeze blending pumps and UL-approved fuel transfer pumps.

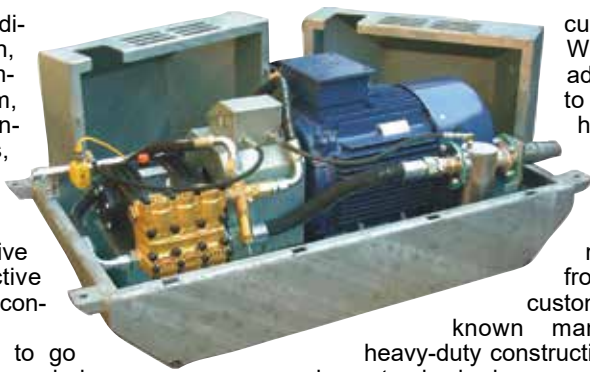
BMG supports this range with a technical advisory service to ensure the selection of the most suitable pump for every application. The company also supplies a full range of ARO diaphragm pump parts and accessories for standard repair and maintenance requirements.



Problem-solving a major part of the pump business

HAWK Pumps is dedicated to innovation, growth and problem-solving. Troy Mokawem, national operations manager at Hawk Pumps, believes that innovation begins with a bit of inspiration and shares two cases where creative thinking provided effective solutions for mining and construction clients.

"Sometimes, we need to go beyond our everyday boundaries in order to stay ahead in business," says Mokawem. He continues, "Innovation and inspiration are the only ways we can move forward. And as a supplier of a number of high-pressure spraying and pumping products, customer requests are not always



cut and dried. We have to adapt and invent to keep them happy."

This was very much the case when Hawk received a brief from a returning customer – a well-known manufacturer of heavy-duty construction and mining equipment, who had an unusual project for the team to tackle.

"They needed a heavy-duty pressure system that had to be trailer mounted," says Mokawem. "The purpose of this unit was not only for cleaning the chassis after production, it also had to be able to remove the burrs cre-

ated by the automated welding robots.

"Our solution was a 380 V, 1000 bar electric system. When cleaning the chassis, a dump gun and rotating nozzle was used and when removing the burrs, a 15° nozzle, rated at 1000 bar, sprayed at an angle and easily sliced off the burrs."

When Mokawem received an email from Australia from an engineer who had seen Hawk's stope washer units, as used in the gold mines in South Africa, the client indicated that he wanted Hawk to adapt the unit to suit Australian requirements – for the purpose of cleaning the massive dump trucks used in open cast mines.

Mokawem says, "The challenge here was that they required a 1000 V machine, which we don't use in South Africa. Aside from having to source the motor and electrical components, we had no way of testing the unit once it was completed. But the customer was

so confident in our ability, he was willing to take that risk.

"The washer was successfully completed and shipped to Western Australia where it arrived safely and is reportedly working well.

"We recognise that many customers have unique situations and conditions that they need to operate under, and an off-the-shelf option is just not going to work for them. As such, we are driven to develop customised solutions to suit those customers' unique circumstances.

"Covid-19 has forced us all to adapt. Constant innovation is the only way we as organisations can continue to thrive and stay ahead, providing employment and enrichment opportunities for young people in the long run. As responsible businesses, it falls to us to be agile; to change with the times so that we help create a fertile economic environment for the future."

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New valve with small footprint

VALVE specialist Gemü is expanding its product range in the sector of single-use pinch valves with the compact, motorised Gemü Q51 pinch valve.

What sets the new motorised valve apart is its compact design, and consequently its small footprint in the plant.

Thanks to its motorised actuator, the new pinch valve can also be used even in environments where compressed air is not available.

It expands the Gemü product range in the sector of single-use pinch valves, in actuator size 0 for tube inside diameters of 1/8" and 1/4" and tube outside diameters of 1/4", 3/8", 7/16" and 1/2".

For single-use pinch valves, the tube is inserted into a secured retainer. The medium inside the tube can be regulated and controlled by compressing the tube. The compressor of all Gemü pinch valves has a specially developed contour, which minimises the stress on the tubes and increases the service life.

This is also the case for the Gemü Q51. This makes it suitable for single-use applications where the focus is on a compact design and a simplified plant design, and where cross contamination must be avoided.



COMPANY & PRODUCT NEWS

Next-gen rammers break new ground in SA

WACKER Neuson, a global leader in light and compact equipment, is proud to announce the launch into the South African market of its latest generation four-stroke rammers. These new BS62-4 and BS68-4 models represent a significant leap forward in rammer technology, continuing the company's long-standing tradition of innovation.

Building on a rich heritage that dates back to 1848, Wacker Neuson has consistently remained at the forefront of compaction technology. In 1930, the company set a new benchmark in soil compaction with the invention of the electric rammer which dramatically boosted productivity on job sites.

As industry needs evolved, Wacker Neuson continued to lead with innovations such as the two-stroke rammer introduced in the mid-20th century, which enhanced mobility and ease of use. This was followed by the launch in the early 2000s, of the first four-stroke rammer, bringing notable improvements in fuel efficiency, reduced emissions, and lower operating costs.

"Wacker Neuson is a leading

force in the South African rammer market, renowned for our innovation and reliability," says Stefan le Roux, sales manager for Wacker Neuson South and sub-Saharan Africa. "Holding a substantial market share, our rammers have become a staple on construction sites throughout the country. Building on this success, the new BS62-4 and BS68-4 units, which mark the latest evolution in Wacker Neuson's four-stroke rammer series, are engineered to meet the demands of modern construction, through enhanced performance and improved operator comfort."

The BS62-4 and BS68-4 rammers, which are replacing the current BS50-4 and BS60-4 models respectively, feature several key advancements aimed at enhancing performance and kinematics. These upgrades facilitate handling and deliver superior compaction results. The rammers' four-stroke engine offers increased frequency and exceptional impact force, making these machines perfect for the most challenging job sites. Additionally, the environmentally friendly power



units feature low emissions and enhanced fuel efficiency.

The precision-engineered rammers are constructed from robust, high-quality materials to withstand the most stringent job-site conditions. The reinforced crane eye increases wear resistance and is bolted directly to the housing to reduce stress on the rubber buffers, thereby improving durability

and extending lifespan. Both models are equipped with a standardised, interchangeable ramming shoe that is available in various widths to fit all rammer sizes, offering maximum flexibility and simplifying spare parts inventory management.

An efficient, high-capacity air filter with double the surface area, ensures reliable filtration, delivering consistent engine performance and prolonged operational life, particularly in dusty environments.

The optimised carburettor improves combustion, simplifies starting, and reduces emissions. Additionally, the larger fuel-filler opening facilitates refueling and also features a ratchet closure to prevent overwinding.

Addressing the important topic of operator safety, Le Roux highlights the ergonomically redesigned guide handle with a larger pipe diameter which minimises wrist strain during operation, subsequently enhancing user comfort, reducing fatigue and improving safety.

