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BHO was contracted by Sun International to build a new development called the Lefika Villas (Lefika) in the picturesque hills surrounding the existing Vacation Club complex at Sun City. The name Lefika Villas was selected as it means ‘stone’ in the local Setswana language. The name pays homage to the adjacent stone-walled Itlholanoga heritage site – the real ‘lost city’ of the greater Sun City resort. The settlement is located on the northern face of the hill overlooking the entire valley and is a reminder of the proud Setswana heritage. The site is rated as a level five for historic significance and is a designated provincial heritage site.

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*Even though the recent Budget Speech presented by Finance Minister Enoch Godongwana allocated funds for sweeping infrastructure investment as there is an increasing realisation by the ruling party that such developments lay the foundation for 'inclusive and sustainable growth', It remains wishful thinking on paper if it is not implemented speedily.*

According to the budget, the public sector aims to spend R903b on infrastructure in the medium term. Of this, R448b will be spent by SOEs, public entities and pub-private partnerships. This portion of the budget will mainly be used for strategic projects in the transport and logistics sector (R531,1b) while some R132,5b will be spent by water boards on water and sanitation.

Godongwana's speech recognised the need to crack down on criminality in the construction sector and stated that extortion and intimidation of contractors and workers cannot be tolerated.

Godongwana's budget highlighted the various big infrastructure projects that are shovel-ready. These include the new 488-bed Limpopo Central Hospital that begins construction this month, Phase 2 of the Welisizwe Rural Bridges programme with 96 rural bridges in the Eastern Cape; KwaZulu-

Natal, Mpumalanga, Limpopo, Free State and the North West; the bulk infrastructure components for the Lufhereng Mixed-Use Development; and repairs to the Riverton Water Supply Scheme.

According to the budget, government will focus on building new infrastructure and on maintaining existing infrastructure. It will also – and this is significant – look at initiatives to “leverage private sector resources in public private infrastructure delivery”. They aim to do this by fast-tracking the implementation of Public Private Partnerships, which has thus far not been enormously successful because of the complexities in preparing the regulatory framework and tenders.

The budget highlighted the need for government to support growth as this will ensure the health and stability of the economy and for this it needs a policy environment that promotes

performance and productive sectors in an integrated manner.

Even though the budget could potentially assist an industry that is merely crawling along, it is done in a less than ideal context with energy insecurity, corruption, lack of investment and a lack of capacity to implement (especially for the execution of municipal infrastructure).

The big test is whether these earmarked budgets for the sectors that impact construction can be implemented. The ruling party's track record with implementation has not been good and one wonders if it will get it right this time around. Maybe the year will see more stop-start orders or so-called big-bang orders. Much as the industry needs sustained activity, even this will be welcome to an ailing industry.

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# BETTER INFRASTRUCTURE CAN HELP SA ESCAPE LOW GROWTH

*Infrastructure challenges in South Africa are mounting in what is turning out to be a perfect storm. By Bongani Mthombeni-Möller, Director: Smart Mobility Royal HaskoningDHV.*



Bongani Mthombeni-Möller - Director of Smart Mobility at RoyalHaskoningDHV.

## Power cuts, water shortages and potholes are all too common

The South African Institution of Civil Engineering (SAICE) highlighted these challenges in its 2022 state of infrastructure report which revealed that South Africa is at risk of becoming a “failed state”.

The report assessed 32 different infrastructure segments and found only 15 to be “satisfactory” or above (graded C or above), with the remaining segments falling into being ‘at risk of failing’ (D) or ‘unfit for purpose’ (E).

South Africa’s overall infrastructure rating was a D, indicating that infrastructure is not coping with normal demand and is poorly maintained.

All of this is important as President Cyril Ramaphosa prepares to unveil his 2023 State of the Nation Address.

## Looking East

If South Africa is to improve its economic prospects, it will have to make more concerted efforts to better maintaining its infrastructure as well as building new infrastructure.

A shining example of this is Indonesia, which in the year 2013 found itself in a precarious economic situation. Back then, Indonesia was listed among Morgan Stanley’s ‘fragile five economies’. Interestingly, South Africa was also part of this list, which

further included Brazil, India and Turkey. But ever since Joko Widodo, popularly known as Jokowi, became President of Indonesia in 2014; the country has completely turned a corner.

Indonesia today is regarded as an economic success story with GDP growth of over 5% in 2022. The country is expected to grow at a similar rate this year. A key facet to Widodo’s success has been to focus on improving infrastructure, particularly during his first term.

During his tenure thus far, his government has constructed more than 2 000 toll roads, compared to around 700 in the prior 40 years. In addition, Indonesia today has 16 new airports, 18 new sea ports, and 38 new dams. This point emphasises the critical role that leadership (and the right leadership) plays in infrastructure, and economic turnaround.

## Turning things around

Infrastructure holds the key to better days in SA. The key question, though, is how we start to fast-track our infrastructure development and maintenance.

In my view, there are three factors that can be considered: driving up gross fixed capital formation, establishing a centralised master plan and maintaining our existing infrastructure better and consistently, through planning and with technology.

Gross fixed capital formation is investment that is ploughed into the economy in plants, machinery, equipment and buildings.

In May 2023, South Africa’s Presidency presented an inaugural draft Country Investment Strategy or CIS which reiterated a target of achieving 30% for the gross fixed capital formation to GDP ratio by the year 2030.

In 2021, this figure was just 15% while the highest percentage in

democratic South Africa was in 2008 at 23,5%.

More needs to be done to drive this figure up, but doing so requires a new impetus and focus. As part of his 2023 State of the Nation Address, the president should have provided an update on what specifically is being done to drive up gross fixed capital formation. When it comes to improving its infrastructure rollout programme, government should also consider developing a cohesive Integrated Master Plan that connects all sectors of the economy and society, from health through to infrastructure, telecommunications, education and more.

If a new stretch of road is being developed in a town or village, that road should be planned in such a way that it ties into other critical needs of the town or village’s residents. The road could, for example, connect to a new hospital, thereby providing greater health access.

This plan should further seek to create greater cohesion among South Africa’s road, rail and ports infrastructure in order to drive up efficiencies. As part of this plan, we should look at how privatisation and regulated third-party access, for instance, with our rail network can help us drive up exports while taking strain off our roads.

Finally, a third key measure involves taking a closer look at how we monitor and manage the state of our infrastructure.

A solution to achieving a better level of monitoring is by using a technology called ‘Digital Twins’. A Digital Twin is a digital replica of physical assets, such as buildings, roads and much more. By sharing data between the virtual and real-world environment; governments and key stakeholders can pre-empt issues through proactive maintenance. ©



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## INDEX CONSTRUCTION – NOW PART OF THE SIKA SOUTH AFRICA FAMILY

*Sika South Africa recently announced its acquisition of Index Construction Systems, giving Sika South Africa the opportunity to add the very well-known Bitumen range to its local range. Index is a leading manufacturer of roofing and waterproofing systems and by acquiring them, Sika has expanded its bitumen product range globally, boosting our position both in South Africa and abroad.*

Index Bitumen membranes have gone from strength to strength during its 25 years in the South African market. Paul Adams, Sika's MD added that, "it comes with extensive research and development competence. Sika acquired Index in 2018 and we felt the time was right for it to now form part of our existing roofing and waterproofing business in South Africa."

Effective 1 January 2023, Index Systems became available exclusively from Sika South Africa for standard flat-roof waterproofing, decorative, below ground waterproofing and green roof waterproofing, all conforming to international standards. Sika are proud to introduce these products to its

extensive range, and offer a little insight to their uses:

Sika Index Topgum Biarmato is a polymer-bitumen waterproofing membrane with a double reinforcement consisting of rot-proof, isotropic, thermally stabilised, "non-woven" polyester fabric strengthened fibreglass mat. The fibreglass mat gives the membrane optimal dimensional stability in both hot and cold conditions. The long-lasting strength and elasticity at both high and low temperatures make Sika Index Topgum Biarmato ideal for use as a single or double-layer waterproofing membrane for new building work or refurbishments.

Sika Index Testudo waterproofing membranes are



its membranes against the perforating action of roots. The antiroot properties are further enhanced by adding a specific ester agent to the polymer-bitumen compound, forming a continuous barrier against roots. The additive has been developed specifically as a root inhibitor, for both hot-laid bitumen and for torch-laid bitumen membranes. As it does not contain film or double-reinforced foils, Sika Index Defend Antiroot is more flexible and malleable during application. It is always applied as the last waterproofing layer in contact with the earth for gardens. When waterproofing roof gardens for instance, it is used as the top layer of a system, the first layer being a polymer-bitumen membrane reinforced with “non-woven” polyester fabric and the second being Sika Index Defend Antiroot polyester which is placed astride the overlaps of the previous layer and fully bonded with the torch. The performance of the bitumen is therefore increased, durability and resistance to high and low temperatures are improved, thus maintaining the bitumen’s already excellent qualities of adhesion and waterproofing. The reinforcement of the membrane with an isotropic, rot-proof, thermally

reinforced with high areal weight, isotropic, thermally fixed, rot-proof, “non-woven” single strand Spunbond polyester fabric. The reinforcement is very strong and has an optimal resistance to puncture and piercing. The Sika Index Testudo membranes are made up of distilled bitumen with a high content of elastomeric and plastomeric polymer additives, selected for industrial use. Sika Index Testudo membranes’ high resistance to puncture make them suitable for waterproofing systems where high mechanical resistance is required, such as: foundations, earthquake-proof foundations, car parks, water works, bridges, viaducts, tunnels, subways, geological works, etc., anti-acid protection, roofing with or without thermal insulation and renovation work.

The Sika Index Fidia polyester and Fidia/V membranes, produced in various thicknesses, are made up of distilled bitumen, selected for industrial use, with added elastomeric and plastomeric polymers. They are reinforced with a rot-proof “non-woven” polyester fabric composite, stabilised with fibreglass mat, which is very strong and elastic, thus reducing the problems of “the banana effect” and the retraction of head lap joints. The long-lasting strength, elasticity and stability at high and low temperatures make Sika Index Fidia polyester membranes ideal for use as dam linings, and single or multi-layer waterproofing systems for new building work or refurbishments.

The Sika Index VIS P membranes manufacturing process uses polymer modified bitumen reinforced with a composite reinforcement. The Sika Index VIS Polyester 4 mm membrane can be used as a single layer system or as part of a multi-layer in both the refurbishment and new building works market. The Sika Index Vis P 3 mm should be used as an underlayer in a multi-layer waterproofing system.

The progressive trend to reduce cement in towns by greening up rooftops, has brought with it the problem of the root resistance of waterproofing layers not protected with cement screeds. Sika Index Defend Antiroot is a root resistant waterproofing membrane whereby direct contact of the layer with the soil implies intrinsic resistance of

fixed single strand Spunbond non-woven polyester fabric, affords high mechanical resistance, considerable ultimate elongation and excellent resistance to punching and laceration.

On-boarding these superior, durable, and high-performing products, alongside Sika’s already impressive range, Sika South Africa will become a comprehensive, full-range supplier of cutting-edge technologies in the roofing and waterproofing market. ©



# INFRASTRUCTURE LEADERS MUST ADAPT IN ORDER TO JOIN THE FIGHT AGAINST CLIMATE CHANGE

*At the COP27 summit held in Egypt, world leaders finally closed a deal to assist developing countries being affected by climate disasters – a clear indication that we are firmly in a time of action regarding climate change. **By Olebogeng Manhe, Chairman of the Gap Infrastructure Corporation.***

As a recent United Nations report reveals, the number of climate disasters globally has doubled over the past two decades. Serious environmental events such as these impact infrastructure in several ways, from disrupting water supply and conveyance to flooding, impairing above-ground infrastructure such as roads and bridges, and damaging buildings.

As a result, engineers, architects, and developers are now compelled to continually seek out ways in which to ‘futureproof’ construction and infrastructure projects.

There are many practical ways and new technologies that can assist in preparing against any potential future environmental damage. But leaders in the infrastructure sector will also have to adapt their ways of thinking if we are to achieve the goal of reducing carbon emissions, pushing them outside of their comfort zone and forcing them to obtain new capabilities.

