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ON THE COVER

The recent distributorship agreement to supply BULL backhoe and skid steer loaders in Southern Africa not only gives Babcock the 'picks and shovels' to compete in the construction and plant hire markets, but allows the company to offer a comprehensive earthmoving equipment solution to its customers in the region. As part of its product expansion portfolio aimed at becoming a true one-stop yellow metal equipment solutions provider across industries, Babcock has added the BULL backhoe and skid steer ranges to its extensive offering. Announced in July this year, the partnership gives Babcock exclusive distributorship rights of the range in South Africa, Zimbabwe, Namibia and Botswana.

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Wilson Bayly Holmes-Ovcon (WBHO) has been listed on the JSE since 1994 and has, for decades now, been a stalwart in the South African built environment. In 1970 John Wilson and Brian Holmes formed a construction company known as Wilson-Holmes. A number of mergers and many projects later the name changed to Wilson Bayly Holmes and finally in 1996 became WBHO Construction.



In recent years WBHO Construction has been representative of the ups and downs of the South African construction industry as it has followed the highs and lows that this industry in, especially, the last 10 years has endured. It produced some excellent output and has had good and bad annual results. The WBHO brand stuck around despite challenges and a climate that signalled the demise of other listed companies (e.g. Group Five and Esor). It tried expanding to Australia, burnt its fingers and had massive losses – and subsequently exited.

Despite this, its most recent results signal that the company is on track again. And this track is primarily in Africa and bodes well for the future of construction on the continent.

Wolfgang Neff, CEO of WBHO refers to its most recent results for the financial year ended 30 June as 'a strong footing' despite admitting to the company experiencing a difficult

period primarily due to a project in Australia. This project was bad enough to cause the company to pull out of Australia and to now focus on the local market, Africa and the UK.

The move has yielded wildly positive results. Compared to the previous year, the company's order book was up 43% for the year ended 30 June at R32,6b.

The order book was boosted by private sector renewable energy projects, projects in the rest of Africa, as well as a surge in roads projects. WBHO added some 2 750 jobs in the year under review, and had its revenue increase by 38% to R24b. Of this, 66% was generated by local projects, 13% from projects in Africa and 21% in the UK.

Best Projects 2023

This year 69 projects were entered for Best Projects. In some ways Best Projects has been a barometer of current conditions in the built environment – cognisant of the

lagging effect of a year or two. The adjudication panel this year consisted of four judges. Uwe Putlitz, a retired professional Architect and professional Construction Project Manager and who has been a judge before, was joined by three new judges.

Putlitz was appointed the CEO of the JBCC in 2010 until his retirement in 2019 and regularly liaised with the cidb, National Treasury and National Public Works.

Petra Devereux is the Regional Manager for the Chartered Institute of Building (CIOB) of the Sub-Saharan Africa region for the world's largest professional membership organisation in the built environment. The built environment has been a fundamental part of her career and she has always had a passion for the promotion of how women can thrive in and contribute to the built environment industry.

Musa Shangase is a director of Corobrik and was appointed to the Board of Corobrik in December 2013. He has also held various executive positions in manufacturing and retailing companies. He is the Past President of the Clay Brick Association of Southern Africa, Past President of MBA North and was appointed the President of Master Builders South Africa in September 2022.

The last judge for Best Projects 2023 is the President of the SACPCMP, Lufunu Ratsiku. He is a sixth-term Council President where he focuses on collaborations with various SACPCMP stakeholders and professionals in the built environment with the aim of achieving an integration of skills and resources.

For an overview of the winners and entries, read our special Best Projects issue in December.

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SUSTAINABILITY IS A KEY DRIVER

Vishaal Lutchman, MD of Transport at Zutari, a leading consulting engineering and advisory firm, talks about sustainability as an enabler for growth and development in Africa.



The concept of sustainability is considered differently for developing countries versus developed countries. Developed economies tend to look at sustainability with a significant focus towards environmental impact and preservation. In contrast, developing countries consider sustainability from a socio-economic perspective, which includes infrastructure-related challenges, for example.

Sustainability is envisioned differently as it relates to issues faced in the country, the region, the continent, and the world. In part, a contributing attribute is the concept of freedoms that matter in South Africa and is argued to be necessary for incorporation as it will play out in the success of sustainability initiatives.

Notwithstanding that we are globally disconnected on sustainability priorities, it remains that varying perspectives do increase dissonance by influencing how we define, behave,

debate, construct developmental strategies, execute projects, and transform societies to remain sustainable. We all see sustainability and its constructs differently depending on one's background, culture, experiences, and prevailing aspirations.

If we are to work as a unified collective to address sustainability at a global level, we must find each other – which is an altruistic view. We can argue that our power crises have brought a disconnect to the fore, creating the renewables versus coal discourse. It exemplifies environmental versus social/economic debate towards achieving a sustainable energy solution when one acknowledges the forces at play attempting to influence decisions.

The sustainability pillars – namely social, human, economic and environmental – serve as the basis for defining and articulating sustainability strategies concerning programmes, initiatives, and actions. Sustainable

development pillars are the same. However, they excluded the 'human' pillar. Also called the cultural pillar, it is a recent addition to the initial three. These pillars have been researched and constructed for businesses, communities, public sector agencies, and others to assist with meaningful and relevant applications.

Social refers to initiatives that support healthier, fair, and just communities. Environmental refers to preserving environmental resources so as not to over-exploit them, thereby allowing ecosystems the chance of recovery. The economic pillar refers to economic and financial sustainability in developing and using efficient assets. The cultural pillar enables initiatives when a given society's beliefs, processes and practices are protected and nurtured. The identity of communities should remain intact for sustainability to flourish.

Socially just communities with strong economies and robust cultures



will find the environmental pillar key to sustainability. A hard push on the environmental pillar may confuse other communities that are more concerned with near-term survival and will potentially prioritise other pillars. As postulated above, I would argue that the latter applies to South Africa, Africa, and other developing countries. Having made a case for differences in sustainability priorities, it can be seen why there would be a different emphasis on sustainability initiatives across communities. Hence a departure point would be to define sustainability and sustainable development for each community in geography.

The initiatives relevant to sustainability in South Africa and other African and developing economies relate to, firstly, poverty and inequality: South Africa is struggling with elevated levels of poverty and income inequality exacerbated by one of the highest unemployment rates in the world, which can hinder efforts to achieve sustainability. Poverty exacerbates environmental degradation as people may resort to unsustainable practices such as overexploitation of resources or reliance on polluting technologies.

Secondly, services such as access to clean water and sanitation relate to the adequate provision of infrastructure. South Africa currently faces the challenges of providing adequate access to clean water and sanitation facilities for all. Lack of access to safe water and sanitation affects public health and leads to contamination of water sources and improper waste disposal, contributing to environmental degradation, of

which the recent cholera outbreak is indicative.

Thirdly, deforestation and biodiversity loss in developing countries often results in high deforestation rates, driven by factors such as agricultural expansion, logging, and fuelwood collection. Deforestation reduces biodiversity and contributes to climate change by releasing greenhouse gases and disrupting ecosystems.

There remains a current disconnect between developed and developing economies. Adding insult to injury, many advanced economies continue to trade and maintain the demand for natural resources while professing sustainable ideologies in the same breath. Employment on the back of providing and maintaining infrastructure is a short-term initiative that has a direct and positive impact.

Fourthly, climate change vulnerability relates to the environmental pillar, where developing countries are often more vulnerable to the impacts of climate change due to factors like limited resources, weak infrastructure, and high reliance on climate-dependent sectors like agriculture. This vulnerability can increase extreme weather events, food insecurity, and water scarcity risks.

In addition, energy access and clean energy transition is a problem that South Africa faces currently. It is common to many developing countries that still rely heavily on fossil fuels for energy, leading to air pollution and greenhouse gas emissions. Lack of access to modern and clean energy sources also limits economic development opportunities in these countries.

Lastly, but not limited to waste management, rapid urbanisation and population growth in developing countries have led to increased waste generation. However, countries often lack adequate waste management infrastructure, leading to problems like open dumping, landfill pollution, and improper disposal.

The sustainability mentioned above is somewhat a mixed bag as it pertains to the pillars, but all have an infrastructure solution. As there is an endless list of problems, I postulate that initiatives that underpin freedom will gain the greatest buy-in as it promotes socio-economic progress.

Addressing sustainability requires a comprehensive approach involving various stakeholders, including

government institutions, international organisations, civil society, and the private sector. Efforts should promote sustainable development practices, improve access to clean water and sanitation, promote renewable energy adoption, protect biodiversity and forests, strengthen infrastructure, and build climate resilience.

Freedom in South Africa is about the struggle for people to think, theorise, interpret the world and write from where they are located, unencumbered by perpetuated colonial influences. In many developing economies, locals engage in diverse struggles for cognitive justice while trying to interpret the world as they see it. South Africa is no different.

Therefore, it comes to the fore that South Africa can only articulate sustainability if it achieves political, cultural, economic, and other freedoms. The motivation is that the sustainability pillars corroborate the necessary freedoms and can therefore serve as the motivation for where the focus should be. As South Africa has transitioned to political freedom, economic freedom will allow for socio-economic growth and prosperity. If citizens can engage in economic activities of their choice, such as starting a business or choosing their employment, it is thought that an appreciation for sustainability can progress.

In South Africa, it will be reasonable to link sustainability to economic freedom to garner the support to transform existing practices, methodologies, and policies to incorporate hard-coding requirements that embody sustainability. There is a sincere need for the government to adopt socioeconomic development and, by implication, sustainability as its core purpose in how it leads the country, which is currently not the case; hence there is an argument for what causes growing unsustainability.

A key construct of South Africa's socioeconomic freedom is land ownership and wage inequality, which have yet to be meaningfully addressed and have become a political bargaining chip with no real resolution.

Both issues are significant and may secure the comfort of the majority that freedom is possible. By implication, South Africans risk losing their freedoms to the extent that we may even lose our hard-fought political freedom should we proceed on our current trajectory. ☉

THE RIGHT EMPLOYMENT SERVICES PARTNER IS ESSENTIAL FOR DELIVERING RENEWABLE ENERGY PROJECTS

For any organisation, labour and related matters are cost-intensive and complex, and project-based ventures such as the development and deployment of renewable energy plants are even more so.

By Barend Matthee, National Projects Director at Workforce Staffing

Getting these projects off the ground on time and within budget is critical to South Africa's sustainable future, which means that the labour aspect needs to be tightly controlled and accounted for well in advance. In addition, it is vital to be able to pre-empt everything that could go wrong, and having the right labour partner on board from the outset can make a significant difference in ensuring that project goals are met. A reputable and experienced Temporary Employment Services (TES) provider can provide valuable insights and a competitive edge to ensure projects are delivered on time and within budget.

From planning to completion

Getting the labour component right from the start is vital for effective costing and budgeting, which makes the planning process critical. An experienced TES partner can assist not only with cost estimations on labour and skilled resources but also procurement cost allocations like transportation, accommodation, personal protective equipment, training, development spending and technology enhancement interventions.

In addition, it is crucial to be able to workshop lessons learnt and best practice approaches. Key indicators from an experienced TES perspective always start with how to plan for a successful completion and prioritise understanding and planning around stakeholder engagements, local content, preferential procurement, economic development, compliance, and safety with the ability to adapt quickly. This process must extend from start to finish and should create opportunities in being agile and innovative.

A dynamic approach

A pre-mortem approach can be highly beneficial, offering a back-to-front analysis and providing the platform for healthy debate, problem-solving and falling back on quick and decisive decision-making. However, this approach can only survive in partnerships, with experience and transparency at the fore.

The right TES partner will have experience across a variety of industries and multiple disciplines within the project space and be able to bring this experience to bear through a pre-mortem approach that can assist in delivering more predictive outcomes. These outcomes cannot remain a stagnant solution, however, as projects within renewable energy need layers of solutions and variations to determine successful completion.

Key elements in a productive partnership

To deliver for the renewable energy sector, a TES partner needs to support the correct narrative in the project space and have the experience and operational know-how to



“Getting the labour component right from the start is vital for effective costing and budgeting, which makes the planning process critical.”

Barend Matthee,
National Projects Director at Workforce Staffing.

ensure that compliance meets successful execution with the least disruption. Rather than a supplier relationship, a TES provider must be an integral part of the project, with intensive interaction, consistent support, a high level of visibility and ultimately a driver of success.

To ensure successful outcomes, renewable energy projects should look to partner with a TES provider that understands the renewable project space and is a capable partner, that embraces robust discussions and participation from start to finish. Workshopping and planning are key drivers of the pre-mortem approach for the best opportunity to succeed. In addition, a TES partner should use lessons learned to create best practices that ensure the successful completion of projects. Ultimately a TES partner should act as a capable partner for all your employee-centric solutions in the project space, whether direct supply or support services, with a human-centric approach as a key priority. ©

CONSTRUCTION'S TOP THREE HIGH-RISK ACTIVITIES IDENTIFIED

Data emanating from a local construction consultancy has identified three key high-risk activities on construction sites. And the results may surprise you. While working at heights was one of the three key items noted that could be easily be understood as a high-risk, surprisingly, the balance of the top three high-risk activities were noted as housekeeping and administration.