Taking into account that uptime

and productivity are critical factors on essentially any job site, Le Roux emphasises that these rammers are designed for easy maintenance, featuring streamlined procedures and readily available parts to ensure rapid deployment.

Always at the cutting edge of technology, Wacker Neuson, offers its in-house developed EquipTrack, an optional digital solution that will optimise the operational management of the new rammer models. "This advanced feature improves work transparency and maintenance scheduling by enabling users to, via a Bluetooth module, seamlessly capture, record and analyse critical data such as operating hours, status, overload detection, and more," explains Le Roux.

With the introduction of the BS62-4 and BS68-4 rammers, Wacker Neuson reaffirms its commitment to the South African market, pledging to continue delivering advanced, reliable equipment to local construction professionals. "These new models are expected to become essential tools for contractors, helping to improve productivity and efficiency on job sites," says Le Roux.

SA tile production process transformed with robotic solution



HARVEY Roofing, a division of Macsteel and a leading provider of roofing solutions, proudly announces a significant milestone in its commitment to innovation and advancement in the industry. Through a strategic partnership with renowned industrial robotics manufacturer Yaskawa, Harvey Roofing is set to revolutionise its roof tile production process, leveraging a unique prototype product and cutting-edge robotics solutions to enhance efficiency, quality, and sustainability.

As the demand for high-quality roofing materials continues to grow, Harvey Roofing recognised the need for an innovative approach to upgrade its current manufacturing process. "After the successful rollout of our prototype product and funding for our business case, we had to approach various suppliers to make this a reality," says Frikkie Erasmus, business unit executive at Harvey Roofing Products. "Our choice for robotics boiled down to addressing safety concerns, increased efficiency and accuracy, as well as the extended lifespan of the robots."

Harvey Roofing's relationship with Yaskawa pre-dates this project, having previously implemented feeding robots for its roofing products, resulting in high efficiency and reduced scrap. Now, the roofing company aims to upgrade the production line of one

of its most innovative products: Harvey EcoTile. Constructed from a mineral polymer composite, the EcoTile is a sustainable answer to an industry that has seen minimal improvement in centuries. Harvey EcoTiles are lightweight, strong, weatherproof, paintable, and maintenance-free.

"Yaskawa sealed the deal with their innovative solutions, prompt response, reputation, and positive existing relationship with Harvey Roofing", explains an enthusiastic Erasmus. "We wanted to make the changes necessary to be competitive on the world stage when comparing to cost per unit". Following the successful extrusion of composite slabs, Yaskawa would then handle the downstream elements, automating the production process from start to finish.

Overseeing the installation and set-up were two technicians and one project leader from Yaskawa, working alongside Harvey Roofing's own project leader and specialist. The relationship between the roof tile leader and robotics experts is in an exciting stage, with both invested in improving efficiency and plenty of room for further development to match demand. For now, Harvey Roofing is poised to meet its automation goals with innovative industrial robots from Yaskawa while delivering superior sustainable products like the Harvey EcoTile to its valued customers.

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Food-approved CIJ ink developed for use on monomaterials

GLOBAL packaging leader Südpack and industrial printing specialist Leibinger have joined forces to meet the growing demand for sustainable packaging solutions. The first joint project is testing the suitability of CIJ inks for printing on recyclable films for packaging food that is sterilised following the packaging process. The tested system combination of packaging and printing saves food manufacturers time and ensures investment security.

Today, packaging films are expected to be resource-saving and recyclable to support a circular economy. The EU Packaging Regulation requires all packaging on the EU market to be recyclable by 2030. As a result, composite materials are being increasingly replaced by monomaterials. If these monomaterials are not equipped with a barrier function that prevents ink

components from migrating to food, they may only be printed with harmless ink. This raises the requirements for the production, coding & marking of packaging films.

Advancing R&D for more sustainability

The packaging market is experiencing very fundamental changes. And it is with this in mind that Südpack is continuously expanding its portfolio of recyclable film solutions. The company is developing monomaterials that are very much on par with previous composite materials – both in terms of convenience and protection. For printing and coding this type of food packaging, Leibinger offers industrial inkjet printers and develops special continuous inkjet (CIJ) inks together with SIS Ink Solution, a Leibinger Group company.

The interaction of these components is the focus of the joint project between Südpack and Leibinger.

Sterilisation resistance of CIJ ink

Are continuous inkjet inks suitable for printing on and subsequently sterilising recyclable food packaging? Specialists from both companies investigated this very question at Südpack's technical centre. The team printed the innovative single-material solutions based on PE and PP with advanced CIJ ink. During the subsequent steam sterilisation, the printed films were heated at 121°C for 30 minutes. Assessment of the print samples before and after sterilisation showed that the print was still perfectly legible. The inks used are suitable for printing on food contact materials. This means that they only contain raw materials that are approved in compliance with the



With special Leibinger inks, the recyclable food packaging from Südpack can be marked and then sterilized. Johann Gühr, business development and innovation manager at Südpack (right), and Michael Wöhrmann, director business development at Leibinger (left), are pleased with the successful outcome of their joint project.

Source: Paul Leibinger GmbH & Co. KG

German Printing Inks Ordinance and the Swiss Commodities Ordinance.

Project genesis

The idea for the joint project between the two family-run Swabian companies Südpack and Leibinger originated at a meeting at the PackExpo trade fair in Chicago in 2022. Together, the two companies set themselves the goal of providing food manufacturers with a packag-

ing and printing solution that had already been tested for key customer requirements.

"The sterilisation resistance of ink is always a major challenge. I am delighted that we have succeeded in developing a food-approved CIJ ink that is this effective when printing on monomaterials," explains Dr Thomas Paul, ink expert and managing director at SIS Ink Solution, a Leibinger Group company.

Transforming hydrogen mobility with a new air compressor

AS the world pivots towards cleaner energy, with hydrogen emerging as a renewable source kingpin, Atlas Copco is stepping up its green narrative with the introduction of the new state-of-the-art H2Y hydrogen compressor.

"We designed the H2Y hydrogen compressor to meet the growing demands for hydrogen mobility which is driven by the global energy transition," says JC Lombard, business line manager for Atlas Copco Compressor Technique's oil free air division. "The future of hydrogen mobility hinges on robust and reliable compression solutions so these machines are so much more than just products; they are integral to the sustainability of the hydrogen industry."

Whether for high-pressure applications or fuelling stations, Atlas Copco's groundbreaking technology is poised to deliver safe, reliable and efficient hydrogen compression, ensuring continuous operation for a range of critical applications.

Lombard explains that the H2Y hydrogen compressor is a vital component for fast-fill, time-fill and combination-fill hydrogen stations which depend on a constant and steady supply of compressed gas. Atlas Copco's solutions are engi-



neered to maintain seamless operations, safeguarding both processes and profitability and mitigating costly downtime that can have a direct

impact on revenue.

Atlas Copco's hydrogen compression systems represent a comprehensive approach that optimises every facet of hydrogen mobility. The company has integrated its pioneering Variable Speed Drive (VSD) technology and Proportional Control systems to enable the H2Y compressors to adapt to fluctuating inlet pressures, subsequently enhancing efficiencies while reducing energy consumption. Lombard notes that this adaptability is particularly crucial in

virtual gas pipelines, where consistent performance is essential.