Like Gap Infrastructure Corporation (GIC), companies which are involved in large-scale projects must be cognisant of how this will impact demands on leadership. Traditionally, infrastructure leaders with an engineering or technical background have not always been involved in such areas of expertise like climate change. But as modern leaders, it is now crucial to identify, understand and drive companies’ social and environmental agenda as well.

Infrastructure projects have an enormous social and environmental impact. For this reason, most employees and investors rightly expect that projects will be constructed with sustainability in mind and executed in a way that provides long-term value to communities. When leaders believe in this shared mission, they are more successful in convincing all stakeholders to commit towards fulfilling and ultimately realising these goals.

Additionally, amidst growing competition for talent within the sector, infrastructure leaders must further communicate the societal purpose of their companies with transparency and authenticity to attract and retain staff. This means that to be successful, future leaders will have to develop an immense sense of purpose regarding their work. They must be able to authentically communicate their organisation’s purpose, and should view sustainability and strategy as cohesive ideas. As a leader in the infrastructure



industry, I understand that these requirements are not insignificant, nor are the challenges that companies face in prioritising sustainability at every level of their organisations and projects. Finishing projects on time, within a budget, while still meeting emission reduction targets is no simple task.

Therefore, it is important for leaders to work across their value chains with all stakeholders to adapt the conventional economic measurements against which the success of a project is determined. Furthermore, infrastructure leaders must campaign for change by using their power to push for improved laws which will quicken innovation and investment in green technology and decarbonisation.

Ultimately, it is time to embrace creativity and collaboration to reduce emissions within the infrastructure industry – values which would not necessarily factor traditionally into an infrastructure leader’s skills. However, we can only create permanent change if our industry leaders form strong cross-sector relationships to find creative solutions to improving environmental outcomes.

We can achieve our goals of reducing emissions if we hire more leaders who think out of the box, challenge norms and look at problems from a unique angle, in order to change lives. ☺

# FOCUSING ON BOTH RIGHTS AND OBLIGATIONS WILL BENEFIT SA'S CONSTRUCTION SECTOR

*South Africa's construction sector is facing strong headwinds, not least of which is the loadshedding currently causing havoc in the country. As construction contract specialists, at MDA Consulting we are seeing that the initial optimism for recovery on the back of the promised massive public infrastructure projects is being overtaken by uncertainty and a shortage in projects available for tender. By Ian Massey, Director MDA Consulting.*



*“Contract participation goals have been put in place to ensure that small, emerging contractor organisations are able to participate in projects.”*

Ian Massey,  
Director MDA Consulting.

In addition to the issue of work shortage, there are further factors contributing to increased risk, stunted growth and decline in the industry. One of the more common issues of concern is the Treasury requirement applicable to public sector contracts which imposes contract participation goals (CPG) whereby a significant percentage of the main contractor's work must be awarded to SMME subcontractors. A second, sometimes related issue is community unrest in the form of now-infamous local business forums, which have earned an unflattering reputation as the construction mafia.

Both of these complex risks can be mitigated, but to do so requires industry players to take a step back. Without the influence of an adversarial outlook, there are some solutions available to employers (the parties commissioning the work) and contractors alike.

## Contract participation goals

Contract participation goals have been put in place to ensure that small, emerging contractor organisations are able to participate in projects. In this way, they gain valuable experience, can be mentored and can build sustainable businesses.

Generally, there is support in the industry for the principle of developing emerging businesses in the sector. But qualifying CPG contractors who meet the minimum CIDB-regulated level are not always available, particularly in more remote parts of the country. In addition, there are serious risks for contractors such as progress, quality and the cost involved in working with CPG subcontractors.

## Statutory requirements of parties

The requirement for CPG subcontracting is driven by National Treasury and set out in the CIDB Best Practice document gazetted in November 2017. The employer (referred to as the Organ of State) is bound by statutory requirements.

It is the responsibility of the employer to interact with the local community in the area, set up community liaison committees, and agree dispute resolution processes.

Further, a feasibility study must be carried out to ensure that the CPG targets are attainable. The employer must compile a database of target enterprises available

to carry out the CPG allocated work as well as available labour resources. All this information must be included in the tender enquiry document to enable prospective tenderers to assess the inherent risk and compile bids.

In our experience, these requirements are generally not complied with. The risks are being absorbed by the contractors – an unsustainable predicament.

## Community unrest/local business forums

In its role as the employer in public contracts, the state generally places community unrest risk squarely on the shoulders of contractors and they are obligated to absorb the risks of any disruptions due to local business forums.

## Way forward

Successful contract outcomes are difficult to achieve in adversarial relationships and a collaborative approach requires a mental reset. However, risks related to the many complex issues in South Africa's construction sector can be mitigated when all parties in contracts live up to their reciprocal rights and obligations.

Awareness is key. Engineers who usually draw up construction contracts must be made aware of the requirement for CPG contractors and community engagement, as must CPG contractors and local communities. ☺



## LOCAL CONSTRUCTION PLAYER REMAINS RESILIENT DESPITE MAJOR INDUSTRY CHALLENGES

*The construction industry endured a difficult year in 2022, with an extended downtick following on from the COVID pandemic, which saw many businesses meet their demise. Those that survived have been struggling to keep their doors open, with some publicly listed firms reporting as much as a 36% decline in share prices over five years.*

Despite this challenging environment, GVK-Siya Zama, one of the largest privately owned construction companies in the country, enjoyed an increase in orders and recorded four consecutive years of growth.

CEO, Eben Meyburgh (pictured), attributes these successes to effective planning and project management, entrepreneurial agility and an ongoing mission to be the employer of choice in the industry.

“We delivered on some notable projects and secured several landmark contracts. In addition, our robust cash management philosophy is underpinned by our commitment to looking after our people holistically and prioritising their physical and mental wellbeing, while

offering competitive packages,” explains Meyburgh.

### GVK’s project pipeline

The redevelopment of Cape Town Station into a mixed-used space for students, and construction of a mega Eastern Cape

*“The brain drain and emigration of skilled individuals is a growing threat facing local businesses, including ours.”*

hospital are two of the notable projects awarded to GVK in 2022. The company covers a diverse portfolio of work that includes projects in the private and public sectors ranging in complexity, from luxury housing to industrial and urban regeneration.

“Securing sufficient work and the correct mix of work at the right margins is critical to ensure that we can provide employment to a core team of construction professionals, as well as generate profits to ensure the sustainability of the business. We have projects that will take us into 2024 and that's a good sign. One of our healthcare projects extends to 2027,” continues Meyburgh.

### Employer of choice

“The construction industry - like any other business that operates at a high level - needs smart, skilled people. Thus far, our ability to retain top talent has been a critical cornerstone of our business, and one which we've devoted considerable effort to,” says Group HR Executive Marlize Fourie.

“The brain drain and emigration of skilled individuals is a growing threat facing local businesses, including ours. Conditions such as sustained rolling blackouts and socio-political unrest have contributed to South African professionals considering job prospects abroad,” Fourie continues.

“As many as 53% of university graduates and 43% of those who earned more than R20 000 a month indicated their intention to leave the country in the Social Research Foundation's survey (SRF). In addition, Rand Merchant Bank has estimated that an average of 1,7% of civil engineers are leaving South Africa each year. These are disturbing statistics for the construction sector,” she adds.

### Forecast

The country's economic outlook is on shaky ground, even for the most optimistic of investors. A growing number of rating agencies now classify South Africa as a high-risk market. The changing sentiment means the industry is now paying a premium for contract guarantees from international investors.

“While many of these macro-factors affecting the country are beyond our control, as a business our mitigation strategy will continue to emphasise prudent and sound financial management. This, and delivering projects on time, go a long

way towards allaying investor and guarantor apprehension,” says the group's CFO, John de Sousa.

De Sousa adds that strategically pivoting away from low-margin projects will also enhance the business and the industry's sustainability, stressing that general discipline and good business controls are fundamentals of success.

“We have to continually scrutinise projects for opportunities, engage in intelligent procurement and continuous value engineering with our professional teams,” he explains.

### Construction mafia

Meyburgh says limiting on-site disruptions will be a key determining factor for the industry in 2023. This entails highlighting the negative effects that the so-called 'construction mafia' and unlawful disruption are having on the industry. Owing to deficiencies in law enforcement and government administration, along with well-established patronage networks, the construction mafia, a shadowy cabal that uses violence and the threat of property destruction as a means for extortion, continues to undermine legitimate business in the construction industry.

Khaya Sithole, accountant and public commentator, encapsulated the issue well in a recent opinion article on the construction mafia model, writing, “The model is relatively straightforward, in exchange for 30% of the economic value of the contract, companies are offered a sense of protection where they can undertake their work without interruptions. Alternatively - if one doesn't comply - the destruction of infrastructure and disruption of operations is the guaranteed outcome.”

Dismantling these vigilante 'business forums', as the mafia often presents itself, will take concerted action from the entire industry, including professional bodies, law enforcement, civil society, business and the government.

Meyburgh concludes by saying, “Our industry has just returned to work from its annual recess. I hope that our people were able to unplug, refresh and regroup and that they've returned to work energised to face the opportunities of the new year. The year will require resilience, efficiency and optimism.”

“My wish list for the year is an even playing field, greater political stability, reduced inflation, lower interest rates and a light at the end of Eskom's dark tunnel.” ©



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*M&D is now positioned to play 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.*

*Established in 1993, Efficient TROTECH is the only recognised, local bulk tank builder in the country.*



## M&D ACQUIRES LEADING SPECIALIST BULK TANKAGE CONTRACTOR, EFFICIENT TROTECH

*M&D Construction Group has acquired 100% of Efficient TROTECH, the country's leading supplier of bulk tank design, procurement and construction services to the petrochemical and energy industries.*

Established in 1993, Efficient TROTECH is the only recognised, local bulk tank builder in the country, boasting its own engineering, draughting, quality control and inspection capabilities, together with hydraulic jacking and boiler making resources. These capabilities are harnessed to both construct new, as well as repair and rebuild existing tanks that will conform to API 650, API 653, API 620 and EN 14015.

With this acquisition and its existing civil, mechanical and pipeline infrastructure capabilities, M&D is strategically positioned to play 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. Only a small number of refineries will be able to comply with the new CF2 regulations that stipulate that sulphur levels in petrol and diesel must remain below 10 parts per million. These new regulations which were initially planned to come into effect in 2017 have been delayed several times

with the latest extension to 2027.

Newly branded TROTECH will continue to operate as a stand-alone company and will be supported by the M&D Group to drive efficiencies and deliver better value to its clients. Ralph Wilson will continue to lead the company as Managing Director. Wilson has more than 40 years of bulk tank construction experience. He helped TROTECH to develop its bulk tank design, procurement, and construction capabilities and to grow its presence in the petrochemical and energy industry.

The company's extensive skills and experience are currently being harnessed by the majority of the oil majors and tank terminal operators in the country.

The company is proud of its many contracts in the industry, in particular:

- Providing world-class tank engineering, procurement and construction services to Royal Vopak for its expansion in South Africa. The company constructed 10 new tanks with a combined capacity of 162 000 cbm at the Vopak Terminal Durban in KwaZulu-Natal.

- A long professional relationship with Astron Energy. The company has remained Astron Energy's preferred tankage refurbishment contractor for 11 years. This tank maintenance contract was recently extended for a further three years reaffirming Astron Energy's confidence in the company's abilities.
- The company recently secured an award to supply engineering, procurement and prefabrication services and construction for five large clean fuel storage tanks for Sasol. The construction phase of this contract will be completed at the end of 2024.

"I believe that we are well positioned to secure two more large contracts for which we have tendered together with M&D. With the close collaboration between M&D and TROTECH, the next few years are going to be very interesting, and will provide significant potential for growth, allowing us to better serve the petrochemical and energy infrastructure market," Wilson says.



*TROTECH's competitive edge remains its ability to self-perform, maximise efficiency and ensure reliability on all of its projects, irrespective of their size, duration and complexity.*

TROTECH's competitive edge remains its ability to self-perform, maximise efficiency and ensure reliability on all of its projects, irrespective of their size, duration and complexity. The use of automated welding equipment improves quality, bolsters productivity and reduces costs.