“Historically, the construction industry’s alarming track record of health and safety performance led to significant revisions in health and safety regulations of the past decades, to prevent accidents and mitigate their consequences, such as injuries, disabilities, fatalities, and work-related illnesses,” said Cairnmead Industrial Consultants CEO, Christof Lourens.

“As an organisation working extensively within the construction sector, we recognised the crucial importance of identifying and addressing high-risk activities on sites, to mitigate or eliminate them. Through our reporting and data gathering, we have identified the top three specific high-risk activities that occur on a weekly basis - these are working at heights, housekeeping and administration”.

In their working environments, the findings noted that around 50% of slips and trips were as a result of bad housekeeping; this also contributed to fire-related issues that could result in injury. Lourens added: “Surprisingly, administration also made the ‘top three’. This relates to a record of information focusing on health and safety management. A lack of record keeping, such as site permits, training and safety induction, or safety plans, can result in no information at hand regarding injuries or risky environments. We found that within the areas we operate, 18% of the supervisors and construction site workers had not received health and safety training.”

Cairnmead has partnered with the South African Council for the Project and Construction Management Professions (SACPCMP) for its 2023 Conference at Emperors Palace in November this year. As part of the conference programme, they will present information regarding a further 13 key high-risk activities that commonly occur on construction sites as per the data captured through Cairnmead’s data gathering.

This presentation, related to health and safety within the construction industry, will form part of a plethora of topics that contribute to the development of the Built Environment presented at the SACPCMP Conference on 14 November 2023. The conference will run in conjunction with a number of professional masterclasses on 13 November 2023, also at Emperors Palace.

SACPCMP Registered Professionals will receive a discounted rate for the conference, as well as CPD hours for both the masterclasses and conference. More information on the Conference Programme and CPD breakdown is available on the website link below. Attendance is via registration/booking only. To register for attendance, visit www.sacpcmp.org.za.

About the SACPCMP 2023 Masterclasses and Conference

Taking place on 13 and 14 November 2023, and offering two days of opportunity to create engaging and meaningful industry relationships, attend expert masterclasses and experience a



wide range of Built Environment debate and discussion, the two events will attract more than 700 attendees representing:

- Built Environment, including construction, project management, engineering, quantity surveying, land surveying, mining, and associated sectors.
- The Building Inspectorate
- Environmental sustainability and management
- Government & municipalities
- Universal design & structure
- Corporate and social sciences
- Digitisation and technology
- Legal industries, regulation, insurances and contract management
- Education & higher learning
- Human resources and people management

The SACPCMP Conference and Masterclasses will present information to increase awareness on competency development in the Construction Industry as well as developing digitization, inclusion and environmental sustainability within the Built Environment. The programme will address topics and challenges faced by the Built Environment related to the importance of inclusion in the industry, and development opportunities of digitisation and environmental sustainability. ©

PROGRAMME TOPICS AND CONTENT WILL INCLUDE:

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Construction Mafia	Energy Management in Construction
Built Environment Academic Papers	Legislation & Policy
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THE ECONOMIC TOLL OF PORT AND RAIL INEFFICIENCIES



At the heart of South Africa's economy lies a colossal transportation network comprising both port and rail. However, recent years have witnessed a decline in its efficiency, resulting in economic losses that ripple far beyond its infrastructure. Siyabonga Mthembu, Audit Partner at BDO (pictured), and Lance Petersen, Chair of the Nelson Mandela Bay Business Chamber's transport and logistics task team, share some insight into how these inefficiencies are not just logistical hiccups; but are causing a tide of economic devastation that the nation cannot afford to ignore.

It has been estimated that the collective cost of port and rail failures over the last 18 months is in the region of R150b. From another perspective, the collapse of Transnet is set to cost the country R1b a day in economic output, the equivalent of 4,9% of our country's annual GDP or R353b. Take a moment to let those numbers sink in.

Recognising the gravity of the situation, President Cyril Ramaphosa has agreed to establishing a National Logistics Crisis Committee (NLCC) following the business sector's urgent appeal. While this promise of a radical intervention gives the economy some hope, is it a case of too little too late?

One of the main areas that requires immediate attention from all sectors is rail. The current state is that the number of locomotives and rail movements are far below the installed capacity of the South Corridor running between the Eastern Cape and Gauteng.

Challenges include the lack of locomotives, as has been reported in the press. The quickest solution in terms of a timeframe to getting much needed locomotives would be

the Chinese suppliers. However, this route has been plagued by obstacles and even the visit by Minister Pravin Gordhan and his delegation to China does not seem to have resolved all the issues. Looking at alternative suppliers to service the locomotives would increase the timeline to 18 months minimum.

Another problem is the ongoing issue of cable theft. While this scourge seems to have infiltrated all areas of society, the impact on rail has been immense as electrified rail locomotives cannot run if the supply of electricity to the line is interrupted. Currently the automotive industry alone is spending millions on armed escorts for their cargo that is being transported on road which should be on rail. This added cost is passed on to the end consumer at the end of the day.

The case to move cargo from road to rail is strong. Immediate benefits would include a reduction in trucks on roads, reducing accidents as well as reducing the need for rehabilitation of roads; reduction in impact of carbon emissions with rail being much less carbon intensive than

the thousands of trucks on the road per day; and a reduced cost of transport with rail being far more economical than long distance road transport. However, this move cannot even be considered with our country's rail infrastructure in the current state of disrepair.

In terms of shipping, we have seen a marked reduction in the number of vessels calling at our two ports as a result of COVID's impact over the past couple of years. With South Africa, and the Eastern Cape specifically, being home to automotive, perishable, and wool industries, all of which are export-focused, the ability to ship on a regular basis and on a reliable schedule is imperative to meet the obligations that they have entered into with customers around the globe.

Durban, South Africa's busiest port, has been grappling with congestion issues for years. Inefficient handling of cargo, long waiting times for vessels, and the inability to adapt to increased demand have led to extensive delays and financial losses for businesses. These delays ripple through supply chains, causing companies to incur additional costs and miss out on lucrative opportunities.

For Coega, one of the country's poorest regions in terms of unemployment, the impact of port inefficiencies is palpable as we see the region taking a massive financial knock. The citrus industry as an example has had an extremely trying three years. The 2022 season saw 5,7-million fewer cartons exported

than what was initially predicted at the start of the season. While these vessel omissions impacted the volumes in 2022, adding to the necessity to dump some product towards the later part of the year, a strong end to the season in early 2023 saw volumes exceeding the prior year. With an estimated 30% of the export having to load out of other ports, the financial impact was an additional R250m spent on transport.

Our country, and in turn our economy, needs a functioning logistics network. But as the nation grapples to recover from the failure of yet another parastatal, those bearing the brunt of the port and rail inefficiencies are facing an increasingly tough time. We must lobby for a collaborative, coordinated and focused approach from business and government before we will start to see movement in the right direction. We cannot afford to ignore these problems any longer; the cost of inaction is simply too high. ☹

“The current state is that the number of locomotives and rail movements are far below the installed capacity of the South Corridor running between the Eastern Cape and Gauteng.”

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OVERCOMING LEADERSHIP BARRIERS FOR WOMEN IN THE BUILT ENVIRONMENT SECTOR

In South Africa, approximately 10% of the workforce in the Built Environment comprises women, a proportion that is similarly reflected in numerous countries globally.



Over the course of history, women in our nation have often been disregarded or marginalised in relation to their involvement in the built environment; however, their undeniable influence and significance are evident. Women have played significant roles in shaping our cities, infrastructure, and public spaces, spanning from architects and urban planners to engineers and construction labourers, as well as land surveyors and quantity surveyors, among various other professions within the sector.

The Council for the Built Environment (CBE), functioning as a regulatory body for development, advocates for acknowledging and honouring the women within the industry with Heritage Month presenting an opportunity to highlight the crucial part that women have undertaken in shaping the Built Environment, their priceless inputs to nation-building, and the advancement of a democratic society.

“There have been recent efforts and policy changes as well as targeted interventions to bridge the gender gap and promote inclusivity in the Built Environment”, says Dr Msizi Myeza, CEO at CBE.

He adds: “In celebrating Heritage Month, we must be deliberate in highlighting the achievements and showcasing the stories of these remarkable women who have defied convention and triumphed in their fields. By acknowledging their efforts, we can inspire future generations of women to pursue careers in the Built Environment and break down barriers that have restricted their participation.”

CBE will convene a webinar on 20 September 2023 titled "Advancing Her: Overcoming Leadership Barriers in the Built Environment", aimed at raising awareness and fostering conversations about the role of women

in the Built Environment, and providing a platform for women in the sector to share their experiences and inspire others.

“It is our considered view that by showcasing their achievements, we empower women to pursue careers in these fields and contribute to the development of our nation and the advancement of our democratic ideals,” emphasises Myeza.

To ensure that women have equal access to opportunities and are empowered within this sector, there are several practical steps that CBE are implementing as part of their transformation agenda:

- **Education and skills development:** The CBE is partnering with various agencies to ensure that tailor-made skills development programmes, specifically for women in the Built Environment, help them with the necessary knowledge and expertise to succeed in the sector. In addition, CBE conducts career awareness programmes to encourage girls to pursue STEM subjects and create mentorship programmes.
- **Promoting leadership and visibility:** Profiling women in leadership positions to showcase their achievements is in the organisation’s toolkit to promote inclusivity, increase their visibility and provide inspiration for future generations.
- **Building supportive networks:** The CBE’s Women Empowerment and Gender Equality (WEGE) Transformation Collaborative Forum (TCF) provides a platform for networking, fosters collaboration, mentorship, and knowledge sharing and support groups for women in the Built Environment. The TCF serves as a valuable resource for career development, sharing experiences, and overcoming challenges faced by women in the sector.
- **Encouraging diversity in hiring and promotion:** The CBE is also advocating and lobbying government, state entities, private sector, and tertiary institutions to adopt diverse hiring and promotion practices. Their view is that actively seeking qualified women for positions and ensuring equal opportunities for growth and advancement can create a more inclusive work environment.
- **Advocacy and awareness:** Raising awareness on women empowerment in the Built Environment is instrumental in driving change.

“It is important to recognise that ensuring inclusivity and access to opportunities for women in the Built Environment is a long-term commitment that requires continuous effort. By addressing these practical steps and implementing them with dedication, we can make substantial progress towards a more equitable and diverse Built Environment sector,” concludes Myeza. ©

IT IS TIME TO PLAY THE GOVERNMENT AT THEIR OWN GAME

*For too long now the African National Congress has thrown levels, stages and numbers at us. South Africans are now at expert level of being able to calculate the impact of a “Stage 4 loadshedding” that ends at say 14:00 after which “Stage 3” will be implemented until 18:00. Zone 4 residents will know without so much as a glance at the Trig books that they will have no power between 17:00 and 19:30 and that they should finish preparing dinner before that. **By Howard Feldman***



When Covid hit the world, they introduced the idea of levels. The idea was to indicate the seriousness of infectious transmission, which could be curtailed by limiting the purchase of open toe shoes and closing of outdoor venues like beaches in the Western Cape. But not in KZN.

This was a higher-grade time when levels and stages intersected and required a deep knowledge of time zones, electricity production, consumption, infection rates and new variants. The number of vaccinations, co-morbidities and antibody levels also needed to be considered.

It is time to turn the tables and to play the government at their own game. It is time to rate their performance according to four simple levels that I suspect even they could follow.

Imagine if we had to rate ministers and departments according to four stages of competence and incompetence.

Level 1 would be “unconscious incompetence”: the lowest stage where the person or minister is not even aware of what they don’t know (half of social media). They think that they are knowledgeable and that there are no gaps in terms of skills. They are the most dangerous of all to have in any job, and particularly in government as not only are they grossly incompetent, but they rarely seek assistance from those who actually are.

Level 2 ministers are “consciously incompetence”: a slight improvement over a Level 1, although arguably the most depressing for the person. They are aware that they are unable to perform the task and deeply cognisant of their lack of knowledge. They seek help which will allow them ultimately to move upward.

Level 3 ministers are “consciously competent”: They are competent at their job and in the area that they are focused, but must consider each thing they do.

Their knowledge is not yet natural and fluid, but they are able to get the job done, albeit slower (like a new driver going through all the checks until it becomes second nature). The highest and most sought-after

area are ministers or government employees who are unconsciously competent: They have the skills in their area of responsibility.