Quality assurance is a cornerstone of Atlas Copco's approach. Each hydrogen compressor undergoes rigorous factory testing and is containerised to ensure that the machine arrives on-site fully operational. This modular, plug-and-play solution simplifies installation, reducing both the time and costs associated with setting up new hydrogen fuelling stations.

Lombard concludes: "Atlas Copco's groundbreaking technology is poised to deliver safe, reliable and efficient hydrogen compression, setting a new industry benchmark in hydrogen mobility and ring customers to meet their sustainability goals with confidence."

To modularise or not to modularise – what is the right value solution?

BUILDING a plant of any scale requires a great deal of planning and forethought; and modularisation can offer a significant value solution to a construction project.

The cornerstones of modularisation are high quality, accuracy, productivity, and safety as a result of off-site module fabrication in an enclosed, controlled workshop area, unhindered by adverse and hazardous environmental conditions.

Given the many advantages associated with modularisation, it is often considered as the go-to for all projects. However, Richard Kirk, head of project management and services at thyssenkrupp Uhde South Africa, cautions that modularisation is not necessarily always the right solution. "Each project is unique, and a number of critical factors must first be considered before an informed decision can be made on what will present the most viable solution - complete or partial modularisation in combination with stick-build or even on-site stick-build only."

To find the right solution requires the trifecta of experience, knowledge and expertise. thyssenkrupp Uhde's decades of global and local experience in modularisation, with countless modular plants successfully executed worldwide, perfectly position the organisation as a specialist that is able to offer expert advice to customers on whether the modular option is the best value solution. "We refer to a value solution," explains Kirk, "because it may not always be the most economical solution."

First, value adding factors such as efficiencies and safety must be weighed in to determine economic viability."

Plant location, logistics and the environment are three further key factors that must be considered before deciding on whether modularisation is the best option. Plants situated in remote areas with limited or no access to energy, water and labour resources are clear candidates for modularisation. Other conditions that can advocate a modular approach include difficult or hazardous onsite conditions where safety enhancements are a key decision factor.

Steven Hendry, head of construction at thyssenkrupp Uhde South Africa, draws a comparison between on-site and off-site construction. "There are a multitude of variables at play on-site that cannot be controlled, and which potentially pose a risk to safety, affect work quality and impede productivity. For example, in the event of lightning, slippery conditions, gas leaks, power failures, water cuts, etc. work must stop."

"Additionally, work permits, working hours, and the like, can further restrict on-site work. Compare this to off-site module fabrication in a controlled environment where all the aforementioned risk factors and limitations are eliminated, leaving our skilled team free to work safely, unhindered and productively. In addition to improving schedules and speeding up manufacture and delivery times, work quality is also enhanced."



The decision to go the modular route affects the entire project execution process - engineering, procurement, fabrication, logistics, delivery, installation, final hook-up and commissioning. It's therefore essential that expert input is provided up front, right at the beginning of the project. Late decisions can turn into very expensive exercises due to all the necessary re-engineering and rework that are required.

Modularisation demands complicated end-to-end engineering right up to the smallest detail such as ensuring that all the links are 100% correct for fast and seamless onsite connection. "This needs people who have a clear understanding of the

entirety of the modularisation concept," say Kirk and Hendry. "Our highly experienced and professional thyssenkrupp Uhde personnel at our local office collaborate with a global team, tapping into a vast knowledge pool and drawing on countless references from all our modular plants. We bring correct professional project management including contract, site and construction management specialists. We have all the right programmes, systems and technologies that have been tried, tested and proven!"

The company also harnesses the expertise of specialist suppliers, partnering with competent, like-minded modular fabricators in South Africa, Thailand and many other parts of the world. These partnerships extend thyssenkrupp Uhde's flexibility, enabling the organisation to deliver modular solutions via land or sea to plants situated virtually anywhere in the world.

Kirk and Hendry point out that the transportation of the module is an important part of the preplanning process. "Route inspection is essential to ensure that obstacles such as low overhead power lines, poor roads and narrow bridges are factored in. This also enables us to predetermine the size and complexity of the modules. We may suggest some off-site module fabrication combined with stick building the rest of the project on site."

thyssenkrupp Uhde's modular builds range from small-scale packages right up to modules weighing in excess of 500t. "Our smaller solu-

tions make up a substantial portion of our modular business and deliver a significant savings element for customers," says Hendry. "Our recent fabrication of skid-mounted air compressors at the vendor's premises for an ammonia plant refurbishment project, is a great example of our small-scale build capabilities. Our skid solutions are fully tested off-site before delivery to site."

A large-scale build completed by thyssenkrupp Uhde involved the fabrication of some 20 to 30 modules weighing between 250t and 500t for a leading petrochemical customer. Kirk explains why this particular build is a classic example of a difficult work environment and late decision-making with associated cost implications.

"The customer realised late into the project that the wearing of full gas masks and protective gear at all times presented safety and productivity challenges, thus favouring an off-site modular fabrication over an on-site build. We applied our modular expertise and capabilities to complete a great deal of necessary rework and delivered an optimum solution for our customer in partnership with a specialist modular fabricator."

A four-year build of two modules required by another petrochemical customer for two separate projects was also recently completed by thyssenkrupp Uhde. Fabrication took place in the lay-down area from where the completed modules were transported to the operational area for hook-up.

New energy storage system well-suited to local business' needs

SUNGROW, a global leader in PV inverters and energy storage solutions, has unveiled its latest Commercial and Industrial (C&I) Energy Storage System (ESS), the PowerStack 200CS, at Intersolar Europe. This innovation comes at a crucial time for South Africa, where energy reliability and efficiency are top priorities.

South Africa faces significant energy challenges, including load-shedding, an unstable grid and the need for increased renewable energy integration. The PowerStack 200CS is designed to address these challenges directly by providing a robust, efficient energy storage solution that can help stabilize the grid and enhance energy reliability for industrial and commercial sectors.

Enhanced dispatching efficiency. The PowerStack 200CS features the EMS Smart Energy Dispatching System, utilising the En-grow algo-

rithm to develop optimal dispatching strategies through advanced data analysis. This technology can significantly enhance peak-shaving and demand management, which are critical in South Africa's energy landscape, where loadshedding and energy costs can impact operations.

High efficiency and reliability. With PCS intelligent core processing technology, the PowerStack 200CS achieves a remarkable energy conversion efficiency of at least 99%. For South African businesses facing high energy costs and the need for reliable energy supply, this efficiency ensures maximum return on investment and reliable performance.

Advanced cooling technology. The



second-generation intelligent liquid cooling system extends the system's lifespan and enhances energy efficiency. In South Africa's diverse climate conditions, this technology ensures that the PowerStack 200CS

performs optimally in various temperatures, reducing auxiliary power consumption and providing cost-effective energy savings.