TROTECH has also developed a significantly safer method of constructing storage tanks. TROTECH is the only company in South Africa to reverse build tanks. The tanks are built at ground level and then jacked to their final height one stroke at a time after the various components have undergone intense quality inspection and control. Apart from being a much safer way to build tanks, it also significantly reduces the amount of scaffold required inside and outside the tanks, while also freeing up valuable space in the built-up areas where these projects are usually undertaken.

The company deploys Magnetic Flux Leakage (MFL) scanning for the non-destructive examination of tank floors. MFL uses a magnetic field to detect corrosion and pitting in carbon steel. The biggest benefit of the technology is that it enables the location and estimation of defects over large areas in a quick and efficient manner. Scans only have to be undertaken on one side of the material and the technology, with TROTECH's expertise, requires minimal set-up time.

Wilson credits most of the success of the company to strong design and construction teams consisting of loyal and dedicated people, a number of whom

have been with the company for many years and, in some cases, decades.

In addition, the company continues to attract the best skills to bolster its ranks. TROTECH is particularly pleased with the recent appointment of Lukas Brink as Operations Manager. The registered Professional Engineer brings extensive experience in both the design and construction project management of refineries. Brink has a deep knowledge of the maintenance of pipelines including, pigging, defect assessment and rehabilitation.

Rukesh Raghurir, M&D Group CEO, says that TROTECH's expertise enhances M&D's cutting-edge multi-disciplinary construction services, and allows it to expand its offering to existing clients, whilst attracting new customers.

"TROTECH is a strategic fit, complementing the services offered by the various M&D Divisions. The company has very similar core values to M&D, which include 'being safe', 'doing it right', 'finding the best way' and 'doing what we say'. Notably, TROTECH also comprises a team of loyal employees who have contributed to the company's continued success over the years. Now part of the M&D Group, TROTECH is set to embark on its next growth trajectory. The M&D, TROTECH association will enhance both companies' capabilities and will offer the petrochemical and energy industry a single point of contact for world-class multi-disciplinary construction services. This contracting strategy will make our clients' life easier by removing all interface risks between different disciplines of work when building a tank farm," Raghurir says.

M&D and TROTECH have already collaborated on two successful projects. The most recent was the construction of

fuel tanks for Total South Africa at its fuel depot in Alrode, Gauteng. Each of the two catch-pot tanks, which hold 11 200 m<sup>3</sup> of ULP95 petrol, are 18 m high, with a diameter of 28,2 m. The outer skin diameter of the tanks is 32,2 m and a total of 627 t of steel was erected on the project. This was the first time that catch-pot tanks were reverse constructed for Total South Africa and the method has set a precedent for future projects within the company. All civil works and piping (BOP) for the project were undertaken by M&D.

The importation of clean fuels will require considerable port docking infrastructure and pipeline networks, both of which can be provided by M&D together with its marine subsidiary, M&DPLC Marine Africa which it jointly owns with PLC Contracting LLC of Dubai, which has 25 years' experience in marine construction.

To better facilitate the use of resources and to enable rapid response to client enquiries, TROTECH, M&DPLC Marine Africa and an M&D team are housed in one office at the APEX Building in Century City, Cape Town.

"M&D is now even better positioned than before to continue growing its presence in the petrochemical and energy infrastructure market. This includes new areas of focus, such as the storage and delivery of 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 group. We are very excited by the potential that M&D's increased capacity has to offer," Raghurir concludes. ©



## IS GREENWASHING A THREAT TO SUSTAINABLE CONSTRUCTION?

*Saturation environmental journalism, focused on the Paris Agreement, COP27 and the associated topics is resulting in construction professionals' apparent boredom when sustainability is raised. However, the vigorous campaigning according to recent reports is warranted, substantiated by increasing extreme weather events. **By Bunny Bala, Technical Support Specialist at Saint-Gobain Africa.***

The current approach to the thirty-year-old concept of sustainable development in construction is that of scrutiny and challenge, across the world. Business people find themselves over-messaged, resulting in sustainability for positive climatic change fatigue, within built-environment circles.

Advocates in the industry are singularly focused and use conferences, continuing professional development programmes (CPDs), councils and governing bodies to coerce professionals into compliance. Those sensitised to the sustainability agenda are subjected to divergent information in an ever-increasing frequency. Against this backdrop of information overload, greenwashing of products is commonplace.

### What is Greenwashing?

Greenwashing is when a company misleads the public (generally through marketing) into thinking its products/practices/services are environmentally friendly or have a more significant positive contribution to the environment than is true. Understating a company's involvement in environmentally damaging practices is also considered to be greenwashing.

### Tell-tale signs of greenwashing

Societies, both wealthy and poor, experience the negative impacts of climate change. As a direct result, humankind is paying attention and increasingly making purchasing decisions considering aspects beyond the traditional. Forbes reports, "Some businesses might participate in greenwashing without even realising it simply because of the lack of universal standards around ESG reporting." Often, messages proliferate making product performance claims that are not based on rigorous test results as brand building considers 'eco-clean' as an essential pillar for success.

### Active steps to avoid greenwashing

Carbon emissions are no longer the domain of environmentalists and scientists exclusively; business people and the general population consider emissions in daily purchase decisions. Companies are increasingly becoming subject to scrutiny especially now that information regarding sustainability is more widely available. While industry insiders are often well-versed regarding sustainability, this does not mean that all messages aimed at the public align with reality. Listed below

are some ways business people can avoid greenwashing.

- **Organisational learning:** Understand sustainability definitions and keep abreast with related laws or regulations. Additionally, the actions and approaches of entire supply chains to the organisation within the context of sustainability should be monitored continuously.
- **Hype:** Identify vague statements without credible performance literature to support, such as 'eco-friendly' or 'natural'.
- **Identify the use of trade-offs:** Companies offering 'eco-friendly products' that engage in production and waste management activities that are at odds with sustainability principles.
- **Misleading visuals:** Beware companies use of nature to portray the illusion of an organisation that is concerned with minimal impact on the environment. It may be that within their supply chain or factories a very different behaviour takes place.
- **Conflicted sustainability claims:** Assigning misleading descriptions to hazardous products, for example, 'green asbestos'.
- **Identify respected third-party certifications:** These would include LEED, BREEAM, Green Star, Net Zero/Net Positive certification, Green Tag, EPC, EPD (full life-cycle analysis documentation).
- **Sensitivity to false claims:** It may be so that partial truths hide real activities that do not align with sustainability best practice.

## Repurposing of the existing built environment

The 13<sup>th</sup> edition of the Emissions Gap Report reveals that we are falling behind in the required pace of decarbonising to avoid reaching the climate tipping point. In order to avoid this taking place, the efforts to constrain temperature rise with 1,5°C must be intensified. Buildings and the construction process are identified as areas where meaningful reduction of emissions can be realised. Statistics published for the sector continue to highlight the missed opportunity. The 2022 Global Status Report for Buildings and Construction reveals the sector currently contributes 36% of global energy usage and 39% of (CO<sub>2</sub>) emissions, an all-time high. The African continent has been identified, through construction material usage and processes as a significant contributor. Studies highlight buildings' energy consumption is primarily attributed to heating & cooling. That is, should a structure perform poorly, more energy is required to attain a comfortable temperature for occupants. Architectural window films in this instance are a quick and effective solution to improve the thermal performance of an existing structure.

## Retrofit makes sense

The African continent's building stock is extensive; however, many of these structures are either under-or-incorrectly utilised. Surveys reveal this to be applicable specifically to the economic nodes of metropolises. As such, the South African government has made efforts to repurpose and renovate dilapidated buildings. Maximising the performance of existing building stock through improving energy performance is key. Making use of materials and solutions with a low carbon footprint when retrofitting builds on appropriate structural design for energy consumption and carbon emission reduction. It can be argued that employing these strategies can rejuvenate the urban fabric of any city to

strengthen the economy and well-being of society.

## Delaying is not an option

Organisations must reduce emissions significantly to change the current trajectory. Furthermore, the private sector has a crucial role to play in illustrating the real value of transformation. Benoit Bazin, Saint-Gobain's CEO reiterated during COP27 that "sustainable construction can no longer remain niche in emerging countries. It must become the new normal." Furthermore, synergetic collaboration between governments, councils and other relevant stakeholders within the private sector is an urgent imperative. Eco-innovation of construction products underpins net-zero responsibility, particularly in countries with advanced economies and technologies.

As unexpected weather events become more frequent due to climate change, increasing the resilience and adaptability of buildings is essential. The strategies can be intricate and often require informed professionals who can give guidance towards enacting sustainability.

## Transparency and third-party verification

Greenwashing gives rise to a trust deficit for companies who claim to have sustainability practices or environmentally friendly products, including those with legitimate claims. In the information age, facts can be checked quite easily. Companies who are determined to meet their Paris Agreement goals by 2050 are transparent in their conduct. As such, they usually make third part certifications public with Environmental Product Declarations (EPDs) and life-cycle declarations.

An Environmental Product Declaration (EPD) is a declaration that illustrates the environmental information of a product by assessing product lifecycle to enable evaluation of competitors. Life Cycle Assessments (LCAs) are according to ISO 14040 and ISO 14044. EPDs are created and verified in accordance with ISO 14025. They are recognised by LEED, BREAM and several other international bodies in industry.

The Life Cycle Assessment (LCA) is the methodology used to assess the environmental impacts of a material, product, system or building over its entire life cycle.

Another notable effort implemented by the South African government is the gazetted requirements (mandated by the National Energy Act 34 of 1998 and the SANS 1544:2014) for Energy

## Performance Certificates (EPCs)

According to SANEDI, as of 8 December 2025, building owners will be required to present certificates showing how their buildings perform. The building's energy-use characteristic is recorded and rated following a colour coded system from A-G, similar to that seen on electrical appliances. The regulations apply to state-owned buildings with a total floor area greater than 1 000 m<sup>2</sup>, 2 000 m<sup>2</sup> and larger privately-owned buildings are also required to comply.

## The bottom line

Greenwashing undermines the efforts of companies following sustainable practices, complicates the decision-making process of conscientised customers informing their decisions to making the world a better home. The construction and property sector must be always vigilant; sourcing proven green products to support net-zero goals, will result in short-, medium- and long-term benefits for all stakeholders. ©



# WATERFALL CITY CROWNED WORLD'S BEST FOR FIFTH TIME

*At the lavish annual 'World's Best' International Property Awards ceremony held at the iconic Savoy Hotel in London on 2 February, Waterfall Management Company was awarded Best International Mixed-use Development 2022-2023 for Waterfall City.*

This is the fifth time in six years that Waterfall City has beaten formidable competitors to claim the top spot. This year's nominees included mixed-use developments in Cyprus, Brazil, Qatar and Hong Kong. Entries were judged based on criteria ranging from design layout and quality, architecture, services and security, to innovation, originality, marketing and commitment to sustainability.

Over and above scooping this prestigious international accolade, Waterfall City also garnered the regional title of Best Mixed-use Development in Africa for the eighth time. This follows Waterfall City's recent win of being named Best Mixed-use Development in South Africa, also for the eighth time, in October 2022 in Dubai.

The International Property Awards, now in their 31<sup>st</sup> year, celebrate the very best projects and professionals in the industry across 45 residential and commercial categories. Awards are split into four sectors namely, Architecture, Development, Interior Design and Real Estate, across nine regions covering Africa, Asia Pacific, Arabia, Canada, Caribbean, Central & South America, Europe, UK and the USA. Over the past year, a panel of over 90 independent expert judges studied and assessed more than 2 000 entries from 126 countries to finally arrive at the World's Best winners.