And yet they are unaware of their ability as it comes naturally to them. The danger here is that it is hard to empathise with others who are not able to do what they are able to.

In the South African context, as would be the case around the world, Level 4 ministers are rare. That in itself is less a concern for the ANC than the number of their employees who flounder at Level 1. The combination of unconscious incompetence and arrogance is a deadly one. It bodes poorly for the party and for the country if they are invited to continue in 2024.

The system of competency is not new and has been around since 1960. It appeared in a textbook called Management of Training Programs by three management professors at New York University.

In psychology, the four stages of competence, or the “conscious competence” learning model, relates to the psychological states involved in the process of progressing from incompetence to competence.

People may have several skills, some unrelated to each other, and each skill will typically be at one of the stages at a given time. Many skills require practice to remain at a high level of competence.

The four stages suggest that individuals are initially unaware of how little they know, or unconscious of their incompetence. As they recognise their incompetence, they consciously acquire a skill, then consciously use it. Eventually, the skill can be utilised without it being consciously thought through: the individual is said to have then acquired unconscious competence.

This is why it is such a great way to rate government performance, something we should have done ages ago. And so now, each time we are told that we are heading into Stage 4 loadshedding, it is possible to turn that around and call out unconscious incompetence where we find it. ©



DRIVING SOUTH AFRICA FORWARD BY LAYING A SOLID FOUNDATION FOR THE MANUFACTURING SECTOR

Developing South Africa (SA) into a manufacturing dream performer is an ideal worth pursuing. This is particularly clear after an illuminating week at South African Auto Week. By Amith Singh, Nedbank Commercial Banking's National Manager for the manufacturing sector.

Auto Week, the country's premier automobile event for quality networking and thought leadership, took place from 11 to 13 October as part of SA's Transport Month.

Driven by naamsa, the Automotive Business Council, which represents 42 passenger vehicle brands, 22 light commercial and 20 medium and heavy commercial vehicle brands, Auto Week is a heavyweight gathering of people committed to growing the economy and creating jobs.

Understandably, optimism is tempered by pressure on the new-vehicle market, which is expected to remain flat, as well as macroeconomic factors such as load-shedding, commodity price fluctuations, backlogs at ports, as well as deterioration of road and rail networks.

The automotive industry, however, is the largest player in SA's manufacturing industry. In 2021 it contributed close to 5% of the country's annual gross domestic product. It directly employs nearly 500 000 people formally and informally, which is 2,9% of SA's 16,2 million employed. The auto industry also exports products to 152 markets and generated R227,3 billion in export revenue last year.

While Nedbank is aware of the economic constraints and challenges that SA faces, the impact of the automobile manufacturing sector on the economy cannot be underestimated. The sector is propelled by naamsa's vision, which is to lead a globally competitive, transformed automobile industry that actively contributes to SA's sustainable development.

The deliberations at Auto Week were critical in understanding the impact of the sector, ways of boosting local investment, how the country is moving towards electric vehicles and handling energy challenges, and more.

Deputy President Paul Mashatile addressed the conference and engaged in roundtable talks with key industry stakeholders. He acknowledged the pivotal role of

the manufacturing industry. However, more work is needed to build on a solid foundation. We must collectively roll up our sleeves and work together for the good of the South African economy and job creation.

The manufacturing sector remains a positive window of opportunity to unlock new opportunities, notably the emergence of the energy efficient electric car. Nedbank Commercial Banking is premised on its understanding of the manufacturing sector's pain points and offers solutions with adequate support so that clients can better navigate the current difficulties facing South Africa. As such, Nedbank aligns with the industry optimism that while challenges remain, the upswing of the hold on rates can lift the sector.

As money experts committed to doing good, our team have expert solutions with adequate solutions to enable clients to navigate the current challenges. ☺



AI AND GREEN TECH SKILLS CAN HELP COMPANIES GET TO NET ZERO

Over recent months, people around the world have been experiencing the impact of climate change first-hand. It's no surprise that we've seen an increased drive for businesses to meet growing expectations for environmental accountability. By Zuko Mdwaba, Salesforce Area V/Africa Executive & South Africa Country Leader

More and more, investors, customers, employees, and partners want to know that corporations are living up to their environmental, social and governance (ESG) commitments. With growing regulation and disclosure requirements, effective ESG reporting has become a critical element of an organisation's core business activities.

At COP28, world leaders will gather to discuss environmental issues. Yet every government, organisation and individual has a role to play in tackling climate change.

According to Salesforce research, 78% of customers say environmental practices influence their decision to buy from a company.

The world has shifted from voluntary to mandatory ESG disclosures, and while this is still daunting for most businesses, generative AI will become a key partner in meeting these challenges.

In doing so, businesses can also cut costs, reduce complexity, and realise more efficient ways of doing business. They can boast a happier workforce and a healthier financial outlook, too.

Making ESG easier with AI

Meaningful corporate transparency benefits us all, yet businesses can find themselves lost in the complex landscape of regulatory frameworks.

Many companies view ESG reporting as an operational challenge, citing inconsistent and unreliable data and a lack of clear global reporting standards as pain points.

In a 2022 EY survey, 60% of respondents indicated that their ESG information is found across a patchwork of software applications, while 55% of respondents are housing their ESG data in spreadsheets. 51% percent also reported that within the past 12 months they had spent "substantial time and effort" addressing ESG data collection, aggregation, and disclosure.

There exists tremendous potential in the power of generative AI to meet these challenges, drive further ESG reporting efficiencies and to add value for organisations - helping them save time and costs while improving the state of the world.

Harnessing the power of AI, companies can better track their carbon footprint and help ESG managers shape their company's ESG program and reporting strategy more effectively.

They can, for instance, manage their data in real time and easily generate framework-specific reports. Delivering actionable reports, forecasting, and visual dashboards to easily identify areas of inefficiencies and high emissions can create tangible plans to become more sustainable and adapt and prepare for evolving regulatory standards.

In addition, suggested responses based on prompts that are in line with specific framework criteria can help



companies streamline the ESG report authoring process.

For example, by leveraging a company's ESG data from previous year's disclosures, uploaded documents, and other data such as a company's emissions, teams can benefit from automatically populated responses for each written question in the report.

Upskilling in AI for a net zero future

Today, good engineering is sustainable engineering, especially as industries pivot towards digitalisation.

Ensuring the sustainable development and implementation of emerging technologies like generative AI is crucial. One effective strategy is "green coding" whereby technologists reduce carbon emissions associated with the software development lifecycle. Getting started can be as simple as reusing existing code because developing new lines of code requires energy.

While technologists want to act, however, they report little knowledge or training around sustainable development at their job. Nearly half (45%) surveyed confess they don't know how to develop software applications that do less harm to the environment.

Achieving a just and equitable transition to a net zero future will take an army of qualified individuals — from carbon accountants to scientists to ecopreneurs - working together. But without the qualified talent to fill the roles, an already daunting task is nearly impossible.

When it comes to AI skills specifically, Salesforce research on generative AI skills in the workplace found that 62% of workers say they don't have the skills to effectively and safely use generative AI.

With an emerging workforce waiting to help, it's important that businesses turn their attention to training, to make the most of emerging AI and green technologies.

By upskilling existing workers who want to make the jump into sustainability careers, companies can source talent for hard-to-fill roles, support employees to work on something they're passionate about, and create a workplace where everyone is a sustainability expert. ☺

HOW POWER PLANT OEMS CAN HELP ADDRESS SA'S ELECTRICITY CRISIS

As the South African government mulls over ways to improve the performance of Eskom's coal-fired power stations, collaborating with power plant original equipment manufacturers (OEMs) may be the answer to optimising power generation and ultimately put an end to load shedding. Thava Govender, CEO of Babcock's engineering business, says long-term partnerships with power plant OEMs may be the much-needed solution to addressing the electricity crisis and stabilising the grid.

That the lack of reliable electricity supply is one of the biggest economic constraints in South Africa is no overstatement. To provide context, record levels of load shedding were experienced in 2022, with 207 days of blackouts recorded during the year, compared with 75 days in 2021. This has had a devastating impact on businesses and the economy at large.

As part of government's efforts to solve the electricity crisis and end load shedding, National Treasury proposed a total debt-relief arrangement for Eskom of R254b during the 2023 Budget Speech. However, the arrangement came with strict conditions to safeguard public funds. One of the conditions was that Eskom would implement the recommendations of an independent assessment of its operations, which

was commissioned by National Treasury.

In February 2023, National Treasury announced that it had appointed the German VGBE Energy Consortium to assess and investigate the operations of Eskom's coal fleet. The outcome of the assessment, which was concluded in July this year, will consider a concession model which could see OEMs playing a central role in turning around and improving the energy availability factor (EAF) and performance of Eskom coal-fired power plants.

Why OEMs?

According to Govender, it is important to note that the root cause of the current electricity crisis in the country is the lack of sustainable maintenance, not insufficient energy capacity, as

is mostly purported. While South Africa's coal fleet has a 51% EAF, many plants globally of the same age are operating at a much higher EAF of over 85%. Currently, says Govender, 80% of unavailable power is due to inadequate attention, with only 20% of the power stations on planned maintenance.

Over the years, lack of proactive engagement with OEMs has hampered determination, definition and optimisation of a detailed maintenance scope. The devaluing of OEM support has therefore impacted their ability to effectively support Eskom. One of the reasons for disregarding OEM engineering services is the perception that OEMs are expensive.

The truth of the matter, stresses Govender, is that OEMs are not



amongst other critical components of the power plants that they supply.

One of the sustainable ways of reviving Eskom's coal fleet is through the refurbishment of the power stations – restoring the plants to their near original state. According to Govender, most of the power stations were built decades ago, and were designed for a certain coal quality available at the time.

With coal quality deteriorating over the years, OEMs – leveraging their access to new technologies, local expertise and global best practices – have the ability to upgrade the necessary components such as boilers and turbines to allow the old power stations to operate at peak performance using the new grade of coal available. However, stresses Govender, these changes require time to assess and correct, especially given that there have been some undocumented modifications to the power stations over the years.

“OEMs bring a lot to the table in the quest to finding a lasting solution to the incessant load shedding,” says Govender. “They possess a comprehensive understanding, drawings and design performance parameters of the power stations. With their access to developing technologies, they will definitely improve the performance of the coal fleet.”

The other key benefit of engaging OEMs is that they offer the necessary spare parts needed to keep these power stations running at peak performance. “At Babcock, for example, we manufacture a fair majority of the parts for our boilers locally. OEM parts guarantee an exact replacement of what was originally included on the boilers, for example. This, in my view, is incredibly important and worth any cost that comes with it.”

Babcock's value proposition

As one of the leading boiler manufacturers, Babcock has a long track record spanning some 130 years in South Africa, with an extensive installed base of over 1 500 boilers during that period. In fact, the company has been involved in the construction and maintenance of some of the flagship coal-fired power stations in the country.

One that quickly comes to mind is Lethabo Power Station, one of the top-performing power stations to date. The company has also been involved

in the construction of the first six units for Matla Power Station, five units for Hendrina Power Station and five units at Grootvlei Power Station.

Babcock also leverages OEM services to maintain and upgrade power stations that were originally built by other OEMs. Its engineering expertise enables it to effectively execute modifications and improvements. Some notable achievements include Kendal Power Station, where the company successfully executed a long-term maintenance contract since commissioning, until 8 December 2021.

At Matimba Power Station, the company successfully replaced a main steam system to enhance reliability.

Apart from building and maintaining power stations, the company has also expanded its scope with emissions abatement services. Having already successfully completed a NOx abatement project at a petrochemical plant in the country, where emission levels were reduced by almost 40% lower than the legal requirement, Babcock has successfully been awarded a contract to refurbish electrostatic precipitators at one of Eskom's power stations.

“Another area of competence is mainstream pipework. We have already demonstrated our competence in this area at two Eskom power stations. In fact, we are the only company that has successfully executed a main system replacement from boiler to turbine,” says Govender.

Through its supplier development programmes, Babcock can directly empower local small and medium enterprises, micro-enterprises and qualifying small enterprises in the power value chain. “Through our Education and Training division, we have also demonstrated our commitment to developing skills, including those of artisans, mechanics and welders, for our own needs and also for the broader economy,” says Govender. Babcock also leverages partnerships with leading international technology providers to ensure access and support from the best in the industry. “A lot of know-how resides within our organisation, but we can also tap into the strategic alliances we have with global technology partners such as the Babcock & Wilcox partnership in the United States. This partnership gives us access to the latest advancements which can be retrofitted on local power stations to optimise performance,” concludes Govender. ©

expensive – they offer a premium service which, of course, calls for a significant initial capital investment, which is in fact outweighed by the substantial return on investment through a much higher EAF over the lifecycle of the power plants. The comprehensive lifecycle support capabilities are made possible by the OEMs' strong skills base, which is a big overhead cost they have to carry and have invested in over the years.