Tailored for South African business needs

Seamless integration and flexibility. The PowerStack 200CS's design allows for easy installation and scalability, addressing the need for adaptable energy solutions in South African commercial and industrial applications. Whether used in urban settings with space constraints or larger industrial areas, the system's flexibility supports a wide range of configurations and applications.

Smart operation and maintenance. With integration into the Sungrow

intelligent energy cloud platform, the system enables remote monitoring and management, which is particularly beneficial for South African businesses spread across large areas or dealing with frequent power disruptions. This feature reduces operational and maintenance costs and improves energy management efficiency.

Safety is a top concern in South Africa's energy sector. The PowerStack 200CS offers comprehensive safety features, including cell-level AI health management and multi-tiered overcurrent protection. This ensures that the system operates safely and reliably, even in challenging conditions.

Sungrow's advanced technology provides a viable solution to the pressing energy challenges faced in the region, supporting South Africa's transition to a more resilient and reliable energy system.

Tough forklifts for tough Eastern Cape conditions

CRITERION Equipment's sub-dealer in East London, Buffalo Forklift and Fleet Services – supplies and supports the full range of TCM forklift trucks in the region. These robust machines, with capacities from 2.5-ton to 20-ton, are reliable workhorses that ensure high performance and safety in all sectors, including tough industrial applications.

According to Buffalo Forklift, users of TCM forklift trucks are impressed by the versatility, efficiency and low maintenance requirements of these machines.

The Buffalo Forklift team is headed by Carl Boshoff, who started his career at Criterion Equipment's East London branch, approximately 26 years ago and has a wealth of experience in servicing and maintaining TCM forklift trucks.

"Our customers need forklifts that are able to operate safely and efficiently for long periods in harsh conditions and TCM machines consistently measure up to these demands," says Boshoff.



"Forklifts are used for many critical applications, including carrying drums of chemicals and raw materials, heavy metal pipes, containers of stock and large engineering components for maintenance.

"To ensure high productivity and optimum safety, our team advises

every customer on the selection of the correct forklift for specific applications. It is important that machines have the stability to move goods safely around large sites and can also operate safely in tight spaces and on rugged terrain.

"We are very impressed with the

performance of TCM forklift trucks. These units have been engineered with minimal electronics, which is an advantage because the likelihood of electronic malfunctions is reduced, operation is easier and there are fewer replacement components.

"These versatile machines have also been designed for effortless customisation to meet specific customer requirements.

"We supply various attachments that ensure precise lifting, loading and stacking of materials, as well as for safely handling palletised goods, bulk materials, or oversized equipment. Attachments include fork extension sleeves, fork positioners, load grabs and rotating forks."

TCM forklift trucks have been developed for easy handling, greater stability, cost-efficient operation, low maintenance requirements and extended service life - even in harsh, dusty conditions. These versatile and durable machines have been engineered to operate efficiently and safely in all weather conditions, over arduous terrain and in tight spaces.

Buffalo Forklift supplies the full range of TCM forklift trucks, covering most forklift classes. These include electric counter-balance trucks, reach trucks, powered pallet trucks, as well as Internal Combustion (IC) counter-balance trucks. Battery powered TCM forklifts are gaining popularity for use in stores and warehouses.

Advancements in forklift technology – particularly in eco-friendly electric models - contribute to sustainability efforts by reducing harmful carbon emissions, lowering noise levels, enhancing energy efficiency and minimising environmental impact.

The Buffalo Forklift team advises its customers to maintain high productivity and minimise downtime of a machine, by implementing a regular inhouse maintenance programme, stressing the importance of original TCM parts. Users are also advised to have machines professionally load-tested.

Manufacturing Survey indicates optimism despite headwinds

CONFIDENCE levels among local manufacturers held steady at 28 points during the third quarter, according to the latest Absa Manufacturing Survey.

This was driven mainly by manufacturers' optimism regarding policy direction after a peaceful election and the formation of the Government of National Unity (GNU). Prior to elections, manufacturers highlighted the political climate as a key constraint to current activities, but in the Q3 survey results, this indicator improved by a substantial 21 points, aligning to levels last experienced over a decade ago.

"The current positive sentiment towards the developments in the political landscape seems to have offset the demand side challenges as well as an increase in unit production costs and a decline in output," says Justin Schmidt, executive for the manufacturing sector at Absa Business Banking. "This level of confidence is the highest seen since the beginning of 2022 and bodes well for a further uptick in confidence in the Q4 survey results."

The quarterly survey, which covers approximately 700 businesspeople in the manufacturing sector, was conducted by the Bureau for Economic Research (BER) at Stellenbosch University between 7 and 26 August 2024. The confidence index ranges



between zero and 100, with zero reflecting an extreme lack of confidence and 100 extreme confidence where all participants are satisfied with current business conditions.

Stronger July performance mainly attributable to a backlog of orders as a result of the "wait and see" approach pre-election, seems to have masked some of the underlying headwinds. Demand continued to slow, with domestic and export sales declining by 7 and 25 points respectively. The knock-on effect was evident with seasonally adjusted production down 17 points and capacity underutilisation up 10 points, resulting in a sharp increase in total production cost per


unit from 65 to 75 points, quarter-on-quarter.

Manufacturers consider business conditions to have improved slightly in this quarter (up 2 points), likely driven by the 12-point increase in export selling prices. Supply chain constraints appear to have eased – current raw material stocks relative to planned production increased by 11 points and finished goods stocks relative to expected demand rose by 8 points.

Schmidt indicated that "slowing inflation, nearing rates cuts, fuel price relief and more than 155 days of no loadshedding are some of the factors that are keeping manufacturers positive about the next 12 months".

Survey participants expect business conditions to improve, with this indicator increasing 32 points, supported by an expected increase in both imports and exports (up 5 and 7 points respectively). In addition, whilst still taking a 12-month forward view, manufacturers have expressed an improved likelihood to invest in fixed assets. This indicator showed a 34-point increase.

"Given loadshedding in preceding years, manufacturers have usually focused their efforts on building resilience into operations by investing in backup power and renewable energy solutions – perhaps now we will start seeing investment in improving capacity and efficiency in operations," said Schmidt.



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Modular construction could solve SA's private education space constraints

BY SARAH BREEDT, REGIONAL DIRECTOR AT WACO MODULAR

OPINION WITH the demand for private education rapidly growing in South Africa, educational institutions are pressured to expand their facilities and classrooms to accommodate the growing number of students. Modular construction is thus emerging as a transformative solution that can tackle this challenge, given its ability to provide innovative and flexible learning spaces that meet the changing needs of private schools.

One of the biggest benefits of modular construction is its scalability. The modular design allows schools to easily expand or reduce their structures and reconfigure the classrooms as requirements change. This flexibility offers a significant advantage over brick-and-mortar buildings which are permanent, and therefore expensive and difficult to modify.

Similarly, unlike traditional building



are prefabricated in a factory, there is no building that is carried out on-site, resulting in minimal disruption to daily school operations.