Willie Vos, CEO of Waterfall Management Company, said; "Building a world-class smart city of this nature is certainly no small feat. It takes a concerted and cohesive effort, with all role players and stakeholders moving in unison in the same direction to realise the vision and honour the values that are fundamental to every aspect of Waterfall City. Reclaiming the title of Best International Mixed-use Development is just reward for our continued efforts and something we are extremely proud of. We are honoured to receive this international recognition which once again puts Waterfall City and South African property development on

the world stage." Waterfall Management Company is the Property, Asset and Operational Management Company for the Waterfall City land and has been working with developers and investors since 2004, to create the largest mixed-use development in Africa. Built on the cornerstones of Connection, Commerce, Care and Community, Waterfall City has become synonymous with being the definitive lifestyle and blue-chip business destination in the heart of Gauteng.

Not even half complete yet, Waterfall City still has over 1,6 million square metres of Gross Leasable Area (GLA) to be developed, ensuring future sustainable growth of this state-of-the-art smart city. By completion, it is estimated that Waterfall City will combine 28 000 residential units housing approximately 80 000 people, with about 2,5 million square metres of GLA for commercial and office space, accommodating a further 95 000 people. The current estimated developed value of Waterfall City is approximately R100b. While 24 000 people are presently employed on the development, it will have created close to 85 000 job opportunities upon completion. Waterfall City, in its entirety, is also already responsible for contributing over R700m in rates and taxes per year towards the City of Johannesburg. This figure is expected to reach over R1,5b per annum by the time the development is completed.

"Each year, I am amazed by what we have been able to achieve at Waterfall City. This progress is only possible due to the commitment and hard work of a dedicated team. I am honoured to form part of this team and extend my thanks and congratulations on this award to everyone involved, including my colleagues, all our role players, partners, shareholders and individual residential investors. With big plans already set for 2023, we look forward to the year ahead and the continued success of world-class Waterfall City," concludes Vos. ☺



# FAIRVEST COMPLETES RENEWAL OF PRETORIA OFFICE BUILDING, 2TWENTY MADIBA

*Fairvest Limited, which is a diversified REIT, has completed an aesthetic refurbishment of the landmark offices at 220 Madiba Street in central Pretoria. The upgrade of this asset secures its future relevance, appeal and competitiveness in an up-and-coming city node.*

excited about its new chapter. Post-refurbishment, the offices are attracting good levels of interest and enquiries from potential tenants. It already enjoys a sizeable tenancy with Liberty and houses a co-working and shared offices tenant. We expect it to continue to draw new tenants.”

The appeal of the well-managed and -maintained building is enhanced by competitive rentals and unusually generous parking ratios, making it ideal for people-intensive businesses, such as business process outsourcing (BPO) call centres and government enterprise

2Twenty Madiba is in a neighbourhood that is rich in amenities. The building is opposite a Pick n Pay grocery store, close to affordable accommodation, superbly served by public transport - Gautrain and SANRAL at Pretoria Station, Tshwane Bus and Gautrain Bus, minibus taxis - and nearby hotels that are geared for business travellers.

Added to this, the surrounding neighbourhood is seeing an upsurge in development and popularity, with investments and improvements rejuvenating the area and making it a safe and increasingly attractive node.

Fairvest is focused on creating long-term shareholder value with its well-managed diversified portfolio of 140-plus retail, office and industrial properties valued at R12.1b and indirectly-held SA REIT investments of R3,4bn.

Offices account for 38 of its properties, around a quarter of Fairvest’s directly held portfolio by both value and area. In line with market trends in a challenging business environment, its office vacancies decreased to 13% at its 30 September 2022 financial year end.

“When Fairvest merged with Arrowhead, we took the opportunity presented by the vacancy to refresh the property because we are confident in the future of this asset and the area. The investment in 2Twenty Madiba will help to close the vacancy gap and contribute to buoying central Pretoria,” adds Kirkel. ©

The updated 2Twenty Madiba, as the building has been renamed, combines heritage with modernity.

The 12 000 m<sup>2</sup> building was formerly advocates’ chambers and remains an ideal position for attorneys, advocates, legal firms and paralegal professionals as tenants, with its prime location opposite the Gauteng High Court. In addition, 2Twenty Madiba is in a well-established government node that is central to all national and municipal government offices and is proximate to the many colleges in the area.

The refurbished property features a secure, striking triple-volume reception area that welcomes tenants and guests to the 15-storey building. Each floor spans 730sqm with cellular offices with spectacular views across the city. 2Twenty Madiba also offers a ground-floor coffee shop which includes social alfresco seating around a soothing water feature.

Alon Kirkel, Fairvest Chief Operating Officer (**pictured**), comments, “2Twenty Madiba is a great address in a well-established neighbourhood and boasting over 400 parking bays making it ideal for a government tenant. We’ve overhauled the asset to meet the future needs of businesses in the area, and Fairvest is

*“The appeal of the well-managed and -maintained building is enhanced by competitive rentals and unusually generous parking ratios.”*



## CITI-CON'S WORK FOR ZENPROP OUTSHINES

*Citi-Con proposed and implemented an innovative solution to waterproof and protect the metal roof of an industrial premises against corrosion. Under normal conditions, the Alumanation 301 system provides up to 12 years of protection before a recoat is required, significantly reducing maintenance costs for the property owner.*

Citi-Con is a leading approved applicator of Alumanation 301. The company's workmanship at The Brinks on 42 Electron Avenue, Isando, Kempton Park, is a sound example of why StonCor Africa Tremco decided to appoint Citi-Con as one of its approved applicators. "All of our approved applicators undergo an extensive screening process and training to ensure that they are equipped with the skills that they need to work with our technology. Over the years, StonCor Africa Tremco has nurtured a long professional working relationship with Citi-Con, which continues to deliver workmanship of an outstanding quality. A case in point is the company's more recent project at The Brinks. Based on the professional service that Citi-Con delivered there, I am confident that its client will derive maximum benefit from Alumanation 301," David Cronje, Technical Sales Representative of StonCor Africa Tremco, says.

Alumanation 301 has been used to protect metal roofs for more than 30 years and has, therefore, been proposed by Citi-Con as an alternative to standard aluminium coatings to restore metal, built-up or modified bitumen roofs. The technology continues to provide effective rust protection and waterproofing in harsh environments.

Alumanation 301 is a high-solids, asphalt-based, asbestos-free coating that deploys a unique fibre reinforcement technology. Notably, Alumanation 301 also contains 15% metal. This is double the ASTM standard for premium aluminium roof coatings. The technology,

therefore, provides greater durability and reflectivity.

As much as 60% of the sun's rays can be reflected with this system, reducing below-roof temperatures and energy use of buildings dramatically. It is, therefore, a very suitable solution for metal, built-up or modified bitumen roof applications that require high reflectivity at an economical cost.

Due to its high aluminium content and short, non-asbestos fibres, a more consistent coating application is also possible.

Moreover, it can be applied quickly and easily, enabling Citi-Con to maintain high productivity levels to mitigate the impact of its operations on daily activities at its worksites. After power-washing the roof, only minimal preparation, including the application of Geogard Seam sealer where necessary, is required. Because it is self-priming, only a single coat needs to be applied on the surface of the roof. In this case, Citi-Con applied Alumanation 301 by brush as there were cars parked below. Moreover, the system remains suspended and, therefore, less time is spent agitating. There is also no "tear-off" that needs to be landfilled. This supports Citi-Con's preference for materials that mitigate the impact of its work on the environment.

The project was undertaken on behalf of Zenprop Holdings, one of the country's largest property investment and development companies.

Citi-Con has successfully completed about 15 waterproofing and maintenance projects for Zenprop Holdings over the years.

Kobus Deyzel, Facilities Manager of Zenprop Property Services, says that quality workmanship and excellent after-sales service are the most important considerations for the company when appointing a contractor to provide waterproofing and maintenance services.

“My role as facilities manager for Zenprop Property Holdings is to ensure our tenants’ needs are always met. This includes keeping them and the valuable property inside our properties dry at all times. Sound maintenance and waterproofing also delays or even avoids more extensive repairs, which are usually very disruptive. They are also generally costlier, bearing in mind that leaks can even lead to structural faults – if left unattended for extended periods. It is for these reasons that we prefer to only work with reputable contractors with the necessary maintenance and waterproofing credentials. Citi-Con has earned our trust and respect through the high quality of workmanship that it continues to deliver. This includes the company’s more recent work for us at The Brinks,” Deyzel says.

This trust is also based on Citi-Con’s commitment to only using quality products so that its workmanship can be guaranteed to the maximum term, and the company always honours this warranty. As Deyzel notes, Zenprop Property Services is willing to invest in premium products as long as they perform according to specification. Because of the trust established between the two companies, Zenprop Property Services is also more willing to try new systems that have been suggested by Citi-Con. This is so that it can constantly improve the facilities management function.

Andre’ Vermeulen, Managing Director of Citi-Con, says that he is proud of his long association with Zenprop Property

Holdings and Stoncor Africa Tremco. “I attribute our success to a number of factors. This includes excellent team dynamics between client and contractor. At the same time, we have access to the best available materials on the market. When combined with our own skills and experience in the field of construction surgery, this is a recipe for success,” Vermeulen concludes. ☺



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# CELEBRATING PILANESBERG HERITAGE

*WBHO was contracted by Sun International to build a new development called the Lefika Villas (Lefika) in the picturesque hills surrounding the existing Vacation Club complex at Sun City.*

The name Lefika Villas was selected as it means 'stone' in the local Setswana language. The name pays homage to the adjacent stone-walled Itlholanoga heritage site – the real 'lost city' of the greater Sun City resort. The settlement is located on the northern face of the hill overlooking the entire valley and is a reminder of the proud Setswana heritage. The site is rated as a level five for historic significance and is a designated provincial heritage site.

This is the first phase of a larger development planned by Sun International. The second phase will comprise approximately another 200 units referred to as Sun Central. This phase is likely to start later in 2023.

The start date for Lefika was 29 September 2022 with a completion date of 12 December 2023.

## Project scope

Lefika comprises of 56 units. There are 23 clusters with adjoining 3-bedroom units and then a further 10 free standing 4-bedroom units.

Each unit is constructed on a prepared platform. Each platform is formed by either cutting and breaking into the rocky slopes or importing fill to create a level working space. The meandering access roads and restricted laydown areas poses many logistical challenges.

WBHO was requested by Sun International to complete a 3-bedroom mock-up unit by 12 December 2022. This allowed WBHO a meagre 10 week construction time from breaking ground to completion of all construction work and snags to provide

Sun International to fit the units out in line with its quality standards. This fitting out included everything from door mats to completely fitted out bedrooms and all living areas with cutlery and crockery ready for a braai or a sundowner on the porch. Sun International has been showcasing this unit to prospective buyers of time share allocations.

This feat was accomplished by all parties – from WBHO, the main contractor, their subcontractors and the entire professional team who had to work closely together. WBHO's teams and subcontractors worked tirelessly for many late nights and most weekends to complete the mock-up unit on time and with the correct quality.

WBHO is proud to say that due to its safety culture and systems no injuries or safety incidents occurred. It is its ultimate goal to complete this entire project with no LTIs.

## Aesthetics

The design of the new Sun Vacation Club (SVC) development draws inspiration from the adjacent heritage site as well as the surrounding natural landscape. The freestanding, four-bedroom villas and 48 three-bedroom duet units, are all carefully arranged to accommodate existing natural features, topography and views.

Sun International has enlisted the assistance of leading archaeological and heritage experts, including Wits Archaeology Professor Mandy Esterhuyzen, who is also the Director of the Origins centre at Wits. Professor

Esterhuyzen will assist with the management and preservation of this and surrounding historical heritage sites.

Sun International Development Manager Mark Pitchers says, "The Lefika Villas are a luxurious contemporary architectural style development. Each villa has been individually sited to blend into the tranquil environment, while expressing the breath-taking views. The designers have perfectly captured the brief, "to minimise intrusion into the landscape. Special attention was also given to the preservation of existing natural features on site. The new villas have been located around existing natural topographies such as existing rock outcrops and existing trees as far as possible."

All villas are equipped with a closed combustion fireplace, an outdoor entertainment deck with a braai and an entertainment area, with magnificent views overlooking the Pilanesberg mountain range. While the four-bedroom villas further distinguish themselves by boasting their own private plunge pool and a fire pit.