To remedy the current power crisis, Govender believes that power plant OEMs have an important role to play. By their nature, OEMs offer end-to-end services – designing, supplying, operating, manufacturing, constructing, commissioning, maintaining and guaranteeing the long-term performance of the critical boilers, turbines and generators,



CAPE TOWN CBD RESIDENTIAL PROPERTIES PROVING ATTRACTIVE TO MILLENNIALS

Previous generations might have grown up yearning for a home in the suburbs, but today's 30-somethings are in no hurry to invest in property. When it comes to choosing where and how to live, they seem less motivated by the need for financial stability and permanency, and more by the need for freedom and flexibility.

Changing lifestyles and aspirations has seen a sharp decline in homeownership the world over. Where Baby Boomers were starting families and purchasing property in their twenties, today's fast-paced, career-focused nomadic millennials are deferring both in favour of lock-up-and-go rental accommodation in city centres across the globe.

Renting has many benefits, says Celeste van Graan, Sales and Leasing Manager at Harbour Arch in Cape Town. "Given the state of our economy and current high interest rates, getting onto the property ladder isn't easy for youngsters who haven't yet built-up financial capital. 100% bonds are rare, banks often require substantial deposits, and conveyancing and transfer costs can be crippling for a first-time buyer. By contrast, renting generally just requires a month's security deposit equal to one month's rent."

The impact of this is clear: the FNB Property Barometer from May this year showed that there has been "declining house buying activity, in line with higher borrowing costs [and] stretched affordability....".

"Rental tenants also benefit from not having to pay property taxes or cover the costs of levies, insurance, security, maintenance, and repairs, and they get access to facilities that they would otherwise not be able to afford - like a heated swimming pool and sundeck, gym facilities, communal gardens and coworking spaces, off-street parking, around-the-clock security, and high speed WIFI," van Graan says.

Growing environmental awareness has further driven the trend towards inner-city apartment living. Millennials are opting for compact apartments because they are more cost and energy efficient than suburban homes. Removing the need to commute - either because they can walk to work or work from home - helps to further reduce their carbon footprints.

"Today's younger tenants are generally very well informed, and hold the property developer accountable for ethical and sustainable building practices. That's why energy-efficient lighting and appliances, double-glazing,

centralised air-cooling, water harvesting, recycling, and solar power have become standard in many new developments," van Graan explains.

Research into the property market indicates that, in a city like Cape Town, inner-city living is becoming increasingly attractive, especially among a younger demographic. In fact, according to a TNP Investor Report issued in November 2022, the age group 26-30 makes up the biggest group of CBD dwellers. These are well-educated residents, whose earnings reflect relatively high income levels. The research also shows that renting dominates significantly over ownership.

There are many reasons to rent in city centres, but the most compelling might just be the allure of the city itself. Millennials are drawn to the infectious energy and diversity of the inner city, and the quality of life that it offers - like being able to walk to work and exercise outdoors; like having their daily needs met within walking distance of their homes; and having a vast array of culinary, cultural, and entertainment options on their doorsteps.

Van Graan comments that, "Since launching the Harbour Arch rental offering in May this year, we've seen huge demand from young professionals, digital nomads, and people relocating to Cape Town from elsewhere in the country. Cape Town - recently voted 'Greatest City on Earth' by the 2023 Telegraph Travel Awards - has become a desirable playground for young, dynamic, trend-setting individuals looking for sociable, connected, and physically active urban lifestyles."

While there can be no doubt that investing in property is a good idea over the long term, it is clearly no longer the holy grail of adulthood that it once was. Living in a global village, with the means to travel, to work remotely, to change careers, and experience living in different cities around the world has created a generation that doesn't necessarily want to put down roots.

For the young, upwardly mobile and adventurous at heart, renting an apartment in or close to a city may well be the better option. ☺

RADICAL HOUSING MODEL TEACHES POWERFUL LESSONS FOR SOLVING SA'S HOUSING CRISIS

Earlier this year, Mmamoloko Kubayi, Minister for Human Settlements shared an alarming insight into the severity of South Africa's chronic housing crisis. Answering a question to Parliament, she stated that that 1,9 million South African households, or 11.4% of the population, live in informal dwellings. According to the latest statistics, around 17% of Western Cape households live in informal settlements while Cape Town's housing backlog is over 325 000 households and rising.

Without radical, decisive action combined with the necessary political backing, the national housing crisis threatens to escalate beyond control.

In Khayelitsha, one of South Africa's largest and most marginalised informal settlements, Cape Town-based NPO Urban Think Tank Empower (UTTE) has developed a radical housing model which has taught that that dignified, affordable housing can become a reality for all South Africans – with the right support.

Phase one: transforming lives

Launched in 2013, phase one of UTTE's Empower initiative has already helped to transform the lives of over 350 Khayelitsha residents living in 72 Empower homes designed in line with their needs, aspirations and cultural values.

Many of the innovations pioneered by the collaborative, community-first Empower Upgrade Model seem obvious, yet they've never been implemented in South Africa's informal settlements. For example, building double-storey Empower homes upwards instead of outwards has helped to make best use of scarce available land while maximising living space. This is particularly important given that the average number of people per informal settlement dwelling is relatively high. Another important innovation involves giving the residents a direct say in designing their own homes and their own neighbourhoods. As a result, Empower homes provide safe and decent housing for families within their existing communities without relocating them to random, potentially remote RDP sites.

Commenting on the gaps in current housing provision, Delana Finlayson, Managing Director at UTTE, says: "No-one can challenge the admirable intentions behind RDP housing. However, the programme's focus on quantity over quality has produced houses that do not always meet the needs of the people living in them. We're confident that scaling up and replicating our housing model can help to deliver the promise of 'housing security and comfort' for all South Africans, as enshrined in the 1955 Freedom Charter."

Phase two: scale up and replicate

Drawing on lessons learned during phase one of the Empower campaign, UTTE is now poised to deliver even more dignified, affordable homes as phase two gets underway. This phase will start with the construction of another 70 Empower homes along with public spaces and shared assets such as a community hall, urban farm and solar power

installation. Next steps will involve expanding the project to nine more sites in Khayelitsha. Long-term, UTTE is confident that its Empower Upgrade Model is capable of playing an instrumental role in ending South Africa's chronic housing crisis by delivering more new Empower homes to more communities in the years ahead.

Commenting on the project's transformative impact, Alderman Eddie Andrews, Deputy Mayor of Cape Town and Mayoral Committee Member for Human Settlements, says: "Cape Town is a growing city, facing the many pressures of emigration and urbanisation. We have to be mindful not to remain reactive in our efforts and it is equally important to look through a proactive lens to ensure we sustainably respond to these pressures.

"The City of Cape Town is very supportive of the work done by the Empower team and its partners for the people of this community. The team has shown us how much we can achieve through visionary collaborations that combine proven technical know-how with bold innovation to address the very real challenges facing people living in our informal settlements. Further to this, their innovations support our goals to reduce our carbon footprint by using nature-based solutions to our challenges.

"The Empower Upgrade Model also places the wellbeing and aspirations of the community at the forefront of the housing process by restoring dignity, security and hope to community members. This model is a sustainable response to a growing city. Thank you for partnering with the City of Cape Town and teaching us valuable lessons about re-blocking. As a municipality we cannot do it alone and rely on partners such as UTTE to help us build a City of Hope for all who live, work, invest and play here." ☺





Babcock and BULL: Transforming Construction and Plant Hire, together

The recent distributorship agreement to supply BULL backhoe and skid steer loaders in Southern Africa not only gives Babcock the ‘picks and shovels’ to compete in the construction and plant hire markets, but allows the company to offer a comprehensive earthmoving equipment solution to its customers in the region.

As part of its product expansion portfolio aimed at becoming a true one-stop yellow metal equipment solutions provider across industries, Babcock has added the BULL backhoe and skid steer ranges to its extensive offering. Announced in July this year, the partnership gives Babcock exclusive distributorship rights of the range in South Africa, Zimbabwe, Namibia and Botswana.

Having previously supplied and supported a number of market-leading backhoe loaders and skid steers in Southern Africa, Babcock is well aware of the importance of these products in the local market. The backhoe loader, in particular, remains the workhorse of the industry and is deployed across various applications from general construction and plant hire to agriculture and waste management.

“With the addition of BULL machines to our stable, we are even better equipped to offer comprehensive earthmoving solutions across industries,” says David Vaughan, MD of Babcock’s Equipment business. “BULL is one of the market leaders in the backhoe loader market in India, which speaks volumes about the quality of the product.

Coupled with Babcock’s aftermarket support, we believe we

have a compelling solution for our customers in southern Africa.”

Full range

Babcock will initially offer three BULL backhoe loader models – the HD76, the HD 96 and the HD100 – in five different variants, confirms Mark Senyard, Babcock’s Product Manager for Bull Machines & SDLG Equipment. The HD76 will be offered in a General Purpose (GP) configuration only. The HD96 and HD100, confirms Senyard, will be offered in two different versions – GP and Multi-Purpose (MP). The MP configuration will see the machine coming with a clamshell bucket, fold-over forks and an extended dipper.

Powered by a naturally aspirated Killoskar engine delivering 56,7 kW of power at 2 200 rpm, the HD76 is said to offer 15% more bucket breakout force and 4% more backhoe bucket capacity than some of the closest competitors in its class size.

The HD96 is powered by a turbo-charged Killoskar engine delivering 70,6 kW power at 2 200 rpm, while the larger HD100 is driven by a 74,5 kW Perkins engine. A key competitive edge of the range is represented by well-known components such as the Killoskar and Perkins engines, as well as the Italian-made Carraro

transmission and Casappa pumps. These are complemented by the reputable Danfoss braking system and AKG radiators. In addition, the machines come with standard hammer piping and air-conditioning, as well as ROPS and FOPS as standard – key requirements for the quarrying and mining industry.

In addition, Babcock will initially offer a single skid steer model, the AV490. Ideal for jobs where space is at a premium, the compact and easily manoeuvrable AV490 skid steer is ideal for landscaping, agriculture, construction and under-conveyor applications in mining. This cost-effective all-rounder is designed for fuel efficiency and features a rear-view camera to reduce blind spots. Babcock supplies this machine in two variants, giving customers a choice of canopy or cab with air-conditioning.

“We are excited to have BULL in our stable. This is a robust product built on the right fundamentals. To provide context, BULL offers the tallest dumping backhoe loader in the world, yet it is competitively priced against some of the leading brands in this fiercely contested market,” says Senyard.

Shared vision

The partnership between Babcock and BULL, says Vaughan, is based on the shared values between the two companies. “When we met Guminder Singh Malik, President – International Business and Strategy at BULL, it was clear from the onset that the principles and ethos of the two businesses were very much aligned, which gave us confidence in BULL,” he says.

According to Vaughan, Babcock has always considered market-leading products for distribution, which is one of the reasons why the BULL product was considered.

Following its entry into the backhoe market with the launch of the world’s first 60 horsepower Hydrodynamic model in November 2011, BULL is the youngest and fastest growing backhoe loader manufacturer in the global market, confirms Malik.

“Within a span of a decade, BULL is now among the top three backhoe loader manufacturers in India. During the first four months of 2023, we took second position in our domestic market, ahead of some of the established global OEMs competing in this market segment,” adds Malik.

Locally, the brand has been well received since its introduction into the South African market in 2017. Under the stewardship of Babcock, it is expected to gain more traction, leveraging Babcock’s widespread support infrastructure across the region, as well as an existing customer base in new markets such as quarrying and mining.

“BULL is globally renowned for its impressive equipment, proactive approach and commitment to continuous research and development. I am looking forward to new and existing BULL customers benefitting from these exceptional machines, and the Babcock team is ready to create value and provide solutions for our customers,” says Senyard.