This is important for private schools, as construction typically cannot take place while schools are in session, leaving a limited timeframe to erect new classrooms for the following year's enrolments. In most cases, there simply is not enough time to build costly and permanent brick-and-mortar structures when schools need to add capacity.

methods, modular construction is more cost-effective and quicker to set up and execute. Additionally, since all units and components

No unexpected costs

The cost-effectiveness of modular construction is largely due to the fact that units are built in a controlled factory environment, eliminating extended labour costs or any miscalculations of material costings. Everything is priced ahead of time and customers know exactly what they are paying for.

On the other hand, with brick-and-mortar construction, additional costs often accrue as part of the management of the project, because additional days or extra material required had not been costed ahead of time.

The manufacturing process for modular units usually takes three to four weeks. Once completed, the units are then delivered to the site, where a siting team assembles the units together. This on-site process usually takes one to two weeks, depending on the size of the building. At this stage, the classrooms are ready to use.

While schools are currently starting their intake of learners for the next academic year, many simply cannot accommodate all applicants, resulting in some students being turned away. With modular construction solutions, schools can still place their orders for additional units and have the necessary capacity ready by the start of the new academic year.

Leading suppliers of modular units are able to construct buildings that are significantly more versatile and flexible in design compared to traditional mobile structures. Modular buildings can vary in size, with options for two- or even three-storey structures, and the interiors can be partitioned to meet customer requirements.

Environmentally-friendly

Modular construction is not only more sustainable but also more environmentally-friendly than traditional

building methods. With many modular unit suppliers renting out their units to customers rather than selling them, much can be done by the supplier to ensure greater environmental sustainability.

For example, when units are returned to the supplier, they are disassembled, and the components can be reused and reconfigured into a new building for a different customer. Additionally, some suppliers have also started using extended polystyrene for insulation in their units, which is almost entirely recyclable and more environmentally-friendly than traditionally used polyurethane.

Modular buildings present a highly effective solution to the pressing capacity needs of private schools in South Africa. Their rapid deployment, cost-effectiveness, and flexibility, as well as the ability to customise and relocate these buildings as needed, offer a sustainable and adaptable approach to the fast-changing educational landscape.

Producing sand with newly launched crusher

THE latest from Pilot Crushtec International is the Metso HRC 8 high pressure grinding roll crusher for producing manufactured sand. In addition, the machine can also be deployed in the mining sector as a pre-grinder to help improve mill efficiency.

The demand for economical and efficient ways to produce crushed sand is growing, as natural sand deposits located near growth centres are being depleted and environmental regulations are becoming stricter. As a result, manufactured sand is becoming a high-demand material. The arrival of the Metso HRC 8 ushers in a new era for manufactured sand-makers.

The machine uses a method of inter-particle comminution by drawing in a bed of material between two rotating rollers. The rollers, one of which is in a fixed position and another one floating, generate an extremely high pressure, extruding the feed material down to the desired

smaller grain sizes.

"The HRC 8 is the ultimate solution to produce excellent quality sand that can substitute natural sand from natural deposits such as rivers. The quality of sand can be adjusted and optimised, thus reducing the amount of cement and asphalt required in concrete mixes or asphalt. The machine produces a gradation according to customer needs and delivers a perfect cubical shape for concrete and asphalt sands," explains Oldemar Meneses, product manager, HRC Technology at Metso.

In addition, the HRC 8 can convert quarry waste into sellable product. The machine can reprocess non-sellable waste materials to correct the gradation curve and particle shape, converting them into high-value sellable products. This not only addresses the cost factor, but also



speaks to the manufactured sand market's drive for sustainable operation.

Not only is the machine suited for manufactured sand, but also for pre-milling applications across commodities such as chrome, lithium, gold, and copper, amongst others, says Francois Marais, sales and marketing director at Pilot Crushtec.

"In mining, chrome and lithium will be the perfect applications for the HRC 8. In these commodities, sizing material down to a minus 5 mm size has traditionally been done with impactors. While the capital cost of using impact crushers seems lower, it is outweighed by the extremely high wear costs, especially when processing highly abrasive ores," says Marais.

Both sand manufacturers and mines will benefit from the HRC 8's increased throughput in a single pass, energy efficiency, reduced ultra fines and reduced operating costs as well as safety and ease of maintenance.

The HRC 8 provides a notable increase in production efficiency. The flange design maximises the amount of material that is crushed by pulling the feed into the crushing zone. This method prevents the material passing the rollers and increases efficiency and throughput. The patented arch-frame, on the other hand, eliminates downtime caused by skewing.

The machine uses a combination of high pressure and a unique patented roller design to achieve a fine product with minimal energy input. In fact, the machine consumes up to 50% less power in sand production compared to other technologies for the same volume of net product.

"By reducing energy consumption and increasing wear life of components, the HRC 8 helps lower operational costs. Its efficient grinding mechanism also reduces the need for secondary crushing, further cutting down operational expenses," concludes Meneses.

Innovative automotive solutions support manufacturers and consumers

SKF Automotive is pleased to introduce new innovative promotions at this year's Automechanika. These initiatives are designed to increase convenience and efficiency for the company's customers and underline its commitment to quality and excellence in automotive maintenance.

Simplifying engine maintenance

The company introduced the engine Masterkit, a comprehensive service solution that combines the water pump and timing belt kit with the auxiliary belt and tensioners kit in one package solution. It follows the increased Equipment (OE) recommendations for maintenance of both systems at the same service interval.

The new engine Masterkit underlines SKF's commitment to provide innovative and practical solutions by eliminating packaging waste and reducing customers' storage needs by 50%. "The Masterkit is a response to our customers' demand for optimised repair solutions" the company said.

SKF Automotive also announced a significant enhancement to its driveline manufacturing capabilities.

"Starting this year, we will manufacture CV joints and driveshafts, the critical components that connect the wheel bearing to the power transmission, in-house at our Italian OE Airasca facility," the company said. Airasca has over 60 years of experience in delivering OE wheel end bearings for the largest automotive OEMs and is committed to achieving carbon neutrality in the near future. This will ensure that the company's CV Joints meet the highest OE standards for quality and reliability.

With fully OE interchangeable driveshafts, joint kits, and boot kit range, the company offers mechanics the choice to repair or replace the worn parts throughout the vehicle's life. This change aligns with our commitment to offer driveshafts which are designed for durability, reducing waste and supporting a greener future.

Superior safety and noise performance

SKF continues to focus on high-performance brake pads designed to deliver outstanding noise control and safety. SKF brake pads are engineered to provide excellent noise performance, ensuring a quiet and smooth braking experience.



ence. Manufactured with premium materials and advanced technology, they minimise brake noise while delivering reliable stopping power. "Our brake pads undergo rigorous testing to meet the highest industry standards, offering drivers peace of mind and enhancing vehicle safety," the company said.

Innovative bearing solutions

SKF has launched a new range of electric drive products in the Chinese automotive aftermarket, catering to the growing demands of the rapidly expanding new

energy vehicle sector. As electric drive systems advance toward higher integration, high voltage, and increased rotational speeds, SKF's innovative bearing solutions are designed to meet these challenges.