The designers' integration with the natural environment is further enhanced by softening harsh structural building edges by strategically placed planters on the building edges. Incorporating the existing natural features, repurposing giant boulders and reintroducing native trees, plants and shrubs into the landscaping all adds to the authentic integration of the villas into the landscaping.

The interior design is distinguished



through a collection of materials and textures which reference natural forms, with colour palettes that draw inspiration from the surrounding fauna and flora.

Numerous green design principles have been implemented to achieve optimal interior comfort and energy efficiency. The orientation of the villas, together with thick stone walls, thermal insulation to underside floors and on top of roof slabs, along with large overhangs, create the ideal

thermal mass. Using natural energy efficient design principles reduces heat gain in summer and minimises heat loss in winter. Large glazed areas allow for ideal natural lighting levels, while strategically placed windows ensure that effective cross ventilation creates the ideal level of comfort for the guest.

Water saving sanitary fittings with energy efficient cold start taps, heat pumps for effective water heating and the use of LED lightings all contribute to the energy efficiency of the unit. ©



#### DEVELOPMENT TEAM

**Sun International:** Anton Steenkamp  
**Development & Infrastructure Manager**

Mark Pitchers: Development Manager

**MAIN CONTRACTOR:** WBHO

**Project Manager:** Betts Townsend Taylor

**Architect (Phase 1), Landscape architecture, Interior design:**

Boogertman + Partners

**Architect (Phase 2):** MDS Architects

**Quantity Surveyor:** MLC Quantity Surveyors

**Structural and Civil Engineers:** Struxit Projects

**Mechanical and Electrical Engineers and HVAC:** Zutari

**Wet Services Engineer and Fire Engineer:** WSP Group Africa

**Land Surveyor:** HL Wattrus & Associates

**Occupational Health & Safety:** Core



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



[www.bettstowntsendtaylor.com](http://www.bettstowntsendtaylor.com)



[www.mlc-group.com](http://www.mlc-group.com)



[www.struxit.com](http://www.struxit.com)



[www.wsp.com/en-za/](http://www.wsp.com/en-za/)

Images: Boogertman + Partners

# GROUND BREAKS ON MARGATE'S FIRST-EVER ECO-ESTATE

*Local stakeholders, government officials, and media representatives attended the launch of the sustainability-driven eco-estate, Serenity Hills, at its Margate site on Thursday, 2 February. Since the announcement of the innovative estate in May 2022, there has been massive interest from homeowners searching for nature-based living, with community and environment at its heart.*



this ethos, establishing the world-class Packshed Restaurant – now forming part of the estate – which upskills and employs locals. This award-winning fusion food restaurant has already become a major drawcard for visitors to the area.

The family has also set up Sweetdale Skills Center which develops and coaches emerging entrepreneurs in communities to promote self-sustainability and sustainable job creation. The formation of the Sweetdale Trails some years back – also incorporated into Serenity Hills – provides the local community with a way to connect with the natural world through hiking and biking.

Speaking at the soil-turning ceremony, CEO for South Coast Tourism and Investment (SCTIE), Phelisa Mangcu, described Serenity Hills as

a ‘game changer for the area’: “The KZN South Coast boasts immense potential for real estate investment and Serenity Hills is a prime example of what can be achieved by those with the right vision. SCTIE welcomes this development which is not only the area’s first eco-estate, it also brings much-needed employment and a boost to the local economy.”

“We have been overwhelmed by the positive reception following the launch of Serenity Hills, with sales numbers on target including a number of international buyers,” commented Reece Daniel, Developer of Serenity Hills in Margate. “The official groundbreaking is a momentous occasion for us. We are all very excited to finally see our vision become a reality and to share in this with the KZN South Coast.”

The location of the beautiful coastal town of Margate means that residents of Serenity Hills will enjoy a year-round subtropical climate, incredible swimming beaches, indigenous forests, and the laidback lifestyle synonymous with the region.

This 120-hectare eco-estate offers residents secure living with generous natural buffers between homes. To retain this as a low-density estate, 70 hectares will remain private conservation providing some 250 bird species, 49 butterfly species, and game with natural habitats.

## A dedicated community ethos

Development Director, Sam Wenger, explained that his Swiss-born family had a deep connection with this piece of paradise, integrating their European heritage with the design and high-level security of this pet-friendly estate: “We wanted to create a space for families to enjoy, that connected residents with the incredible natural world while incorporating sustainable practices throughout. This extends further than the environment as we truly believe in creating a sustainable local economy that empowers local communities through Serenity Hills.”

The Wenger family has already proven its commitment to

## Quality and sustainability

This impetus on sustainability, as well as an uncompromised focus on modern amenities, will be evident in the 600 units dotted throughout three neighbourhoods. These open onto the sunny, north side of the estate with expansive views.

All units, ranging from two-bedroom to four-bedroom freestanding homes, offer superb value for money, with modern finishes and quality brands. Serenity Hills’ partnership with @home and Weber underscores the developers’ commitment to excellence in design.

The eco-conscious designs will include solar-ready homes as well as gas geysers and hobs, LED lighting, and water collection with reservoirs guaranteeing three months of water supply for residents. The establishment of a Schrebergärten will encourage the consumption of locally-grown produce, with fresh bread delivered to homes via Tuk Tuks daily.

Serenity Hills also boasts top-class facilities such as The Clubhouse with swimming pools, the Infinity Bar, and The Bistro. In addition to the nature trails, there will be yoga and Pilates spots, bowling greens, a volleyball field and a tennis court for active residents, with on-site medical care. ☺

# BALWIN PROPERTIES TO LIST ON A2X

*Balwin Properties Limited listed its shares for trade on A2X Markets on 28 February 2023. Balwin will be the first specialist residential property developer and the 10<sup>th</sup> company from the property sector to list on A2X, joining Attacq, Equites Property Fund, Fairvest, Growthpoint Properties, Hyprop, MAS, NEPI Rockcastle, SA Corporate Real Estate and Stor-Age.*

A2X is a licensed stock exchange authorised to provide a secondary listing venue for companies. It is regulated by the South African Financial Sector Conduct Authority and the Prudential Authority of the South African Reserve Bank in terms of the Financial Markets Act 19 of 2012

Balwin is an internationally acclaimed, award winning residential property developer in South Africa, having developed over 100 000 apartments and consistently contributing approximately 3 000 new apartments to the domestic market on an annual basis. The Company has a portfolio of almost 100 developments comprising secure, affordable, high-quality sectional title residential apartments, developed in line with international Green Building Standards. Balwin has a formidable pipeline of opportunities nationwide and are currently developing in Gauteng, Western Cape and KZN.

Balwin will retain its primary listing on the Johannesburg Stock Exchange and its issued share capital will not be affected by its secondary listing on A2X. There is no cost nor additional regulatory compliance for Balwin as a result of the secondary listing.

Balwin CEO Steve Brookes said: “We are pleased to be complementing Balwin’s existing listing on the JSE with a secondary listing on A2X. This listing offers investors greater access to our shares and could potentially attract new investors through lower trading costs offered on the A2X platform”

A2X CEO Kevin Brady commented: “Balwin is a dynamic residential property developer with a large and successful footprint across South Africa’s biggest cities and we are delighted to be welcoming them to our market next week.”

Balwin’s listing will bring the number of instruments listed on A2X to 95, with a combined market capitalisation of R6,7 trillion.

This secondary listing comes on the eve of the launch of Munyaka - Balwin’s R10 billion development in Waterfall, Midrand, bringing beachside living to Johannesburg with a 3 hectare (approximately 5.5 football fields) Crystal Lagoon waterfront.

The trendsetting, gated development is expected to be completed in 2028, and will comprise 5 178 one-, two- and three-bedroom apartments, some of which are lagoon and beach facing. In addition to Balwin’s Classic offering, Lifestyle apartments and two ultra-luxurious penthouse apartments have been constructed above the lifestyle centre, offering spectacular views of the lagoon and the city skyline.

All apartments are fibre-ready, and include a Scandinavian-style kitchen, eco-friendly appliances, a balcony for outdoor entertainment and pre-paid water and electricity meters.

## About Balwin

JSE-listed Balwin Properties is a specialist, niche, national large-scale, residential property developer focused on the



*“Balwin will retain its primary listing on the Johannesburg Stock Exchange and its issued share capital will not be affected by its secondary listing on A2X.”*

Balwin CEO, Steve Brookes.

turnkey development and sale of sectional-title apartments as well as surrounding infrastructure, in the mid to upper market segment. Estates typically consist of between 1 000 and 2 000 sectional title residential apartments and are located in high-density, high-growth nodes across key metropolitan areas in Johannesburg, Tshwane, the Western Cape, and KwaZulu-Natal.

Sustainable building is at the heart of the company’s development process. All Balwin’s apartments are built to IFC EDGE Advanced certification and the Lifestyle Centre’s are constructed to Six-Star Green rating and Net Zero Carbon Omission as certified by the Green Building Council of South Africa (GBCSA).

This commitment to environmentally sustainable building allows for significant savings for Balwin customers through reduced utility costs together with potential savings in their bonds through the Green Bonds offered by most of the major financial institutions.

The Group has a secure development pipeline of 45 411 apartments across 27 developments in key target nodes. This represents an approximate 15-year development horizon. ©



# MOVING BEYOND THE WORKPLACE CHALLENGES FACED BY THE CONSTRUCTION INDUSTRY

*GVK-Siya Zama is a key player in the local construction industry and a significant employer at its four offices around the country, writes Marlize Fourie (pictured), HR Executive for the group, who is based at their head office in Johannesburg. Fourie contemplates global human resources trends that have emerged since the COVID-19 pandemic had the country in its grips and relates these to the employer-employee landscape in the local construction industry.*

**S**trong-armed by the COVID-19 pandemic, there has been a notable ideological shift and reset in the way both employers and employees think about the world of work. Newly coined terms such as 'great resignation', 'great reshuffle' and 'great realignment' while slightly different in their definitions describe the same phenomena, employees re-evaluating their current roles and employers seeking to review and optimise their traditional workplace organisational structure.

## Redefined labour relations

Employees who are contemplating their future are generally those most susceptible to 'quiet quitting', which describes the psychological withdrawal by an employee stemming from their dissatisfaction with their employer, workplace or role. The disillusionment that triggers such behaviours can be influenced by a myriad of personal and professional reasons, such as experiencing bereavement, fatigue, being overlooked for recognition, and enduring a toxic workplace. Whatever the motivation, a lack of employee engagement is at the heart of the issue, and interestingly research suggests that this is true irrespective of one's work arrangement, be it remote, hybrid or office-based.

While quiet-quitting can be harshly considered a dereliction of duty, quiet-firing, on the other hand, is a failure of leadership and threatens a company's reputation as an employer. Quiet-firing can take two extreme forms, the failure to adequately provide performance feedback, coaching, support and career development to an employee due to negligence, or in the worst-case scenario, a deliberate tactic used by managers to squeeze subordinates out of their team, or even the company as a whole.

Regardless of intention, these negative behaviours of quiet-quitting and quiet-firing can be attributed to the swell in employee turnover that the 'great resignation', 'great reshuffle' and 'great realignment' theories attempt to explain.

## South Africa's contrasting realities

Domestically, 2021 data from Remchannel, a reward management platform, supports these trends, finding that employee turnover increased by 16% across all sectors in South Africa. Awareness of this dynamic should motivate effective leaders and forward-thinking employers to first secure their organisations' talent and then consider ways to attract talent from outside the organisation.

As we know, South Africa is a country of contrasting realities. Our unemployment rate reached record heights in 2021, largely attributed to pandemic-related job losses, with construction shedding roughly 25 000 jobs.

The result is a growing pool of low and unskilled job seekers feverishly competing against one another for limited entry-level positions. Inversely, at the opposite end of the spectrum, the technical skills shortage in the country has left highly skilled employees spoilt for choice. Free to pick their ideal employer, yet many of these professionals are opting for employment opportunities beyond the borders of our country.

## The emigration of specialist skills is hollowing the industry and economy

The emigration of skilled specialist labour is a persistent trend that continues to destabilise the economy and the construction industry in particular. Rand Merchant Bank estimates that annually an average of 1,7% of civil engineers are leaving the country in search of greener pastures. If South Africa's economic reconstruction and recovery plans are to be infrastructure-led, a concerted effort is needed to reverse this trend.