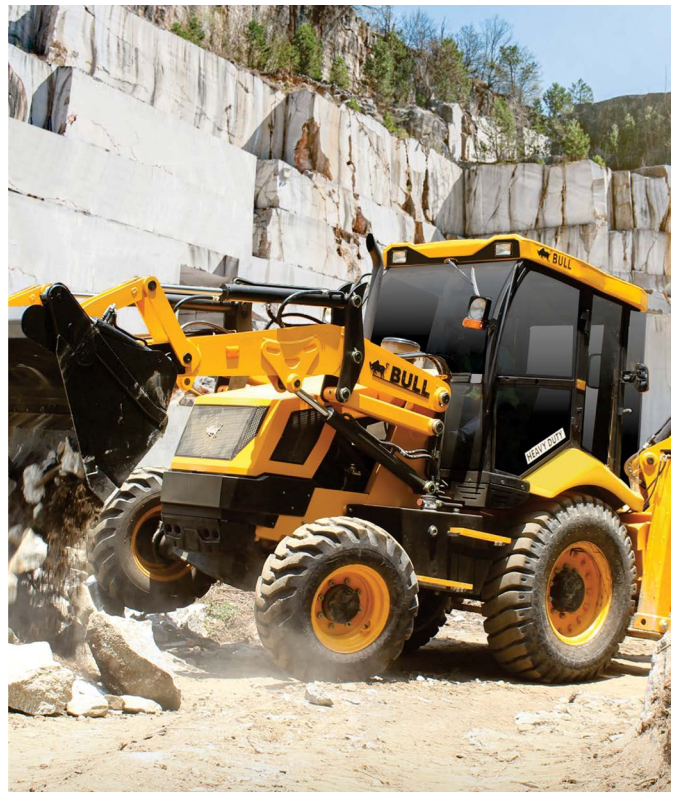
Aftermarket support

Babcock is the exclusive regional distributor for leading international brands and construction equipment including Volvo and SDLG construction equipment, Sennebogen cranes, and Winget concrete handling machinery. Working closely with its customers in southern Africa, the company has a

proud history of sales and servicing of construction equipment that spans more than six decades.

Over the years, the company has made a strategic decision to build its business on the back of its aftermarket. One of the key interventions has been the complete redesign of the maintenance contract offering to offer custom solutions suited to customer operating and economic profiles. Proof of the success of this strategy is the recent growth of the company’s service/maintenance contracts portfolio.

“New and existing BULL customers will benefit from a strong service and maintenance regime to ensure that machines are kept in optimum condition. To ensure customers get maximum value out of their capital equipment investments, Babcock offers a suite of aftermarket services to its customers, including tailor-made service contracts, trade-ins and equipment rebuilds, among others,” concludes Vaughan. ☺





BALLITO JUNCTION REFURBISHMENT CREATES MIXED USE **PRECINCT WITH FLEXIBLE WORK SPACES**

Nestled along KwaZulu-Natal's North Coast lies the new Ballito Junction, with the original building being a Mediterranean-inspired shopping centre that is being reconfigured and refurbished to offer a diverse range of amenities and experiences.

The refurbishment was conceptualised by MDS Architecture for owners Menlyn Maine and Flanagan & Gerard.

Pierre Lahaye, a partner at MDS Architecture, says that the design is a contemporary update, while maintaining a focus on community and functionality. "The reimagined development brings a lifestyle element to the broader precinct by offering an outdoor dining node. The aesthetic has been updated to complement the triple-storey, 80 000 m² regional mall to which it is connected."

The rejuvenated centre will offer retail convenience, outdoor dining options and flexible workspaces when it opens on 30 November 2023.

Workspace synergy

Ballito Junction will house Workshop17's inaugural venture into KwaZulu-Natal and aligns with the rising demand for mixed-use properties and remote working options. Workshop17 is a leading provider of flexible workspaces.

Says Lahaye, "The concept offers flexibility for businesses and workers, while bringing higher foot traffic

to the centre during the week. Restaurants benefit from daytime visitors, and those using Workshop17 overlook the piazza or mall area while enjoying a wide array of convenient options available for meetings and meals."

New lifts and a lobby link up the new mall and provide access-controlled lifts for Workshop17. From above, a screen has been used to demarcate the space and shield services from view.

Paul Gerard, Managing Director of Flanagan & Gerard Group, notes that large volumes of people in higher income brackets, including families semigrating from Gauteng, are relocating to the north coast of KZN. They are attracted by the quality of life it offers, its world-class secure estate living and its easy access regionally, nationally and internationally.

"It is this growing movement that inspired the decision to introduce bespoke workspace solutions to the region. We felt the timing was perfect.

Many professionals will now be able to have a quality work environment within the North Coast's premier shopping destination – Ballito Junction," says Gerard.



the shops offers an enclosed pause area complete with indigenous landscaping.

Several Workshop 17 office suites overlook the piazza, while others look into the mall area. The courtyard area's fast food and restaurant dining options open out from the main shopping centre and integrate into the garden area. Certain suites have sea views.

The introduction of darker tones, in contrast to the original lighter palette, gives the space a sophisticated, contemporary feel. The flooring patterns were meticulously designed to maintain continuity with the existing tiles.

The refurbishment includes remedial works, waterproofing

upgrades, and the installation of energy-efficient features. By repurposing existing elements and aligning them with modern design principles, Ballito Junction showcases a sustainable approach that balances history with progress.

This transformation redefines Ballito Junction as a vibrant, multifaceted hub where work, leisure, and community coalesce to shape a promising future. ☺

Piazza area redevelopment

Outdoor dining has always been an attraction at Ballito Junction, so one of the significant alterations is the demolition and reconfiguration of the existing restaurant area and the creation of a new restaurant node. This space has been redesigned around a piazza which entices guests to enjoy the outdoors.

A landscaped garden area that criss-crosses between

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Stefanutti Stocks is a multidisciplinary construction group that delivers projects, of any scale, to diverse sectors in the built environment. The group's geographic footprint spans South Africa and Sub-Saharan Africa where its mission is to deliver exceptional engineering solutions that will enrich people's lives.

Re-engineering the built environment

"Our vision is to re-engineer the built environment, and the capability and technical proficiency contained within our Construction Disciplines, which underpin our ability to design and deliver multidisciplinary solutions," says Group CEO Russell Crawford. These solutions include collaborative, full-service packages for projects across all industries. "We have initiated project development trends across all of our Regions, including the design and construct project execution model, that creates an environment in which investors, developers, clients, and consultants can contribute to innovative fit-for-purpose solutions."

Stefanutti Stocks' broad spectrum of expertise covers traditional and niche construction, including:

- Building (specialising in the Industrial and Commercial sectors including one-stop design and build of cold room facilities and the complete data centre offering encompassing CSA, MEP, 3D modelling etc.).
- Civils (including the Structural Rehabilitation and Water sectors).
- Geotechnical (including lateral support and piling).
- Roads, Earthworks and Mining infrastructure.



- Renewable infrastructure including both civil and electrical balance of plant projects.
- Electrical & instrumentation (including the design and build of electrical step-down facilities).
 - Mechanical (including industry leading, turnkey dirty water clarification solutions).
 - Oil & Gas (including in-house pipe-spool fabrication and bulk tank construction).
 - Mining services (including materials handling and tailings management).
- The group's project portfolio includes all type, size, and complexity of construction contracts – from essential infrastructure development projects to world-class iconic buildings and structures. "Excellence in execution" spans every aspect of its operations: execution on site; support services, planning and logistics; commitment to sustainability, transformation and always positively impacting the communities that its projects are built to serve. "We offer significant experience in establishing and developing successful project execution teams, even in the harshest environments and where recruitment and up-skilling of local communities are part of project deliverables," says Crawford.

VISION

Re-engineering the
built environment

MISSION

A multi-disciplinary construction group
delivering exceptional engineering solutions
that enrich people's lives



“We are not just contractors, we are solution architects. We are more than builders - we are invaluable project partners.”

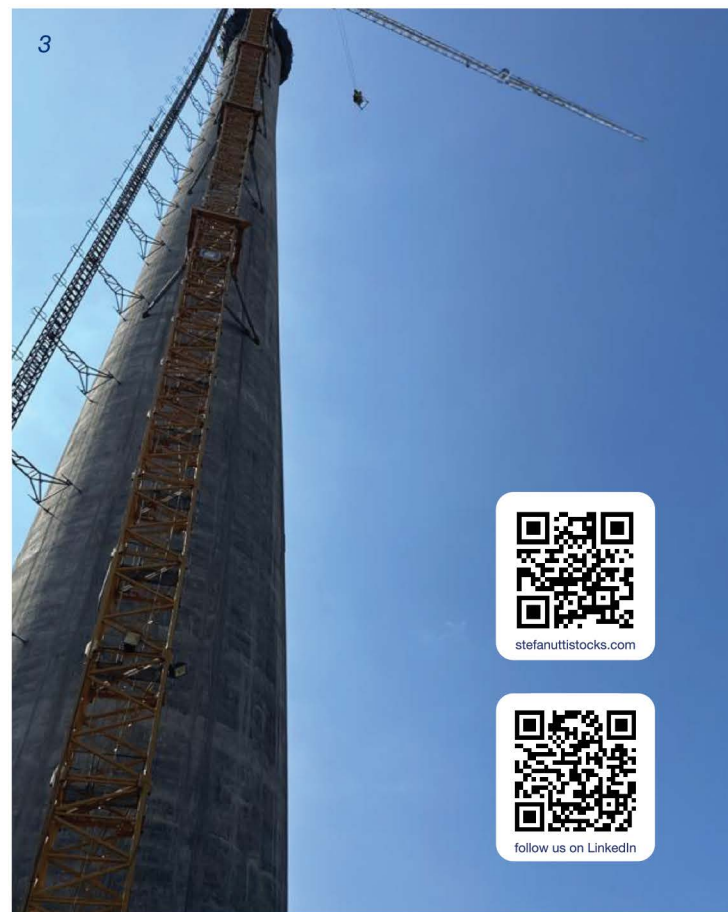
SHEQ management

Stefanutti Stocks implements and maintains certified SHEQ management systems that meet international industry standards, and underpin its commitment to safety, health, environment and quality. It pro-actively fosters a safe working environment, in which employees are encouraged to take ownership of and responsibility for their own and their colleagues health and safety. The group’s “I won’t walk past” culture forms an integral part of the group’s value system and awareness initiatives, such as preventative and training programmes, which are implemented on a regular basis to ensure safety remains top of mind.

Stefanutti Stocks Way

“Our people are at the core of everything that we do, and we are incredibly proud of our talented workforce and experienced management teams, and provide continual development opportunities to all our staff,” says Crawford. Stefanutti Stocks’ ability to deliver world-class construction projects is founded on a value system and a solution-based culture that is deeply embedded in the Stefanutti Stocks Way.

“Our project delivery is driven by our excellent people, our propensity for pre-planning, our pioneering and innovative execution methods, as well as our commitment to putting our clients, and their projects first. “We are not just contractors; we are solution architects. We are more than builders – we are invaluable project partners, with a reputation for delivering quality projects cost effectively, safely, on time and to the required specification and scope,” concludes Crawford.



3



Captions:

1. Members of our Zimplats Team on site in Zimbabwe, and currently constructing mining infrastructure (including the conical slide of a 160m high smoke emission stack) for the SMC SO2 Abatement and Smelter expansion project at Zimplats’ Selous Metallurgical Complex. This comprises an SO2 abatement plant and an additional furnace, Peirce-Smith converters, and associated utilities.
2. The highly anticipated mixed-use development Westtown, Shongweni sees Stefanutti Stocks undertaking the upgrade of Kassier Road (Phases 1a and 1b), as well as multidisciplinary construction scope, comprising bulk infrastructure (water, wastewater, electricity) and building construction for Westtown Square – one of the precinct’s world-class retail offerings.
3. On 18th October 2023 the Stefanutti Stocks team in Zimbabwe poured the last bucket of concrete to complete the sliding process of the 160m high Conical Stack, which is now the highest structure in Zimbabwe.





SUN CITY LIVES UP TO ITS NAME WITH INSTALLATION OF SOLAR SYSTEM

South Africa's most famous holiday resort, Sun City in the North West Province, has taken its name to heart and installed a R16m solar plant to reduce electricity consumption from the national grid.

Located along the border of the Pilanesberg National Park, with many sunny days throughout the year, the grid-tied solar photovoltaic system rated at 1,4 megawatts peak of installed capacity tying in at the Sun Central entertainment centre for use around Sun City.

The system constitutes 2 584 550 W monocrystalline solar PV modules installed on the roof of the Sun City hotel, said TM Lesetla, Senior Operations Engineer at Tsebo Energy Solutions, who installed the system. "These panels will be married into Sun City's internal electrical network, including twelve 112 kW newly installed inverters, to feed the power produced on the roof to the delivery points. Sun City is like a little town on its own, and the solar capacity is part of the energy mix."

The installed plant will displace an equivalent of 2 367 571 kWh yield per annum, with the highest levels of energy production expected in nine out of the 12 months.

"This is an equivalent of what 329 average-sized South African households consume over a year. On good sunshine days, which will be most days, the facility will free up an equivalent of 14% of Sun City's electrical demand from the national utility supplier Eskom, which will be to the benefit of the grid in the vicinity, and by extension local communities that feed off the same supply," said Sun City General Manager, Brett Hoppé.

According to Aubrey McElnea, CEO of Tsebo Facilities Solutions, the solar plant at Sun City has already exceeded expectations. While an annual net saving of R3,2m was projected, data acquired from the plant's intelligent consumption dashboard shows that just over the last two months, 413 871 kWh in energy savings were achieved.

"This results in an estimate of over R1m in savings,

considering both energy and demand reductions, highlighting the efficiency and value proposition of transitioning to renewable energy solutions."