For example, their high-speed deep groove ball bearings can handle motor speeds of up to 30,000 rpm while maintaining excellent performance in extreme temperature conditions. Additionally, the company's low-friction tapered roller bearings boost system efficiency, potentially enhancing the range and longevity of electric vehicles.

These new products reflect SKF's dedication to advancing the electrification of the automotive industry. The lineup, including electric drive bearing repair kits, maintenance products, and related chassis components, is tailored to meet the rigorous demands of the Chinese market.

By focusing on reducing friction, preventing electrical corrosion, and ensuring quiet operation, SKF's offerings are set to deliver exceptional performance and reliability, supporting the needs of both manufacturers and consumers in the evolving electric vehicle landscape.

New module a digital link to temps

TEMPERATURE measurement technology based on resistance thermometers or thermocouples is widely used in many applications. To integrate them into a digitalised environment, ifm now offers an IO-Link temperature measurement module.

In most cases, temperature measurement in industrial production environments is based on two physical effects: the temperature dependence of a resistor or the thermoelectric effect (Seebeck effect). ifm now offers new IO-Link temperature measurement modules for such resistance thermometers (Pt100 and Pt1000) and thermocouples (type J and type K). The measured temperature values are then made available digitally via IO-Link to higher-level controllers.

The resistance thermometers and thermocouples are connected via four M12 connectors on the module. The resistance thermometers can be connected using 2-wire, 3-wire or 4-wire technology. The individual connections can be configured conveniently via IO-Link. The type of measuring element – Pt100, Pt1000, thermocouple type J or type K – can be specified there. Depending on the measuring line, the parameters 'cold junction offset' and 'zero-point calibration' can also be set for the thermocouples. The resolution of the temperature measurement with the new module is 0.01 °C, and the accuracy over the entire measuring range is 0.3 %.

With a protection rating of IP67 or IP69K, the modules can also be used in harsh industrial environments.



Celebrating 75-years of excellence in industrial spraying

IN the world of industrial engineering, longevity and trustworthiness are marks of excellence and reliability. Monitor Engineering, the sole agent for Spraying Systems Co. in South Africa, epitomises these qualities as it celebrates 75 years in business. This milestone is not just a testament to the company's resilience and adaptability but also a reflection of its unwavering commitment to innovation, quality, and customer satisfaction in the field of spray nozzles, spraying systems and fluid handling technologies.

The genesis and growth

Founded in 1949, Monitor Engineering has evolved from a modest establishment into a key player in

the industrial spraying solutions market. The company's journey began with a simple, yet profound, mission: to provide cutting-edge spray technology and unmatched customer service to industries across South Africa. This mission has remained the cornerstone of its operations for over seven decades.

"Monitor Engineering's partnership with Spraying Systems Co., a global leader in spray technology, has been instrumental in its success," says Monitor Engineering MD, Grant Orsmond. "This collaboration has enabled Monitor to offer a wide range of high-quality products and solutions, from precision spray nozzles and automated spray systems to advanced spray analysis and control technologies. These products

are essential in various industries, including agriculture, food processing, pharmaceuticals, mining and manufacturing."

Commitment to innovation

Innovation has always been at the heart of Spraying Systems Co.'s ethos. The company continually invests in research and development to ensure that it stays at the forefront of technological advancements in spray technology. This commitment to innovation is evident in its comprehensive product portfolio, which includes the latest in spray nozzles, spray guns, tank cleaning equipment, and custom-engineered spray solutions.

One of the key factors that sets

Monitor Engineering apart is its ability to provide tailored solutions to meet the specific needs of its customers. By leveraging the cutting-edge technology from Spraying Systems Co., Monitor Engineering can design and implement bespoke spraying systems that optimise performance, reduce waste, and enhance efficiency.

Customer-centric approach

Monitor's success is also attributed to its customer-centric approach, priding itself on building strong, long-lasting relationships with its customers. By understanding the unique challenges and requirements of each customer, Monitor can provide solutions that not only meet but exceed

expectations. This dedication to customer satisfaction has earned the company a reputation for reliability and excellence.

The company's team of highly skilled engineers and technicians plays a crucial role in maintaining this reputation. Their expertise, coupled with ongoing training and development, ensures that Monitor Engineering can deliver the highest standards of service and support. Whether it's providing technical advice, conducting on-site assessments, or offering aftersales service, Monitor is committed to delivering value at every stage of the customer journey.

Looking to the future

"As Monitor Engineering celebrates its 75th anniversary," says Orsmond, "it does so with an eye firmly on the future. The company recognises that the industrial landscape is constantly evolving, and we are prepared to adapt and innovate to meet new challenges and opportunities."

High-speed data transmission uses the latest protocols

DATA protocols are constantly evolving to enable interoperability and reliable transfer of increasing amounts of data at the highest speeds between more and more connected devices. To address this technological challenge, Fischer Connectors is expanding its platform capabilities to meet the most demanding connectivity requirements for high-speed data transfer using the USB 3.2 Gen 2 protocol up to 10 Gbit/s.

Fischer Connectors' high-speed solutions with USB 3.2 Gen 2 up to 10 Gbit/s meet the versatile requirements of a wide variety of applications, from surgical equipment in operating rooms and small computers and peripherals for soldiers, to outdoor test & measurement applications and civil and military drones.

The Swiss-based company has developed new USB 3.2 connectors and cable assembly solutions in three of its flagship product lines to meet signal integrity and harsh envi-



ronment requirements for medical, defence, industrial and instrumentation applications.

These applications include:

- Surgical equipment in the operating room, USB3 cameras in orthopaedic surgery or endoscopic devices, and instrumentation applications such as assembly production lines and outdoor inspections in radiation and/or contaminated areas, with the versatile, highly customisable Fischer Core Brass Series – 9 pins in Ø 15.5 mm ('size 1031' plug), resistant to chemicals and sterilization processes.
- Applications where SWaP (size,

weight and power) is critical, such as miniature body-worn computers and peripherals, high-performance lidars and high-speed intercom boxes, with the ultra-miniature, high-density Fischer MiniMax Series – 9 pins in Ø 12.9 mm ('size 08' plug) or 12 signal and power pins in Ø 14.9 mm ('size 10' plug), including high power up to 8A.

- Civil and military drones equipped with USB3 cameras, and a wide range of military specifications (Milspec) applications, with the rugged, compact, lightweight Fischer UltiMate Series – 9 pins in Ø 18.5 mm ('size 11' plug),

360° EMC shielding, resistance to shock, vibration and corrosion up to 1,000 hours of salt mist.

Fischer Connectors' three series offer IP68 sealing (IP69 and hermeticity with a resin-sealed contact block for Core and UltiMate), extreme operating temperatures (MiniMax from -40 °C to +135 °C, Core from -70 °C to +250 °C, UltiMate from -55 °C to +135 °C), high mating cycles (MiniMax up to 5,000, Core and UltiMate up to 10,000), and three locking mechanisms: push-pull and quick-release for the three series, plus screw for MiniMax. UltiMate also allows for blind mating with an extremely robust mechanical keying.