Sadly, these emigrants are not dissuaded by the costs of permanent relocation or even higher costs of living, as the recent Checkers adverts so aptly captured. Our highly skilled employees are mindful of this and continue to emigrate because their reasons for leaving include non-monetary

factors. An escape from the multitude of challenges faced by South African society, including social unrest, lack of secure water and electricity supply and rolling blackouts to challenging conditions on site caused by vigilante groups who extort companies, disrupt work and damage property.

### Mitigating the milieu

Our strategy in these times is to stay close to our employees. We believe clear and consistent communication is needed both from line managers and executive leadership to remain in touch with our people. Employees want to understand the company's vision and strategic direction, the possible obstacles that could be encountered along the way, as well as the company's plan to deal with adversity.

Construction companies can no longer afford to overlook employee wellness matters, given the demanding nature of the industry. Competitive salaries and health and risk benefits are

non-negotiables, which should be supplemented with career guidance, upskilling opportunities, and good service recognition awards. These are just a few of the ways to keep employees engaged while fostering an attractive professional environment.

The industry simply cannot pay lip service to the "new normal" without embracing the evolution that has occurred and coming to terms with the implications it holds for the future of construction. Lamenting the difficult external environment will not resolve any of the conundrums outlined above. Instead, let us ensure we build functional workplaces where employees are content and stimulated within healthy company cultures that support shared values.

To achieve this, we must look internally at ourselves and our employees, identify shortcomings and together plot inclusive futures, all with the inimitable perseverance, tenacity and unshakable resolve that defines South Africans. ☺

## COROBRIK DONATES PAVERS FOR CAPE FLATS INFORMAL SETTLEMENT UPGRADE

*Leading clay brick and paving manufacturer Corobrik has donated 250 m<sup>2</sup> worth of paving for the Europe Informal Settlement Upgrade Project in Cape Town. Such has been the impact on the quality of life of the local community that the public plaza for which the bulk of the paving was allocated, is already being used for soccer, games and social gatherings, says Chandré Abrahams, Sales Manager, Western Cape. Corobrik donated its 65 mm Natural Earth variation paver.*

Europe is within 1 km of the Cape Town International Airport on the Cape Flats. It is located along Klipfontein Road opposite the Gugulethu Cemetery and is bounded by the Lotus Canal and N2. However, it was established on an old landfill site where the extent of the dumping remains unknown, and drainage posed a major problem.

Water pooled at tap points as a result, while pedestrian routes in and out of the settlement became inaccessible whenever it rained. This required interventions in the form of soakaways, platforms, structures and waterpoint upgrades. "It is an exceptionally innovative project in the way it manages

greywater and cleans runoff water through a Sustainable Drainage Systems (SuDS)," comments Rotary Noon Gun President Claire du Trevou, who collaborated with Yes & Landscape Architecture on the project. The main plaza also connects two community facilities, namely a pharmacy and an Early Childhood Development (ECD) centre.

The construction team comprised 70% local labour, while the upgrade project itself was funded by a Rotary Foundation Global Grant and approved by the City of Cape Town. JG Afrika provided professional engineering services while Africa Unite oversaw the community liaison, monitoring and evaluation.

"The Rotary Clubs of Noon Gun, Newlands and Weerd (Netherlands) wish to express their deepest and sincerest thanks for the more than generous donation of pavers for our Europe Informal Settlement Upgrade Project," comments du Trevou. "We are most grateful for the change it has made in the lives of residents." "We are always proud to be associated with development initiatives in the regions where we operate. This important upgrade project is uplifting a disadvantaged community and empowering it to become an active roleplayer in building a better future for South Africans," concludes Corobrik Marketing Support Manager Thilo Sidambaram. ☺





## THE CHANGING ROLE OF ARCHITECTS

*Much has been written about how rapid digitisation and technology development have changed and shaped the world of work in recent years. This applies not only to obvious industries (for example, the music sector, which has had to embrace completely new business models), but also to the built environment.*

More than merely using newer technology as a tool to improve design accuracy and efficiency, architects have had to adapt to changes in how people use their spaces, and even the role they play in society. With the advent of things like the metaverse and AI, professionals need to ensure they're ready for the future of architecture.

"Architecture is an old profession that has adopted new ways of working and evolved into a modern practice," says Landseer Collen, Principal, Director and Founder of BPAS Architects. "With time, people moved from scribbling in the sand to a drawing board. In the late 1990s, we moved to computer-aided design (CAD) programs. And then quite quickly we moved from 2D to 3D rendering. Now, we've got things like the metaverse, virtual reality and augmented reality happening. And in our industry, we're now talking about cross-realities, where we put them all together."

Collen believes that architects need to adapt and change, embracing new technologies if they are to survive. However, more than using new technologies, he believes professionals will need to find their "new place" in the world as every sector experiences disruption.

Often, he says, architects are lumped together with other professions, such as real estate developers or construction companies. While related, they are not the same, and this is often not well understood. Collen believes that architects need to better define their own role and niche in the market as professional consultants. To do this, they need to articulate the value they add so that their services are valued and sought after. "This applies to other professional consultants in the built environment and property sectors too," he says. "From

landscape architects to interior architects, urban designers and town planners, we need to show people our contribution to the environments they find themselves in. We need to move past only celebrating the developer behind a project, to recognising the professional team that played a fundamental role in the project and the realisation of its success."

Instead, architects and other professional consultants face continued pressure on fees, compromising their ability to fully explore possibilities in any given brief. Architecture is seen by many as a commodity or a tack-on expense, rather than as an integral and valuable service.

For example, on a practical level, BPAS is trialling new augmented reality technologies on its physical project sites, where viable. His vision is that anyone who enters a building site should be able to use their phone to hold up and see what the finished space will look like.

"If we can give access to these sorts of technologies – to the architectural drawings and 3D renderings – to not just the client and the design team on a building site, but to the general workers too, people can understand what they are working toward and what's going to happen. That way, they can also start participating in the whole process, and not just their small part in it," he says, adding that as more and more people have capable cell phones, it becomes easier to broaden access to these technologies.

"As Architects, we need to evolve ourselves," says Collen. "People are changing; environments are changing; technology is changing. We need to think about what we can do with that, and how we can change, learn new skills and communicate what we can offer to clients." ©

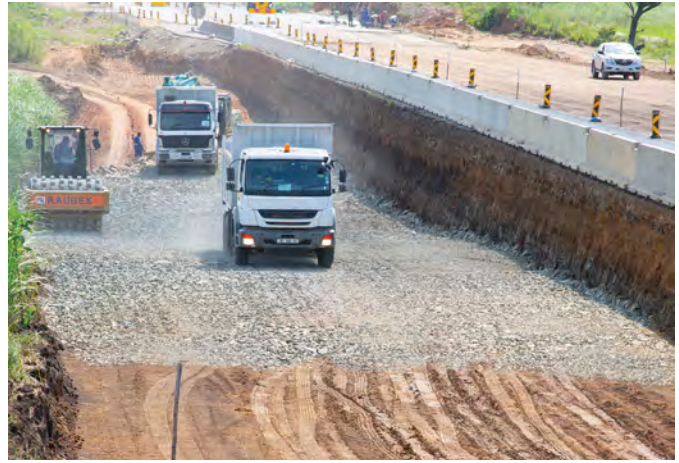
# QUALITY SHORTCUTS NOT GOOD FOR FUTURE OF CONSTRUCTION

Weak economic conditions in construction have led contractors to find new ways of surviving, and some strategies could undermine the longevity of roads and buildings, says AfriSam Construction Materials Executive Avi Bhoora.

“On the aggregates side, we find that the call for ‘brown’ material – as opposed to the high-value ‘blue’ material like quartzite, tillite and dolomite – is rising,” he says. “While some brown materials can be modified by additives, they cannot match the quality of competent rock.”

In the past, G1 aggregate was the main base course for roads, with G2 as the sub-base, and G4 and G5 used for the selected layers. Bhoora says that recently there are efforts to substitute these, using products with names like G4A or G4A Special, for instance. Specifications are being adapted possibly because of cost pressure, but have not yet stood the test of time.

“During my 40 years in construction, I have been involved in projects building roads that have outlasted their expected 25 year lifespan by a decade or more,” says Bhoora. “It is uncertain whether the new specifications will be as effective, especially with the much heavier loads on our roads today. My personal view is that going this route might be short sighted in the long run.” In terms of the readymix market, he says the average strength of concrete supplied has been gradually declining. AfriSam has long been known in the sector as a specialist in high strength products for demanding applications like high-rise buildings – with concrete strengths up to 100 MPa for high-rise projects. “There are fewer projects like this currently,



but there are also signs of users ‘buying down’ when it comes to readymix,” he says. “Whereas 35 MPa was the average strength we supplied until recently, that average is now closer to 28 MPa. This is concerning, as skimping on concrete strength is certain to have long term consequences for buildings’ longevity.”

He notes that there is still insufficient work entering the project pipeline throttling, holding back the potential of the construction sector to create jobs and build valuable infrastructure. Contractors and their supply chain remain under pressure, with low margins leading to the demise of amalgamation of important industry bodies. ☺

## CCSA UPDATES IMPORTANT MANUAL ON CONSTRUCTION OF CONCRETE ROADS

Cement and Concrete SA (CCSA) has published a third and updated version of its highly respected manual, “Concrete Road Construction”, authored by Bryan Perrie and Dennis Rossman, two of South Africa’s leading authorities on concrete pavements.

Perrie is CEO of CCSA, and Rossman is a retired SA National Roads Agency (SANRAL) executive.

Originally published by a CCSA predecessor, the Cement & Concrete Institute, “Concrete Road Construction” has for the past 13 years proved invaluable to contractors and supervisory staff with the construction of concrete roads using the most modern slip-form paver or rudimentary equipment for low-volume township streets.

In the new edition, the revisions mainly deal with the new Committee of Transport Officials (COTO) Standard Specifications for Road and Bridge Works for South African Road Authorities, as well as updates on all standards and specifications applicable to suppliers of materials and services to national and provincial roads agencies, as well as metros and municipalities.

The new COTO Standard Specifications for Road and Bridge Works for South African Road Authorities were approved as a Draft Standard in October 2020 and have now officially replaced the 1998 Standard Specifications for Road and Bridge Works for

State Road Authorities by the Committee of Land and Transport Officials (COLTO).

SANRAL in March 2021 already made the new COTO Standard Specifications mandatory for use in its procurement documents.

Among the important points covered by Perrie and Rossman in the updated CCSA publication are “Maintenance and Repair of Concrete Layers” for which the structure is now completely different to the old COLTO specifications in terms of both materials and construction techniques. The revised handbook will also familiarise practitioners with the new specifications and highlight significant changes between the old and new specifications and explain the new COTA regulations on maintenance and repair.

Hanlie Turner, Business Development Manager of CCSA, says the revised manual will be welcomed by all practitioners involved in road pavement design, investigation, construction and testing. “Included among these are road authorities, consulting engineers, compilers of procurement documentation, contractors, tendering and pricing departments, and road laboratories.

Commercial suppliers of concrete and concrete materials will also gain knowledge of the new material specifications,” Turner adds. ☺



Construction of the four storey, three and a half basement building began in March 2021 with handover in February 2022.

## THE NEW IKUSASA BUILDING

*The striking new Ikusasa building has added to the overall character and appeal of the Oxford Parks precinct in Rosebank, Johannesburg. Constructed by Concor in just 12 months from start of earthworks to handover, this fast track project achieved 'World Leadership' level in green building standards. Construction of the four storey, three and a half basement building began in March 2021 with handover in February 2022.*

### 6-Star Green Excellence

In its construction and operation, Ikusasa reduces water use, energy consumption, process waste and pollution to a level that earns it 6 Star Green Star SA Office v1.1 green standard in terms of the Green Buildings Council South Africa (GBCSA) certification. Achieving this 6 Star rating meant that Concor applied both its client's sustainable designs and its own stringent quality systems.