Furthermore, from a sustainability perspective, the solar plant will see Sun City will reduce its annual CO₂ equivalent emissions above 2 510 metric tons per annum, a positive contribution to mitigate against climate change into the future.

"This is one of the many initiatives that Sun City, in particular, and Sun International, are rolling out to reduce energy use both from a supply and demand perspective. Efficient lighting, HVAC retrofits and reconfigurations, water-heating and a gradual move to renewables all form part of the plan," said Hoppé.

Sun City Sustainability Manager Lwazi Mswelanto said, "Sun International's sustainability approach ensures we continue to meet our vision of providing memorable experiences for our guests, providing employment for our people, delivering superior shareholder returns, creating genuine value for the communities in which we operate and making sure we reduce our environmental footprint at the same time."

"Our array of innovative solutions and over five decades of experience, positions Tsebo as a strategic Environmental, Social, and Governance (ESG) accelerator. Working with like-minded companies, whether suppliers, partners or clients - like Sun City, to achieve sustainability targets more effectively and efficiently," concludes McElnea.

The investment will pay for itself within five years, driven by above-average annual electricity price escalations. The plant has an expected lifespan of beyond 25 years when coupled with a well-planned preventative maintenance regime. ☺

PPP FUNDING SOLUTION TO ENABLE INFRASTRUCTURE DEVELOPMENT

The South African Institution of Civil Engineering (SAICE) suggests an alternative solution that will assist National Treasury as it grapples with the country's constrained fiscus. In a letter sent to the Director General of National Treasury, the institution has proposed a Public Private Partnership (PPP) solution, where the advisory fees for transaction advisors can be funded through a bridging loan from a bank, where the loan is repaid on financial close of the project taken from project funding.

This innovative solution will enable the continued investment in the development of infrastructure needed to boost the economy of South Africa, creating both jobs and enabling skills development.

The constrained situation in which the fiscus currently finds itself, requires an innovative approach, and the participation of all interested and affected parties to develop sustainable solutions. It is well known that PPPs can be used to develop serviced infrastructure using private sector capital for construction. The process is well established in South Africa, supported by the PPP Unit of GTAC within the National Treasury, and regulated by the Budget Office of National Treasury. To develop and plan a PPP, an institution needs to be able to fund the Transaction Advisor fees over a period of approximately two years.

Steven Kaplan, President of SAICE states: "This concept, still in its initial development and testing phase, proposes that a bank, either the Development Bank of Southern Africa (DBSA) or a commercial bank, fund the advisor fees by means of a bridging loan for the planning and procurement phase of the project. The bank loan would be repaid in a single tranche, on First Drawdown, when the Private Party achieves Financial Close. This would make the loan a relatively short-term loan, usually less than two years, to provide the bridging funding required to meet the Transaction Advisor fees."

The advantage of such an arrangement would be that the bank provide funding on a project finance type basis to pay the advisors with drawdowns linked to the Transaction Advisor's achieving determined milestones. In this manner, the Institution would not be required to fund the advisory fees from what is, or may become an extremely constrained operating budget.

Kaplan continues: "The outcome would be that state institutions could enter into the planning, procurement and construction of infrastructure through PPPs without impacting their operating or capital expenditure budgets."

A side benefit would be that government would need to be rigorous in the management of the planning and procurement process, in not delaying the process or cancelling the project once it has commenced. Lender's due diligence over the TA's deliverables, against milestones, will help to ensure that the infrastructure

is delivered with little opportunity for there to be any corruption in the procurement process. At the same time the National Treasury Budget office would need to provide Treasury Approvals within a reasonably consistent timeline as time taken to approve would impact the interest cost of the bridging loan.

The securing of private sector funding for the construction of the required infrastructure is already a well-established and understood process in the PPP environment. This bridging initiative is to extend the established use of private sector funding, in the construction of infrastructure, to be used for the feasibility, planning and procurement phases.

The details of this concept are by no means finalised and SAICE has proposed that a PPP Specialist Working Group be formed by the National Treasury GTAC PPP Unit in collaboration with SAICE to workshop the mechanisms for achieving the desired outcome. In short, SAICE sees strong potential for bridging loan funding for Transaction Advisors that would assist Government Entities to develop and plan feasible PPP projects.

In addition to this PPP Funding proposal, as a learned society SAICE continues to offer to assist government in areas such as skills development through mentoring; measures to ensure the effective use of resources allocated to maintenance that will create jobs and improve skills; suggestions on reforms aimed at reducing regulatory barriers; and processes to ensure the effective utilisation of funds allocated to state entities all focused on economic infrastructure. ©



INDUSTRY COUNTS ON TROTECH TO FIND THE BEST WAY TO CONSTRUCT TANKS

Industry counts on TROTECH to provide the best bulk tank design, procurement, and construction services. TROTECH was recently appointed to design and construct 18 large multi-purpose and chemical tanks at its state-of-the-art tank terminal in KwaZulu-Natal. These tanks are being constructed simultaneously and will be completed within nine months. This is a notable feat. It's ability to significantly accelerate the construction of high-quality tanks in a safe manner remains a strategic competitive edge.

TROTECH has been constructing tanks for the company for more than 20 years. It was, therefore, an obvious choice for this leading steward and handler to again entrust TROTECH with the delivery of its new tanks.

The company was also appointed to design and construct five mega tanks for Sasol. This technically complex contract again reaffirms the company's standing as the first point of contact for quality tank building services in the energy and petrochemical industries.

Since inception in 1993, TROTECH has already designed and built hundreds of tanks. Each project has provided the company with the opportunity to refine and hone its innovative processes that have established the benchmark in the industry.

TROTECH is the only company in South Africa to reverse build tanks. Tanks are constructed at ground level and then jacked to their final height one stroke at a time after they have undergone intense quality inspection and control. Apart from being a much safer way of constructing tanks, this method significantly reduces the amount of scaffolding required inside and outside the tanks. This is in addition to freeing up valuable space in built-up areas where these projects are usually undertaken.

In partnership with ESAB, a leading global welding technology specialist, TROTECH also deploys mechanised welding on most of its projects.

The technology significantly enhances productivity and efficiency and ensures a consistently high-quality weld. Welding parameters are preprogrammed into the system, mitigating human error, and changes from one position to the next are undertaken effortlessly, reducing downtime. Furthermore, only minimal grinding and inter-run cleaning are required due to a reduction in spatter.

As the system operates on a magnetic track as opposed to being tacked on tank shells, there is no material contamination.

Moreover, lower heat input reduces distortion. Importantly, the technology also provides many safety benefits. This is considering that it reduces fatigue and avoids exposure to direct contact with fumes and hot surfaces.

As part of the Murray and Dickson (M&D) Construction Group, TROTECH is now in an even better position to undertake mega projects in the mining, petrochemical and paper & pulp sectors. This includes playing a key role in the development and construction of facilities that are needed to store the significant quantities of clean fuel that will be imported into the country in the foreseeable future. TROTECH is also strategically positioned to deliver the storage required for liquid-natural gas and hydrogen as countries diversify their energy mix to "greener" technologies. At the same time, the interest shown in liquid petroleum gas as a means of reducing energy poverty and improving the health and safety of South Africans bodes well for the company.

"With the support of the M&D Group, we are well on track towards realising our 10-year vision of being the foremost tank builder in Africa that is at the forefront of technology and benefiting all stakeholders. This is being driven by our unwavering commitment to the M&D Group's core visions of 'Be Safe'; 'Do it Right'; 'Find the Best Way'; and 'Do What you Say', as we are again demonstrating on these two flagship projects," Lukas Brink, Operations Manager of TROTECH, says.

Rukesh Raghbir, Chairman of the Board of TROTECH and CEO of the M&D Group, commends Brink and his team for their stellar performance on the two new contracts.

"This year marks another important milestone in the journey of both TROTECH and the larger M&D Group, which celebrate their 30th and 40th years of operations, respectively. Together, we are embarking on our next growth trajectory with our eyes firmly set on our '4G' vision. This is to grow a 'Great company with Great people and Great partnerships,'" Raghbir concludes. ©

NEW CCSA LEAFLET WARNS ABOUT DANGERS OF NON-COMPLIANT CEMENT

Cement & Concrete SA (CCSA) has published a special informative leaflet stressing the importance of using the correct and legitimate cement for new structures to prevent building collapses and potential lethal accidents.



Scan and download the leaflet off the CCSA website.

“Know Your Cement – In the Interest of Safety” was produced because CCSA says many secondary blenders and unscrupulous importers are selling non-compliant cement, specifically in rural areas, and such structural failures are increasingly happening.

Matthews Magwaza, lecturer at CCSA’s School of Concrete Technology says after a house recently collapsed in Johannesburg’s Western Areas, tests showed that the strength of the foundation had only been 3MPa instead of the required 15MPa. The builder had used incorrect or inferior type of cement, or an incorrect concrete mix, for the foundations. Uncertainty about the different cement types, or when dishonest contractors and builders are using the wrong or non-compliant cement and do not follow the correct mix proportions for a specific project, can be potentially life-threatening,” Magwaza warns. He says any project that involves concrete starts with the purchase of the correct cement. There are two main types of cement commonly sold in South Africa:

Masonry cement which should only be used for mortar and plaster. These bags have “MC” printed on it and should have the printed wording: “Masonry cement intended to be used for preparation of mortar and plaster only”.

Common cement which must be used for all structural concrete and may also be used for mortar and plaster. These bags must have “CEM” printed on it. Magwaza explains that says SA cement is

regulated by a compulsory standard (VC 9085) administered by the National Regulator for Compulsory Standards (NRCS). This means by law cement must meet certain performance specifications, and adhere to rules for the markings on the bags, to protect human health and safety.

“One of these rules is that specific markings must appear on every bag sold in SA to give the customer peace of mind about the quality and correct application of the cement. Most importantly, an LoA (Letter of Authority) number should be printed on the bag. Unfortunately, an LoA number appearing on the bag is no guarantee that an LoA has been issued so when buying cement from an unknown source, the purchaser should always contact the NRCS on telephone 012 482 8700 to confirm whether the printed LoA is valid.”

CCSA strongly believes the use of SANS-compliant cement and masonry cement is important to:

- Build quality safe structures and buildings;
- Ensure that the user does not break SA law; and
- Prevent liability claims that could follow failures when a cement without a valid LoA was used. ☺

Details that should appear on a bag of cement BY LAW

The diagram shows a 50 kg bag of cement with the following markings and callouts:

- Logo: ***
- Brand name: CEMENT
- What this can be used for: All structural work
- Strength class of the cement: CEM 1 42,5 R
- Name of manufacturer: ABC
- Name of imports, if applicable: IMPORTED BY XYZ
- Weight of the bag: 50 kg
- LoA number: NRCS APPROVAL A2/1234/2023/XXXX
- Standard to which cement has been manufactured: SANS 50197-1
- Factory name: KAKEMAS FACTORY
- Depot number: 012345
- Date packed: 20/09/2023



CONCOR TAKES EASTGATE TO NEW LEVELS OF SUSTAINABILITY

Eastgate Shopping Centre is harnessing more power from the sun, conserving water and saving energy through a multi-pronged project to enhance sustainability – executed by leading black-owned contractor Concor.

The project, which forms part of Liberty Two Degrees' sustainability journey to Net Zero, is upgrading three vital elements of the centre's facilities: an additional 5,74 MW of solar power, the harvesting of rainwater and the installation of a more efficient heating, ventilation and cooling (HVAC) system. Martin Muller, Contract Manager at Concor, tells *Construction World* that the work is being conducted in a live environment, so it is vital to ensure minimal disruption to shoppers and tenants alike.

"Concor is leveraging our extensive experience in live shopping centre contracts, where we apply the highest standards of workmanship within tight timelines, while still allowing trading to continue," says Muller. "Our client – the shopping centre owner – is assured that their shoppers will continue to experience the centre positively, so they remain loyal patrons into the future."

The extension of the solar energy facilities at Eastgate involves the addition of 30,000 square metres of structural steel to support photovoltaic (PV) panels over the rooftop parking area. The steelwork is mounted on concrete columns, and comprises a grid of girders and trusses connected with knee braces and purlins – creating dome shaped structures over large areas of parking space. From a design perspective, these match the existing domes of solar panels installed in Eastgate's first phase of solar energy

generation. One of main constraints of the project is the load bearing capacity of the shopping centre roof, Concor Site Agent Justin de Villiers, explains. If the project was executed on ground level, the contractor would usually use heavy equipment like mobile cranes or tower cranes to lift, move and hoist material on the site.

"In this case, the rooftop slabs would not bear the load of this kind of equipment, so all material has to be delivered as close as possible to its point of use – and then moved in smaller batches," De Villiers says. "A good example is how this has affected the way we move and pour the readymix concrete required for the multiple concrete columns supporting the steelwork."