Designing high-speed interconnect solutions requires expertise in cable assembly, high-performance connectors, and signal integrity simulation, testing and design.

During the design and characterization process, engineers must address a highly complex combination of parameters such as imped-

ance matching, line delay, insertion/return loss, crosstalk and EMC shielding.

High-quality cable assembly is critical to ensure reliable and efficient data transmission, signal integrity and overall system function. "To achieve successful high-speed data transfer from a device's transmitter to its receiver, connectors and cables must be cross-optimised and undergo a series of compliance tests at the system level," explains Ameny Chaabani, signal integrity engineer at Fischer Connectors.

"USB 3.2 is a stringent protocol. Connector design, cable length, cable performance (loss), and the controlled and repeatable cable assembly and potting processes above 1 Gbit/s are some of the influencing parameters to consider. We must also study the full physical layer of a link as a whole, what we call system-level testing."

Sensors' key role tyre recycling process

SAARLAND, situated in southwestern Germany, has gained prominence for its industrial legacy, particularly in steel production and mining. Pyrum Innovations, headquartered in Saarland, is repurposing old tyres into valuable raw materials like oil, carbon black, and gas. After 15 years of development, this pioneering approach merges Industry 4.0 technology with eco-friendly practices. The integration of Vega sensors for precise level and pressure measurement has been a key factor in its success.

Europe faces a significant challenge: disposing of over three million tonnes of tyres annually. Pyrum

offers a solution by pyrolysing shredded tyres in an oxygen-free environment, where the company produces valuable materials like coke, gas and oil. Its second pyrolysis reactor, recently commissioned, can process 5,000 tonnes of rubber granulate per year – roughly equivalent to 7,500 tonnes of tyres.

Vega plays an indispensable role. The installed sensors provide precise measurements of pressure and level throughout the process, especially in the reactor where the core action takes place. Vegabar 83 pressure transmitters monitor gas pressure, while Vegaflex 86 guided radar sensors and Vegaswing 61

limit switches ensure stable operation in the harsh environment. These sensors guarantee product quality and protect equipment from damage. The instruments provide precise measurements and straightforward design, and their sturdy build translates to minimised downtime and operational disruptions as they can be serviced by non-specialised staff. As Pyrum expands its global operations, the importance of precise measurement and ease of use become even more critical.

Pyrum is at the forefront of digitalisation. The plant control room is equipped with web-based process control technology, allowing techni-

cians to efficiently monitor and manage processes. Vega sensors are essential, providing real-time data for digital models that help in early issue detection and prevention. Pyrum is also actively working on new projects, including a demo plant to test future digitalisation concepts and further refine its processes.

Pyrum Innovations, with the support of Vega's advanced sensor technology, is setting new standards in tyre recycling. Its process not only addresses the environmental challenge of tyre disposal but also creates valuable raw materials that are increasingly in demand.



Supporting safe handling in all sectors

BMG, which is committed to ensuring optimum safety standards in all sectors, encourages and assists customers to adhere to stringent safety legislation during bulk handling. This initiative ensures that appropriate measures are taken to prevent rollback incidents, which might cause injury to workers during conveying operations.

BMG technical experts advise on the selection of the correct cam clutch for each application and assist with proper installation methods to ensure optimum performance and improved safety standards.

"Tsubaki backstops and cam clutches - which have been developed and manufactured in Japan for high efficiency and optimum safety in high or low speed applications - meet the requirements of current legislation," explains Carlo Beukes, business unit manager, BMG's power transmission division. "Local safety regulations require that the installa-

tion of incline conveyor belts must include the fitting and use of one or more devices to prevent run-back or run-on, to prevent injury by materials falling from a conveyor belt.

"Tsubaki backstop cam clutches are designed to prevent reverse rotation of drive shafts, offering a simple and cost-effective means to protect capital equipment and enhance safety. Apart from the mining sector, BMG's cam clutches are used for belt conveyors for materials handling, metals, timber, pulp and wood chip, as well as for bucket elevators for cement and grain. These units are also installed to enhance performance of large drift conveyors and screw pumps."

Tsubaki cam clutches are available from BMG in different capacities and styles designed to provide the best functional characteristics for three basic modes of operation – overruning, indexing and backstopping.

The outer and inner races of these

cam clutches are manufactured from high quality alloy steel, with high surface hardness and core toughness, to withstand operation in arduous conditions.

These races are precision ground, providing excellent concentricity and a special surface finish to obtain accurate cam rotation. Cams are manufactured from specially selected high alloy steel, with a hardness option up to 2 500 Hv.

A key range in BMG's portfolio of Tsubaki cam clutches, is the BS-F series, which is suitable for high-speed inclined and long overland belt conveyors and bucket elevators used in the mining and bulk handling sectors.

The high-torque, high-speed Tsubaki BS-F series, with a narrow width I-beam torque arm, is a drop-in replacement to conventional "roller ramp" devices. This allows for quick and easy on-site installation and enables effortless replacement

of an old backstop with the new BS-F design, without the need for modification to the existing layout. Although this series has a narrower width than other models, the downsized unit exceeds the requirements of high-speed inclined belt conveyors, with the benefits of space-saving and reduced installation time.

Important features of this series include a non-rollover cam and roller design, which offers higher backstop torque capacities and lower running temperatures than conventional anti-rollback devices. Added to this, a flexible labyrinth seal mechanism prevents the ingress of dust and water in abrasive conditions and a double-lip oil seal and multi-temperature grease enable safe operation at a wide ambient temperature range, from - 55°C to + 150°C.

A common cause of conventional backstop failure is oil leakage. Tsubaki has eliminated this risk in the BSF series by designing the backstop to operate with grease and a specially-designed labyrinth seal.

The absence of an oil level gauge

creates a more reliable safety device. For extended service life, correct lubrication methods and dust prevention care are critical. BMG recommends the use of a maintenance kit and Tsubaki-approved EP-free grease for easy and effective maintenance of the BSF series. The BS-Grease is available from any BMG branch.

The cam and roller cage orbit at low speed, continually conveying grease internally from the bottom to the top of the mechanism. The constant circulation of grease minimises internal friction and reduces operating temperature for dependable operation.

Maintenance intervals are between 7,500 hours and 8,000 hours and the effective service life of the units is also significantly extended compared with conventional oil-filled units.

For extended service life, correct lubrication methods and dust prevention care are critical. BMG recommends the use of a maintenance kit and Tsubaki-approved EP-free grease for easy and effective maintenance of the BSF series.

Strategic insights on the heavy haul value chain and condition of rail

LEADING railway engineers from Hatch, a global engineering, project delivery, and professional services firm, have released a comprehensive framework for the assessment, management and rehabilitation of railway infrastructure.

Timothy Jideani, railway engineer; Keaton Raman, lead rail, civil and perway engineer; and Bennie Vorster, regional director of rail and transit, have co-authored two white papers that address these critical challenges within the heavy haul sector.