The company has completed a number of buildings to 5 Star Green Star SA level, and Ikusasa was its first to achieve a 6 Star certification. The building is now occupied by blue chip company Anglo American Global Shared Services, who recognised Concor by awarding a Certificate Award of Excellence to the company.

### Fast track agility

As a fast track project, Ikusasa was a complex endeavour requiring an agile approach to construction. Concor's own team of professionals in core disciplines co-ordinated over 70 subcontractors on site. Concor's scope of work included the fit-out of the entire building, coordinating the installation of all fittings and fixtures before handover. Success was achieved through tight control over scheduling, and by prioritising sustainability and zero harm principles.

### Construction Innovation Technology

Concor used innovative strategies to fast track the project – giving the tenant early access in a phased approach.

#### Innovative foundation piles

Using value engineered foundation piles eliminated the need for concrete bases or excavating around each pile. Instead, the design allowed the columns to be cast over the piles. Some 115 piles were cast, with columns spaced on an 8.4 metre by 8.4 metre grid to hold the suspended concrete slabs. By speeding up this part of the contract, Concor could bring in the wet trade contractors earlier including bricklayers, tilers, and installers of the unitised façade panels.

#### Back-propping on just two levels

Another innovation was to back-prop on just two levels rather than the traditional three levels. This allowed earlier access to the lower floor plate to initiate brickwork and 'first fix' services such as floors, ceilings, electrical supply cables and water pipes.

#### Premanufactured unitised façade panels

The same engineering firm was used for both the structure and the façade for the curtain wall. This allowed design and manufacturing of elements for the façade to begin while the contractor was still busy constructing the concrete structure. Accurate dimensioning of the façade was possible using sophisticated software that could model the full façade around



*The concrete structure on the Ikusasa project progressing with the third floor construction underway.*

the concrete structure. These approaches meant Concor unlocked two long lead materials: the glass and façade tiling.

The façade itself is a unitised system which is less labour intensive to install, and does not require a full façade scaffold for installation. This also reduced cost and time.

### Design Innovation

Concor worked with Ikusasa’s developer and team of consultants to push the boundaries of sustainable design and construction. The building achieved a 6 Star Green Star SA Office v1.1 Design and a Net Zero Carbon Level 1 Base Building certification. The project is in the process of submitting the targeted 6 Star Green Star SA Office v1.1 As Built and 6 Star Green Star SA Interior v1 As Built Ratings – 6 Star Rating is the highest Green Star rating awarded by the GBCSA.

Green Star certification is a national and continental recognised quality mark for the design, construction and operation of buildings, interior fitouts and precincts. The 6 Star accolade is recognised as world leadership demonstrating that environmental impact has been significantly minimised in both the construction process and in the building’s operation.

### Environmental impact consideration

Ikusasa was designed with sustainability features throughout including solar and waterwise sanitary fittings, wet waste composting, recycling and a range of energy efficiency interventions. To earn the Green Star rating, Concor applied a range of processes and features that reduced the building’s environmental impact. Three main requirements had to be met before the project commenced with demolition and construction: a Waste Management Plan (WMP), an Environmental Management Plan (EMP) and a Hazardous Waste Management Survey on existing buildings.

#### Less water, energy, waste and pollution

Concor applied strict performance strategies to manage water use, energy consumption, process waste and pollution to uphold critical environmental standards. Concor applied a comprehensive EMP on site, in line with its ISO14001 accreditation. It also applied a rigorous WMP, which saw 70% of demolition and construction waste being re-used or recycled rather than going to landfill.

To reduce, re-use and recycle as much construction waste as possible, waste was separated at source. Waste recycling storage provided in the basement accommodated paper and cardboard, plastic, glass and cans as well as metals. This ensured that rubble, wood, steel and plastic was sorted into dedicated skips. By preventing contamination between different waste streams, waste could be recycled more cost effectively.

#### Using fewer natural resources

The Green Star certification focuses on nine categories of sustainability achievement, from management and materials to the reduction of energy use, water and emissions. In the materials category, the rating rewards developers and contractors for reducing the natural resources used, and for



*Installation of the façade starting; this unitised system was less labour intensive to install and did not require a full façade scaffold for installation. This also reduced cost and time.*



*The striking new Ikusasa building has added to the overall character and appeal of the Oxford Parks precinct in Rosebank, Johannesburg.*



*As a fast track project, success was achieved on the Ikusasa project through tight control over scheduling, and by prioritising sustainability and zero harm principles.*



*Ikusasa’s Green Star SA Net Zero Carbon Level 1 means that the building generates as much energy on site as the base building requires. This includes the use of a photovoltaic solar generation system on the roof.*

reusing materials. At Ikusasa, Concor reduced the portion of ordinary Portland cement in its concrete mixes by 30% on average. The company also achieved 60% recycled content in its steel requirement.

**Low carbon concrete**

The project used concrete mix designs with a lower carbon concrete wherever possible, including all slabs. The low Portland cement content allowed the product to fit into the ‘green concrete’ category.

**Removing hazardous material**

A hazardous materials survey was conducted on site before the demolition of existing buildings, in accordance with the Occupational Health and Safety Act and other legislation. Any asbestos, lead or polychlorinated biphenyls found were responsibly removed in line with legal requirements.

**Training**

Four key members of Concor’s site team completed the Green Star (Interiors and New Built) online courses. This helped the team understand and apply sustainable ratings on the project, which contributed to achieving innovation points for the targeted Green Star Office and interiors rating

**Energy efficiency**

Ikusasa’s Green Star SA Net Zero Carbon Level 1 means the building generates as much energy on site as the base building requires. This includes the use of a photovoltaic solar generation system on the roof.

Sub-metering enhances energy efficiency, by tracking and controlling the main areas of consumption. Any energy uses of 100 kVA or more are metered separately so users can benchmark usage targets and implement opportunities to reduce consumption. This reduces greenhouse gas and other emissions from grid electricity.

**Water conservation**

Ikusasa conserves water through low flow tap fittings, low flush urinals and dual flush toilets. There is also water sub-metering for uses such as irrigation and bathrooms. Plant irrigation was reduced by 50% using water-wise irrigation methods and smart sensors. Also, the heating, ventilation and cooling system is cooled by air rather than by water.

**Awareness and behaviour**

Data generated by the energy and water metering system is captured and analysed by a digital monitoring system. This

is not just for building management, but for the building’s tenants and visitors. The results are displayed on a public screen in the foyer of the building, to raise awareness and drive efficiency through user behaviour.

**Health and Safety**

Concor’s commitment to health and safety is non-negotiable, and the team was acknowledged by Anglo American for achieving 500 000 manhours LTI free. A full time safety team on site was responsible for Visible Felt Leadership and on-the-ground education. This ensured adherence to safety and COVID protocols for all, including subcontractors. Concor’s Major Impact Prevention (MIP) meant all risks are identified for each activity, and appropriately addressed before the task begins.

**Quantifiable time, cost and quality**

An indicator of Concor’s fast pace of construction is that the four storey concrete structure was completed just eight months after bulk excavations for the three basement levels started.

**Larger foundation piles**

The decision to increase the size of the foundation piles allowed the columns to be cast over the piles. Traditionally, contractors would excavate around the pile and cast a concrete base or pile cap on top of the pile. However, by increasing the size of the pile, the need for concrete bases was eliminated. This resulted in a considerable time saving to the project.

Once the piling subcontractor had cast the piles, Concor inserted the column starter bars into the concrete. Thereafter, the normal shuttering process was followed, and the concrete columns were cast. Decking could then be installed for the suspended concrete slab pour.

**Accelerating long lead trades**

Concor collaborated closely with the client from the start of the project to accelerate long lead trades. This facilitated a more integrated approach, with significant savings in time keeping the project on track.

**Premanufactured utilised façade**

Time was saved and quality ensured by using the same engineering firm for both the structure and the façade for the curtain wall. This allowed the design and manufacturing of the elements for the façade to begin while Concor was still busy constructing the concrete structure.

Sophisticated software modelled the full façade around



*The Concor team for the Ikusasa project on the topped out structure.*

the concrete structure, making sure the dimensioning of the façade was accurate. With this approach, Concor unlocked two long lead materials: the glass and façade tiling. The façade itself is a unitised system, which is less labour intensive and does not require a full façade scaffold for installation. These factors contributed to both cost and time savings on the project.

#### **Basement concrete pours**

By splitting the basement level concrete pours into five separate pours, the rapid construction schedule could be maintained and other work could also continue. There are three full ramped basements levels with a fourth half basement, which can connect to a future phase.

#### **Flexible concrete mixes**

While concrete designs favoured lower carbon mixes, the fast track construction process required a different mix for the columns (to deliver an early high strength result).

### **Risk management**

Fast tracking comes with considerable risk. This calls for very close communication between the core team on site, stakeholders and the myriad subcontractors delivering goods and services within the tight timeframe. Regular meetings were held between all role players on site, and Concor's agile, open door policy and its "can-do" approach were essential in navigating the various challenges.

Risk was also managed through a good relationship between the client, contractor and consultants. Trust was the foundation that enabled a quick start to the project and made it easier to navigate challenges as they arose.

Long lead items were significant risks, given that the 12 months of the project were disrupted by COVID-19, worldwide supply shortages, shipping delays and riots in KZN. The project team mitigated this by value engineering to different specifications that still met the required parameters – even air freighting critical items and rerouting shipments. Continuous communication with suppliers and subcontractors kept track of these long lead elements.

Concor's admirable safety record on this project ensured over 500 000 hours with no LTIs recorded. The zero tolerance approach was driven by Visible Felt Leadership with a strong Concor team committed to educating subcontractors. ☺



*Concor used innovative strategies to fast track the project – giving the tenant early access in a phased approach.*



*To earn the 6 Star Green Star SA Office v1.1 rating green standard in terms of the Green Buildings Council South Africa (GBCSA) certification, Concor applied a range of processes and features that reduced the building's environmental impact.*



*Accurate dimensioning of the façade was possible using sophisticated software that could model the full façade around the concrete structure. These approaches meant Concor unlocked two long lead materials: the glass and façade tiling.*



## BESPOKE PROJECT SOLUTIONS

*Based in Sandton – but having delivered projects in 24 countries across Africa – Nuvo Consulting (Nuvo) is a construction consultancy offering project and construction management, procurement, cost and change management, fit-out, consultation, advisory and due diligence services. Construction World spoke to the MD, Cathleen Bayne about how the company’s boutique nature is now increasingly making inroads into the South African built environment.*



Nuvo Consulting, which was started some eight years ago, initially did projects around the African continent. “We are active in 22 countries and have delivered projects in 24 countries. Our core business has been outside of the country but in April three years ago we started focusing on local projects and building the SA footprint and capability,” says Bayne.

Bayne explains that Nuvo Consulting believes that innovation is key to balancing cost, time and quality throughout the project management process. “We are highly adaptable as to what the client or the project might need,” she says. “Our business model is to deliver localised, on the ground services and as such we have a very boutique way of working. Our project managers are not traditional project managers – they are industry experts in the given sector,” says Bayne about the company’s approach.

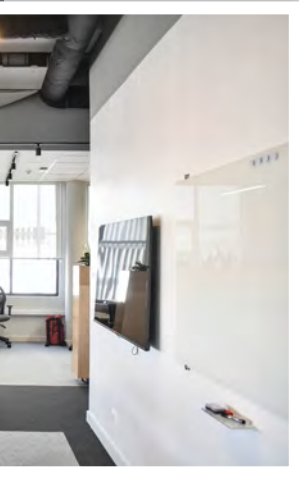
“Our mission is to be adaptable, flexible, nimble and bespoke with every single project. We partner with the client, look for synergies and work towards a project specific solution. Our vision is to leverage off that adaptability and ability to deliver bespoke project solutions. Even though we are not very well known in the industry, we aim to be known as professional, project focused and to become the industry’s go to partner. Regardless of project

parameters, we will find a solution,” Bayne explains.