With the 460 by 460 mm concrete columns reaching between 4,2 and 8,3 metres in height, the conventional approach would have been to use a mobile crane or telehandler to move and pour the concrete into the formwork. The innovative solution being applied under the conditions at Eastgate Shopping Centre involves using a series of conveyor belts in conjunction with special scaffolding – designed in conjunction with Concor's in-house engineers.

"Using a chain block with our engineered scaffolds, we can lift the 13 metre conveyor belts – weighing 350 to 400 kg each – to their required heights," he explains.



Columns being erected using the innovative conveyor system.



Erection of the steel framework structure underway on one section.



An aerial view showing the steel framework with some of the solar panels already installed.

“Smaller quantities of concrete are collected by dumpers from the readymix trucks at road level and brought to the base of the conveyor belt.”

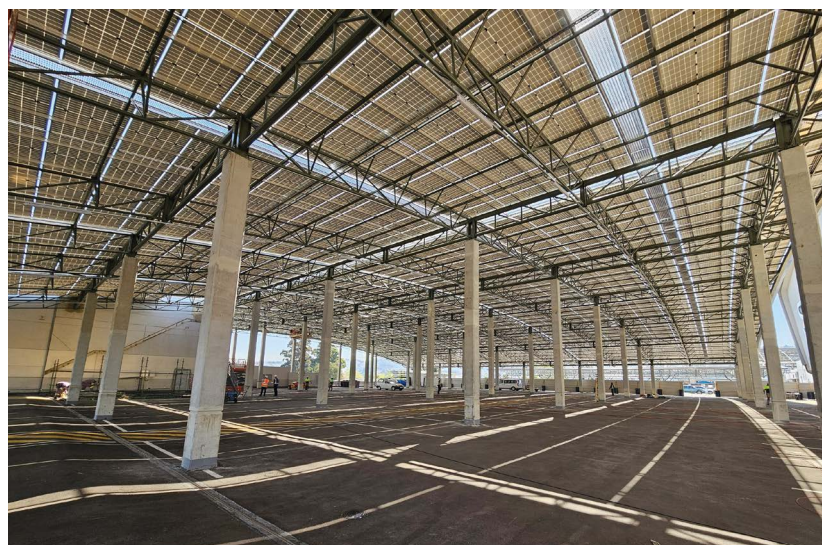
Concrete is shovelled onto the conveyors and further guided into the column boxes from a receiving platform on the scaffolding. To transfer the load of the new installations right through to the original foundations of the centre, the concrete columns have to be drilled and doweled into the existing column heads. This requires an intricate methodology of first scanning and then opening up the concrete roof slabs to ensure that no post-tensioned cables in the slab are compromised during the process.

“The wind loads on the roof top structure are also high, creating significant challenges and we mitigate this by ensuring that our dowels have a pull-out strength of 12 tonnes each – or 120 kN,” he says.

The HVAC aspect of the project also has its complexity, as it requires demolition, strengthening and new construction over existing Eastgate Shopping Centre tenants, and this has to be accomplished without interrupting trading activities. The existing structure will not bear the load of the seven new 10 tonne HVAC chillers which are to be installed, and Muller explains that interlinking stub columns will create a grid to support these chillers.

“We will cast the stubs in a similar process to the solar panel columns, ensuring that the load is correctly transferred to existing columns,” he says. “Beams will then be systematically cast, working in a direction of priority for the HVAC specialists, so they can start their installations on the network of support steelwork and grating that we provide.”

Framing the HVAC area is a perimeter louvre closure some 3,5 metres high, to conceal the installation from view. All this work is to be safely conducted at height, given that the HVAC rooms are 8,5 metres above ground on one side, and 20 metres on the other. Rainwater harvesting is the third aspect of the project, and will allow Eastgate



The solar domes are designed to protect shoppers and their parked vehicles from sun and rain, while still allowing sufficient cooling air movement under the dome.

Shopping Centre to make better use of rainwater – as well as groundwater – to reduce its reliance on municipal supply. The centre already has a buffer tank to offset the impact of water outages, but the new facility will harvest and treat rainwater for tenants’ and shoppers’ use.

“At the heart of the new facility are two segmented steel tanks measuring 4,6 metres high and capable of containing about 200,000 litres of water,” he says. “It will be fed from rainwater runoff and by groundwater resources under the centre.”

There is also a filtration and treatment system to ensure the water’s potability. Adding to the stringent health and safety demands, the water tank is being built close to an LPG gas installation, limiting the use of certain electrical equipment. ©

STEEL FOR AFRICA!

Inspiring steel value chain collaboration between architects, designers, engineers and construction companies delivering world-class projects across the African continent was the highlight of the 2023 Steel Awards, presented by the Southern African Institute for Steel Construction (SAISC).



Steel Awards 2023 overall winner - members of the project team with Amanuel Gebremeskel, CEO of the SAISC (3rd from the left) and project judge Spencer Erling.

This red carpet event, commonly referred to as the ‘Oscars of the steel industry’ was held at Emperor’s Palace, Gauteng on October 19 and themed Game of Thrones: not only to celebrate the proud legacy of steel through the ages and its pivotal contribution to civilisation, but also the significant achievements of the South African steel sector.

Every year, the SAISC-hosted Steel Awards provide an opportunity for stakeholders across the industry and steel value chain - including designers, architects, engineers, processors, merchants and fabricators - to present their work and be honoured for their outstanding achievements.

Forging head in Africa

Of particular interest to the judges this year was that many of the notable projects nominated were not confined to South Africa, but exported - and in some cases executed - across the continent. This was reflected in the number of Pan-African projects which won awards, and indicated that one of the SAISC’s long-held goals - is being realised.

“Fabricators and manufacturers have really forged ahead and made a big leap into Africa! They have built structures in a way that has never been done before, delivering products and innovations which have never been seen before - not only locally but across the continent,” says SAISC Chief Executive Officer (CEO) Amanuel Gebremeskel.

“For over a decade, we have been encouraging our industry

not only to be a centre of manufacturing excellence, but also to get involved in more advanced projects - producing products and innovations which have not been used before in the world. You would expect this in first-world economies like Europe, the US, South Korea or Japan. The fact that we can achieve this standard in South Africa is impressive! We always hear that many large African projects are being created by Chinese, Indian or even American contractors. That does not have to be the case. We have the capacity and the engineering capability to do this and that is what the Steel Awards are all about,” Gebremeskel enthuses.

He adds that many of the projects showcased at the SAISC 2023 Awards are iconic structures, which have made a lasting contribution to the built environment - and will be a testament to South African steel sector skill for many years.

Gebremeskel highlighted the following three projects in particular:

Fresh and fabulous as the overall winner - and more

The Mpumalanga International Fresh Produce Market is not only the Steel Awards 2023 overall winner - but also garnered several other awards as winner of the Factory and Warehouse category, the Tubular category and recipient of the Best Project Mpumalanga Award. Nominated by Tass Engineering, the project was designed by Orbic Architects and constructed by (amongst several others) the main contractor Enza



Construction and steelwork contractor Tass Engineering.

This so-called ‘market of the future’ was constructed for the Mpumalanga Economic Growth Agency to act as a regional catalyst for growth, creating jobs and improving food security. Serving the local and international food industry, it is more effective and efficient than existing, traditional fresh produce markets.

The steelwork roof covers a 29 000 m² floor and is designed to provide maximum usable floor space with minimal support columns. The building was also designed to accommodate future alterations and expansion.

The main challenge was the sheer size of the roof structure and its structural framing system, which posed a significant logistical challenge to transport - from the Kempton Park fabrication site to the market site over 300 km away in Mbombela. To address this challenge, modular components were transported in smaller sections and then erected on site.

“Fitting all the pieces of this Meccano-like construction in

a seamless and cohesive manner was a huge achievement. These challenges were overcome by carefully-designed jigging systems used for the fabrication of the components, and then trial assembling the major structural components and interfaces between them. Also impressive is the fact that the engineer who designed the structure came up with a very elegant solution for the problem posed: the need for a lot of column-free space. To solve this, an arched roof was used along the entire 220 metre length - supported at each end using a structural framing system. The aesthetics and project execution - including the engineering, connections used, the seamlessness thereof and how the structure was erected - is quite amazing and a testament to the power of structural steel as a material of construction,” Gebremeskel comments.

A record-breaking distribution centre

Structural steel also played a pivotal role in the Pick ‘n Pay Distribution Centre East Port project, joint winner of the

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Factory and Warehouse category, winner of the Innovation and Sustainability category and recipient of the Best Project Gauteng Award.

One of the stand-out features of this exceptional project is the use of extremely long roofing sheets, ranging from 68 metres to a staggering 280 metres. These unprecedented roof sheeting lengths required innovative solutions for handling and installation - ultimately earning the project a place in the Guinness World Records.

The roof design features a distinctive curved profile with a radius of approximately 600 metres. This unique curvature required the use of the 'sky-forming' method to roll and shape the roofing sheets accurately. The success of the project hinged on close collaboration between various teams, including structural engineers, steel fabricators, material suppliers and roofing contractors. This teamwork was essential for problem-solving and adapting the design and construction to the very specific challenges posed by this challenging project.

"This is a phenomenal innovation, and a lot of work went into it. It is very nice to see one of our established, older steel companies showing a lot of vigour and energy. We have really achieved world leadership in sky-rolling capabilities. This is not only a notable project in South Africa, but globally," Gebremeskel comments.

A praiseworthy achievement in Chad

The third project Gebremeskel highlighted is the Our Lady of Peace Cathedral in N'Djamena in Chad, which is the winner of the Light Steel Frame Building category.

Conceptual design to restore the cathedral started in

March 2014, and addressed wind-load considerations through the implementation of a specialised shell structure design employing custom-made brackets to securely anchor the light-weight steel to the concrete structure.

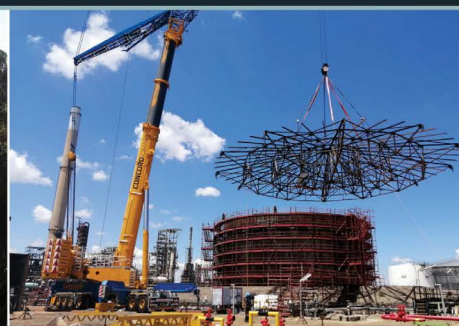
This remote Central African project location required on-site fabrication. A number of logistical challenges had to be overcome due to the absence of nearby ports and limited road infrastructure suitable for container transport. The entire project also had to be successfully delivered during a period of political instability in the region.

"South African steel companies are not only doing incredible work in very complicated environments administratively, politically and security-wise - but are creating structures that are also very noteworthy - as demonstrated by this and other Pan-African projects this year," advises Gebremeskel.

Steel trends

Although the SAISC does not judge project nominations according to budget and size, Gebremeskel acknowledged that many nominated this year were far greater in size and financial value than previously. Although mining projects - and especially those in remote locations - are inevitably the largest, he observes that large retail distribution centres have also grown tremendously in size, and also aesthetically. "Projects such as the Pick and Pay distribution centre - winner in several categories - and the KwaZulu-Natal category winner, the Pepkor Warehouse, Hammarsdale - both point to this. Our retailers are looking for greater efficiency, so these buildings are getting larger every year. South Africa is becoming the vanguard for the construction of distribution centres throughout the region.

STEEL CONSTRUCTION



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These are the kinds of buildings that many other countries in Africa require moving forward, so we need to develop local steel sector expertise to deliver similar projects cross-border in the future,” he says.

He adds that there were also a lot of architecturally-driven projects this year. Winner of the Architecturally Exposed Steelwork and Best Project Eastern Cape categories, the Ocean Sciences Campus at Nelson Mandela University, showed how a large educational institution project could utilise steel to echo the client’s image as a world-class tertiary education facility.

Diverse judging panel and generous sponsors

“The SAISC is very grateful to the Steel Awards judges, who have given of their own time to contribute to the industry that they love.

This year, the judging panel was more diverse than ever when it came to age, gender and professional specialisation. With the greater emphasis on Pan-African projects, we look forward to growing and diversifying the judging panel even further. This includes featuring judges from other African countries, which will provide insight into the challenges faced by project teams in countries such as the DRC, Chad and Namibia,” Gebremeskel remarks.

The SAISC also thanks all stakeholders who worked to make the Awards a success – and the generous sponsors. These include the main sponsor, Unica Iron and Steel, Macsteel (Pan-African Trailblazer sponsor), Bolt and Engineering Distributors Group (table decor sponsor), BSi Steel (factory and warehouse category sponsor), Stewarts & Lloyds (light steel frame buildings category sponsor) NJR Steel (innovation and sustainability category sponsor), The Association of Steel Tube and Pipe Manufacturers (tubular steel category sponsor) and Isilo Steel (photo booth sponsor).