One of the papers, titled "Railway System Condition Assessment Outcomes and Action Plan Implementation," was prominently presented at the South African Heavy Haul Association (SAHHA) Annual Conference, held in Johannesburg in August. The conference focused on the theme "Positioning Heavy Haul for Success: Pit to Port" and provided a platform for discussing challenges and opportunities within the sector.

The white paper and its presentation were directly aligned with the conference's vision. Brian Monakali, chairman of SAHHA, said, "The conference aimed to provide a platform for industry players to discuss our challenges, solutions, and opportunities, and pave a pathway toward achieving a globally competitive heavy haul system." Hatch's paper resonated with these objectives, reflecting a commitment to address-



ing key sector issues.

Hatch's Vorster delivered an in-depth presentation on the heavy haul logistics value chain. Vorster's presentation dissected the interconnected elements and the interdependencies of the various sub systems involved in the heavy haul logistics value chain.

Raman's presentation focused on the integrated elements of railway infrastructure, emphasizing four key areas:

1. Railway infrastructure assets
2. Condition assessment and monitoring
3. Asset management: Maintenance and rehabilitation
4. Implementation challenges

The critical role of rail transport within the logistics value chain was

highlighted with Hatch experts advocating for the adoption of modern technologies to enhance asset management. "Optimising capacity and operational efficiencies within our rail networks necessitates well-defined strategies across all subsystems," Vorster said. "By leveraging digitalisation, AI, and advanced monitoring technologies, we can manage asset conditions proactively and implement maintenance interventions with greater precision, increasing the overall value chain reliability."

In a parallel session on network capacity, Raman explored the technical complexities of these strategies, emphasizing the need for a multidisciplinary approach to railway asset management. Raman underscored the importance of collabora-

tion among the civil, mechanical, electrical, and electronic engineering disciplines, alongside logistics and supply chain management, in maintaining a safe, reliable, and efficient heavy haul system.

The white paper and accompanying presentations outlined a roadmap for the condition assessment of aging railway systems, many of which have exceeded 50 years of service. Vorster and his team demonstrated the application of advanced technologies, including sensors, unmanned aerial vehicles (UAVs), and AI, to conduct real-time condition monitoring and predictive maintenance. These innovations are crucial for sustaining the infrastructure that underpins the heavy haul industry. Modern condition monitoring systems provide maintenance engineers with precise data on physical asset conditions, such as temperature, acoustic signatures, and internal defects. The use of AI in processing large datasets further enhances decision-making processes, enabling timely interventions. "The integration of AI and machine learning in condition assessment processes is essential for optimising maintenance schedules and preventing system failures," Raman asserted.

As the conference drew to a close, Raman emphasised the importance of updating railway condition benchmarks to align with current operational realities. He advocated for

continuous assessment and timely interventions to prevent asset failures and ensure the long-term viability of South Africa's heavy haul railway networks. "Integrating modern technologies into our maintenance regimes is not merely an option but a necessity," Raman concluded. "Our approach must be data-driven and risk-focused, ensuring that every decision we make enhances the reliability and safety of our railway systems."

Hatch published two further papers at the conference, the first of which focused on addressing the ongoing challenges faced by railway operators amidst asset decay through a risk-based assessment methodology. This paper was co-authored by Anneri Robinson, rail systems lead, and Nathan Wilson, engagement manager in Hatch's advisory team.

The second paper provided insights on the private partnerships and investment required to unlock rail capacity growth. This paper was authored by Herman Strauss, principal, supported by Nico Smit, senior principal and Khutso Sekgota, senior principle all of whom are part of Hatch's advisory team.

Hatch's contributions to the SAHHA 2024 Conference have fostered ongoing dialogue and innovation within the heavy haul sector, underscoring the company's commitment to advancing South Africa's railway infrastructure for future success.

Digitise data capture and automate workflows with ease and accuracy

HIGH-speed, omnidirectional barcode reading is made simple with Brady's rugged barcode reader. The V4500 barcode reader offers intuitive functionality in a rugged industrial design to automate workflows with digital data capture. Its patented scan engine helps to conquer the tiniest barcodes, even when printed on shiny or hard to read surfaces. Able to endure challenging conditions, the V4500 is ideal for warehouse and manufacturing environments.

Overview:

- High-speed, omnidirectional barcode scanning made simple.
- Ideal for inventory management, kit verification, scan and print, and packout applications.
- Proprietary Cortex Decoder technology allows the reader to easily read tiny barcodes as well as shiny and hard-to-read surfaces.
- An automated keyboard device and dynamic user interface take the user from setup to first scan in seconds.



- Data parsing feature lets companies sort and arrange data exactly how it's required – starting with a simple scan and easily connecting to the cloud and the company's ERP system.
- Withstands 1.8 m drops (MIL-STD-810G).
- Inductive-charging battery lasts a full shift with over 75,000 scans.

The scan is just the start. Brady's digital data capture, exchange and print solutions help to automate workflows and scan past competitors:

Desktop and mobile print technology: Brady makes it easy to make premium labels in no time via touchscreen and keyboard or PC and mobile connectable options.

High-performance Labelling Technology: As a material science company at its core, Brady specialises in purpose-built labels that deliver premium performance for nearly every industrial application, designed to withstand even the harshest environments.

Barcode, optical and RFID readers: Digitise data capture with ease and streamline workflows with these critical components of an intelligent ecosystem.

Advanced integration and connectivity: Automate a business and connect operations seamlessly with Brady's complete data exchange solutions.

Data acquisition and exchange: Brady's digital data capture, exchange and print solutions help companies automate their workflows and scan past competitors.

Industrial equipment supplier launches online store

SHUMANI Industrial Equipment launched its online store at the beginning of June 2024. Available through its website, this strategic move marks a pivotal moment in the company's evolution from a forklift supplier to a comprehensive industrial equipment provider, says MD Victor Nemukula.

Amidst ongoing economic challenges and shifting consumer spending and procurement patterns, the online store is a platform to extend Shumani's market reach and enhance customer engagement. "Even with a robust sales force, geographical limitations persist. The online sphere offers unparalleled accessibility, catering to diverse consumer preferences and purchasing habits," says Nemukula.

The online store represents a hybrid amalgamation of traditional web presence and e-commerce functionality. It serves as a conduit for Shumani's value proposition, empowering customers with the convenience of online transactions

while retaining avenues for personalised interaction.

"Our aim is not just to facilitate transactions but to foster long-lasting relationships," stresses Nemukula. The integration of sales and service channels on the platform is testament to Shumani's holistic customer support and guaranteed equipment uptime.

"We go far beyond forklift supply to offer a diverse range of products and services tailored to meet evolving client needs, based on some of the leading brands available," says Nemukula. The online store's user-friendly interface and comprehensive product catalogue epitomises Shumani's dedication to accessibility and customer-centricity.

Key to Shumani's value proposition is its assurance of product quality and reliability. With a portfolio comprising renowned brands and a robust maintenance infrastructure, the company says it is poised to deliver unparalleled value to its customers.

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