“The 2023 Steel Awards provide significant insight into our sector, and just how notable and impressive the projects are. The Awards form an essential platform for showcasing – and celebrating – what the South African steel sector can do, not only locally but across the continent.

For this reason, we are encouraging all our members to continue to focus on innovation and quality, setting their sights beyond South Africa, and throughout Africa,” he concludes. ☺

In summary, the Steel Awards 2023 category winners are as follows:

Mining and Industrial:

Winner: Azmet Reactors - this bold pan-African mining project entailed fabrication and transport to the DRC of 6 reactor tanks, with detailed design of complex geometry featuring FEM (finite element method) modelling and an integrated support frame and platform

Factory and Warehouse Category/Metal Cladding

Winners: Mpumalanga International Fresh Produce Market and Pick ‘n Pay Distribution Centre East Port (see above)

Tubular Category

Winner: Mpumalanga International Fresh Produce Market (see above)

Light Steel Frame Building

Winner: Our Lady of Peace Cathedral - Chad (see above)

Architecturally Exposed Steelwork

Winner: NMU Ocean Sciences Campus Extensions – this project’s innovative use of steel succeeds in showcasing the university as a world-class tertiary education institution of choice

Innovation and Sustainability

Winner: Pick ‘n Pay Distribution Centre East Port (see above)

Best Export Project

Winner: Azmet Reactors (see above)

Regional Awards

- Best Project Gauteng – Pick ‘n Pay Distribution Centre East Port (see above)
- Best Project Western Cape - Hasso Plattner d-school Afrika – this innovative use of space expresses and celebrates the building’s unusual geometry, overcoming the challenges of a highly congested site and construction during the Covid-19 pandemic
- Best Project Eastern Cape - NMU Ocean Sciences Campus Extensions (see above)
- Best Project Mpumalanga - Mpumalanga International Fresh Produce Market (see above)
- Best Project KwaZulu-Natal – Pepkor Warehouse, Hammarsdale – this retailer warehouse was completed against a background of severe socio-political unrest and also extreme weather. The cost-effective design and interactive project coordination and implementation are key highlights of this project

THE IMPORTANCE OF SKILLED CUSTOMER SUPPORT TECHNICIANS IN CRUSHING AND SCREENING

*Crushing and screening on mines and quarries often entails 24/7 operations where downtime is out of the question. The importance of skilled customer support technicians in maintaining high machine uptime cannot therefore be stressed enough, states **Jorge Abelho, Director Technical Support at Pilot Crushtec International.***



“Given that South Africa is a major global producer of several minerals such as gold, platinum group metals (PGMs), chrome and manganese, amongst others, it is vital that the crushing and screening sector plays its part in keeping the industry running smoothly,” Abelho says. “Skilled customer support technicians are therefore a non-negotiable in crushing and screening operations.”

Given that these Pilot Crushtec individuals spend most of their time at different sites and environments, customer support technicians develop profound knowledge of machines and applications. Crushing and screening customers, says Abelho, should therefore tap into this knowledge bank for advice on equipment setup, operation and efficient maintenance. This helps minimise equipment failures and subsequent downtime which, by its very nature, is costly.

With the crushing and screening industry constantly evolving on the back of advancements in technology, Pilot Crushtec invests heavily in training to keep its customer support technicians up to date with the latest equipment and industry trends.

“As machines get more complex incorporating more automation, onboard diagnostics and remote telemetry solutions, we continue to invest in the multiskilling of our technicians to enable them to diagnose and set up machines quickly and safely,” he says. “This builds trust with our customers knowing that we can deliver and support our equipment. Our customers, both experienced and inexperienced, appreciate this level of technical expertise and that in turn has been key to the growth

of our business.” “In my opinion, the starting point is training. We have developed a very detailed training matrix for the customer support team – a live document which we update on a monthly basis. Our Corrective Action Request (CAR) is also an engrained process in the organisation that often provides input into our training matrix,” Abelho explains.

Pilot Crushtec’s matrix identifies training requirements within the customer support team, indicates which individuals are being trained and which technicians are already competent. The company also conducts formal weekly training sessions, which vary from a formal structural training session to less formal discussions about an activity or experience gained during the week.

In addition, as the Southern Africa distributor for Metso crushing and screening equipment, Pilot Crushtec has access to this global player’s online eLearning portal with well over 100 courses. The goal is to get RICO certification for every Pilot Crushtec customer support technician, which takes about a year to acquire and requires a formal assessment by a Metso engineer.

While training presents a prime opportunity to expand the knowledge base of field service technicians, it is, however, not cheap – it takes time and money to develop technical skills. Given the dearth of these skills in the industry, Abelho notes that it is a challenge to retain skilled technical people as they are in great demand globally. “Some years ago, we had to come to terms with the fact that there is a massive technical skills shortage in the country and the world at large. Instead of moaning about it, we decided to be part of the solution. We therefore invest in a training programme for university of technology students which has, over the years, provided us with a sustainable pipeline of technical skills,” he says.

During the past 13 years, more than 70 engineering students have gone through the practical phases of their mechanical and electrical engineering studies at Pilot Crushtec’s Jet Park, Gauteng facility. The programme plays a critical role in developing Pilot Crushtec’s talent pipeline and is also a deliberate effort to foster skills development and transformation in the engineering and mining sector as a whole. “About 10 of these graduates were permanently employed by Pilot Crushtec after demonstrating an in-depth understanding of our products’ mechanics, electronics, performance and maintenance. For these efforts, Pilot Crushtec has received the coveted Employer Excellence Award from KwaZulu-Natal-based Mangosuthu University of Technology for the practical support it continues to give to engineering students, which is testimony to our efforts to plug the technical skills gap in the country,” concludes Abelho. ☺

A SMOOTH OPERATOR, EVEN IN TOUGH CONDITIONS

HPE Africa's new Hyundai R215 crawler excavators, which were launched locally in October 2023, are set to lead the way with many 'best in class' features that optimise efficiency, maximise productivity and ensure safety in arduous conditions.

“Our new Hyundai R215 series - an exciting addition to our earthmoving portfolio - boasts many benefits, including a long, strengthened undercarriage for greater stability, an advanced ECO operating mode for enhanced fuel efficiency and higher profitability, and new features for improved safety on site,” explains Ross Collard, Managing Director, HPE Africa. “The Hyundai design team continually advances its wide range of earthmoving equipment to ensure maximum performance and proven quality. Design improvements also ensure greater precision, versatility, safety and simplified maintenance.

“Intensive field testing of R215 excavators in tough conditions shows impressive performance. What's significant are excellent digging forces (bucket – 15 500 kgf and arm – 12 000 kgf), higher maneuverability and traction force (21 100 kgf) and improved fuel efficiency.

“The newly designed operator cab offers more space, better visibility, easy to access controls and an adjustable fully suspension seat to ensure the operator has a comfortable and safe working environment and can work for longer hours without stress or fatigue. A large LCD monitor enables operators to choose between power, work and user modes and are also able to easily check on the machine's condition. Self-diagnostic systems for oil and coolant temperature and other vital statistics reduce downtime, while warning indicators ensure safer working conditions.

“The local market will also be pleased with the convenience of easy access for maintenance procedures, which means regular checks get done faster. The newly-designed, more efficient cooling system extends service intervals, reduces machine downtime and minimises operating costs.”

The Hyundai R215 series - with a Gross Power (HP) of 140 HP @ 2 000 rpm and an operating weight of 21 700 kg – has a variable displacement axial piston type pump, with an electro-hydraulic control function that provides a wide range of flow at various workloads, to meet exact operating requirements. The water cooled, 4 cycle diesel, 6 cylinder in line, direct injection turbocharged engine is designed for power and reliability in challenging heat, humidity and dust conditions, without compromising productivity.

Features for fuel efficiency include an advanced CAPO system and newly designed CMCU, power and working mode options. A fuel saving kit comprises sensors that monitor loads and sends signal to the main control valve to minimise fuel consumption. Fuel savings are enhanced by the exclusive power mode for breaker operation.

For enhanced efficiency, this series features a one touch deceleration switch and an auto idle function that prevent fuel losses by reducing engine rpm during no-load conditions. The auto-piloted swing priority increases hydraulic

oil flow to the swing circuit in combined operation, which leads to a faster swing cycle for greater productivity and profitability. The open centre design of the main control valve provides fast synchronisation between the joystick and hydraulic components, increasing the speed and smoothness of operations. To enhance performance and prevent cavitation, the arm regeneration design helps to recirculate hydraulic energy from the return line to the pump supply line.

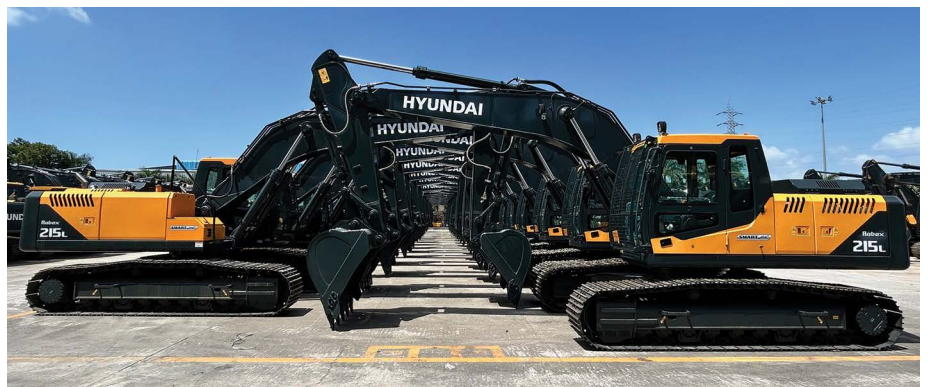
Structural features for greater durability include a boom and arm made from high tensile strength steel, reinforced with steel bearings and internal baffle plates to maximise impact strength. The new forged ring body in the lower frame enhances the durability and structural integrity of the excavator, extending service life. A heavy-duty track shoe of the undercarriage provides better stability on arduous terrain. In addition, the control link is cast in a single piece design and the bucket linkages are reinforced to ensure high durability and greater digging forces.

An important feature for optimum safety on site includes an automatic engine overheat prevention system that monitors the coolant temperature and automatically lowers engine speed if it overheats, preventing premature failure of the excavator. A counter-balance valve applies hydro-static braking, to stop the machine from rolling down steep slopes, while a holding valve keeps attachments locked in position. A specially designed cover protects the fuel tank during excavation operations. Another critical safety feature is the anti-restart system.

HPE Africa specialists recommend the use of Hyundai genuine parts and lubricants to ensure the highest levels of performance, reliability and safety from every machine.

The company's range includes Hyundai wheel loaders, tracked and wheeled excavators, backhoe loaders, skid steer loaders and motor graders. HPE Africa also supplies and supports Soosan hydraulic breakers and quick couplers, which are complimentary attachments to Hyundai construction equipment.

All machines are supported by skilled technical service and after-sales teams throughout Southern Africa. ©



SANY CELEBRATES 18 YEARS OF SUCCESS IN SOUTH AFRICA



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

SANY established a presence in South Africa in 2006 with a head office in Boksburg, and has, since then, opened branches in Middelburg, Rustenburg and Richards Bay, enabling it to better reach and serve its customers. In South Africa, SANY holds R170m in spare parts, and offers 24/7 after-sales service to customers around the country. The company aims to increase its spare parts stockholding in South Africa to R270 m in the next year. Through its footprint, SANY supports more than 3 000 operating units in South Africa.

The company's flagship products include 5,5 – 125 ton excavators, 5 – 7 ton wheel loaders, 60-136 ton dump trucks, 12 – 20 ton drum rollers and 14 feet graders. SANY also offers a comprehensive range of round-the-clock after-sales services to ensure that its customers keep their machines running at peak performance.

"We are proud to celebrate the 18th anniversary of our presence in southern Africa," said Samuel Zhang, MD, SANY. "For almost two decades, we have built strong relationships with our customers and partners, and are committed to contributing to the region's development through sustainable, innovative and reliable machinery. Through our national footprint, we can help customers get what they need when they

need it. We are grateful for the support of our customers and employees, and we look forward to many more years of success in southern Africa."

SANY heavy-duty machines have been used to construct roads, bridges, power plants, and other important infrastructure projects around the world. Two major projects that made use of SANY machinery include Burj Khalifa, the world's tallest building, and the Hong Kong-Zhuhai-Macao Bridge (HZMB) which recently earned the 1st Mega Project Award from the International Bridge Conference (IBC). Global infrastructure experts have awarded seven excellence awards to projects around the world, and the innovations involved in the HZMB were named Outstanding Project of the Year in the 2021 FIDIC Project Awards.

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

In the past three decades, the SANY Group has expanded its business across a wide range of areas, including construction, mining, port, and oil drilling machinery, as well as renewable wind energy systems. ☺



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