### **Boutique approach**

Part of Nuvo Consulting’s model is to be specific in answering the project’s requirements. “This we do with sector experts as opposed to generalists – and this has stood us in good stead over the last few years,” says Bayne. This boutique approach provides the ability to be flexible, nimble and bespoke when it comes to putting the project team and solution together. “Gone are the days when you have the project manager that flies in to get a general overview of the project and then flies out again. We focus on the various work stages as opposed the end-to-end. This rather unique way of working is a direct result of COVID-19 that split up large firms,” says Bayne.

“In short, the biggest thing we do differently is that we do not have a cookie cutter approach. Every project we undertake is broken down to ensure that the solutions and services are 100% tailored. We do not go the tried and tested route, we drill down into detail of the project and ensure we have a multi-disciplinary team that delivers to the client. Our ability to provide clients with a solution that is tailored with the use of more than a single project manager is starting to win us more work,” explains Bayne.



An example of this is the project Nuvo Consulting recently completed for Liberty. “Nuvo was the project, cost and construction management consultants of the new Liberty Building. This included design, gutting, re-engineering of services and installing new workspaces at Liberty’s Braamfontein Campus: 44 000 m<sup>2</sup>, over five floors that was delivered in 150 days,” says Bayne. Despite difficult deliverables,

this project was delivered on time – and on budget. “We advised on the most effective and efficient way to execute the project, embedded due diligence, good governance protocols for the project and added a transparency factor for the client,” adds Bayne.

“Even though we cut our teeth in Africa and are still busy on the continent we are keen to add more South African work to our portfolio. The Liberty project illustrated the boutique approach which ensured successful outcomes through calculated risks and focused execution,” says Bayne.

### A vast array of industries

Nuvo Consulting has worked in a vast array of industries. “One of our core industries is hotels and hospitality. We are currently one of Radisson group’s preferred project management teams and have worked on a programme of Radisson’s around the continent. For this we have an hotels and hospitality team. We are currently busy on six hotels in Africa and are starting to get owner operator hotels too,” says Bayne.

When it comes to fit out projects, we have done various office projects around the continent over the last eight years. Nuvo Consulting has worked as turnkey contractor on a consolidation project for the Unilever offices in 2019 which was our true entry into the local market and which, together with other head offices that we did in the region, led to us doing Liberty project,” says Bayne. This was the biggest fit out project the company has yet done.

Work done in the oil and gas industry is what led to the birth of Nuvo Consulting. “Midstream projects for Halliburton helped with the establishment of the company. One of our current focus areas is downstream opportunities in oil and gas in South Africa,” says Bayne.

### Nuvo Consulting’s boutique approach positively impacts cost management

“From a system or technology approach – going back to our

ability to be bespoke from a cost management perspective - we always work with the project as the client is not necessarily always be aware of certain factors that may impact upon the project. The project is always our driver,” explains Bayne.

“The fact that we have very specific industry experts on our team helps us to be prescriptive about budgets. Because we have the team that we have, we can draw value from an item by item basis and because we have architects and engineers as project managers, we can look at specifications and can suggest more economical local alternatives that achieve the same performance and aesthetic value. Having professionals on the team that have worked in design and engineering enables us to interrogate specifications and this accelerated the value added by challenging aspects,” says Bayne.

To further enhance its transparency, Nuvo Consulting uses various technologies for progress and management reports such as the use of hard hat cams and live feed cameras.

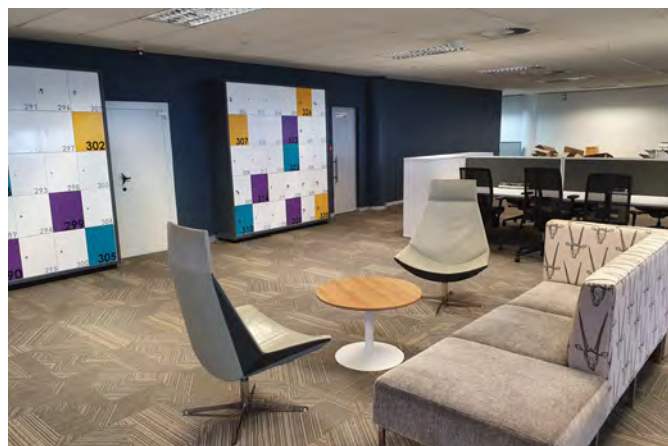
For the consulting industry not to lose ground to design and build projects, Bayne says that it has to insert itself to maintain governance, transparency and professionalism.

### Procurement

Nuvo Consulting offers procurement and Bayne says this is what unlocked the Liberty project as it showed the client that they could look at the project differently in terms of how the project is packaged. “Liberty had a large requirement around procurement and procurement governance. Our procurement solution was tailored to answer all those governance requirements. Transparency in terms of how we procure for a client is something we won’t waiver on – this goes back to our mission and vision of getting repeat business,” says Bayne.

### Entrepreneurial spirit is key

Bayne says that an entrepreneurial spirit in the consulting industry is critical, especially is the African context. “The industry is very competitive at the moment - to a degree that it is almost cutthroat. Clients are taking advantage of the fact that the industry is trying to re-establish itself after the pandemic and want the maximum for their money. If you are not entrepreneurial, not lean and not able to think outside the box how to best deliver while still making your margins, smaller outfits will lose ground. If Nuvo Consulting did not know the market, was not entrepreneurial and did not take incredible risks, we would not have done Liberty,” concludes Bayne. ☺





## FIRST OVERWATER VILLA INSTALLED AT THE RED SEA'S SHEYBARAH ISLAND RESORT

*Mammoet welcomed the start of 2023 with the delivery of the very first batch of modularly constructed villas for Red Sea Global's Sheybarah Island Resort. A total of four villas were loaded-in at the Port of Hamriyah, in Sharjah, and were shipped to the island to be installed at the site.*

A new milestone was achieved with the installation of the first prefabricated, stainless steel overwater villa orb on its foundation.

For the installation, Mammoet used its 650t capacity Demag CC3800 crawler crane positioned on top of Mammoet's modified barge, ALE 250. The shallow draft of the barge meant that there would be minimal disturbance to the sensitive marine environment of this unique and picturesque archipelago in the Red Sea.

At the construction jetty, the crane loaded and placed the first orb on the barge deck and sailed to the installation area. Once at the location, the barge was positioned using a hyper-accurate GPS system and the barge's own winches, for precise alignment with the foundation.

The barge was then stabilized using a retrofitted 300t spud jacking system provided by Combifloat - Mammoet's partner for floating and self-elevating marine equipment suitable for nearshore operations. Safe and efficient lifting, lowering and (re)positioning of the barge was achieved through a locally controlled jacking mechanism and a 4-point mooring system.

The crane was raised to lift the orb into place - its superlift was replaced by a system designed specifically for the project where the back mast of the CC3800 is "tied back" to the barge. This gave the crane enough capacity to skillfully place the orb onto the foundation without requiring the additional mass of a superlift tray.

Robert van Tinteren, Lead Project Engineer for Mammoet commented: "Creative engineering at its best. It has been an exciting nine months building up to this point, but it never gets tedious to see the incredible things we at Mammoet can do when we put our minds to it!"

Mammoet was awarded the contract to transport and install all 73 villa pods back in May 2022. To support the shipment of the villas from the UAE to Saudi Arabia, Mammoet teamed up with P&O Maritime Logistics, a leading provider of critical logistics and marine solutions. ©

### ABOUT THE SHEYBARAH ISLAND RESORT

Sheybarah Island is located in the southeast of the archipelago on the Red Sea. The island is home to a highly diverse environment with mangroves, white sand dune beaches and some of the most beautiful and pristine coral reefs in the world hosting many species of fish and other marine animals.

The 73-key resort, designed by Dubai-based architectural firm Killa Design, comprises uniquely shaped overwater and beach villas, arrival, front of house and F&B buildings and other facilities. The approach to the façade design was to minimise visual impact of the architecture on the environment by employing a highly reflective polished stainless-steel cladding that reflects the natural surroundings: the ocean, the sky, sand dunes and the reef below.

The resort is a LEED Platinum off grid, zero energy, zero water development that widely promotes sustainable design in every aspect of its environment, to ultimately create a hospitality benchmark for regenerative developments.

### ABOUT MAMMOET

Mammoet helps clients with smarter, safer and stronger solutions to any heavy lifting or transport challenge. We aim to develop long term client relationships in order to understand their businesses and challenges best, so we can realize the most efficient and cost-effective approaches. We have a unique global network and an unparalleled fleet of equipment. Through deep and longstanding engineering expertise and the highest quality and safety standards in execution we bring an intelligent and flexible approach to projects across a wide breadth of industry sectors. Clients trust us to help them achieve feats that were once considered impossible, and we have often broken records in doing so.

# HOW ZINC-RICH PAINTS ENHANCE THE CORROSION PROTECTION OF STEEL

Often referred to incorrectly as 'cold galvanizing', zinc-rich paints play a key role in corrosion protection of construction steel exposed to a range of corrosive conditions, where hot dip galvanizing is not feasible. Applied by brush or spray, these versatile coatings consist of zinc particles or flakes mixed with either organic or inorganic binders.

Prior to application, the steel must be cleaned by grit blasting to near-white metal (SSPC-SP 10), commercial blast cleaning (SSPC-SP 6) or white metal (SSPC-SP 5). The zinc is usually mixed with a polymeric-containing vehicle and must be agitated constantly during application to produce a homogenous mixture and ensure proper adhesion.

Zinc-rich paints contain 65% to 95% metallic zinc in a dry film, with 92% to 95% zinc-containing paints being common. "The paints can be brushed or sprayed onto steel," explains Simon Norton, Executive Director of the International Zinc Association (IZA) Africa. When applying by means of a spray, the feed lines must be kept as short as possible to prevent the zinc dust settling and resulting in uneven film coats.

Zinc-rich paints can be applied either in the workshop or in the field, notes Norton. However, with inorganic zinc-rich primer paints, it is critical to allow the coating to cure completely before overcoating. It can be applied to steel of any size or shape, although application is more challenging on complex fabrications. Zinc-rich paints are also used widely as primers for high performance two- and three-coat systems and to repair

batch hot dip galvanized steel. In mildly corrosive environments, zinc paint may be used on its own without a top coat. However, it should be top coated in more severe environments to extend service life.

As with all paint coatings, zinc-rich paint is a surface coating bonded mechanically to steel. Zinc-rich paints are either organic, consisting of zinc powder mixed with epoxies, chlorinated hydrocarbons and other polymers, or inorganic with zinc powder suspended in organic alkyl silicates. They are usually applied at a thickness of 60 to 90 microns.

The performance of organic zinc-rich paints depends on the solvent system used to formulate the paint, points out Norton. Multiple coats may be applied within 24 hours without cracking. They do not have the same temperature resistance of inorganic zinc-rich coatings, as they are limited to 100°C to 110°C. They are also degraded by ultraviolet radiation from sunlight and do not feature the same corrosion resistance.

Duplex coating systems (galvanized steel plus coating) offer synergy in that the durability of the combined hot dip galvanized and organic coating system is greater than the sum of the separate durability of the hot dip galvanizing and coating layer. In some circumstances, such as with design restrictions, size of component, geographical location of the fabricator in relation to the galvanizer, or where hot dip galvanizing is physically impractical or impossible, it may have to be substituted by either inorganic or organic (epoxy) zinc-rich paint. ☺

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## BUILDING AN OUTDOOR SPACE? HERE'S WHAT YOU NEED TO KNOW

*When planning an outdoor living space, be it a deck forming a patio, creating a tanning deck alongside your outdoor pool, or enhancing another area of your garden, perhaps the starting point should be for you to look at all the location options that present themselves on your property.*

A favourite tree in a shady spot can be greatly enhanced by creating a small deck area surrounding the trunk, for instance. And the location of a deck adjoining your dwelling may be possible in a multitude of areas, and not merely an extension of your living room.

Eva-Last's range of bamboo-composite decking, with its exceptional ease of installation, gives you the freedom to create your perfect deck area in a number of configurations, and to suit a variety

of budgets. "Eva-Last is proud that it has expanded its range of bamboo-composite products to suit a variety of applications and budgets, in recent years," says Nathan Chapman, VP Brand and Channel Sales and Co-founder of Eva-Last. "We now also offer a range of fasteners specifically tailored to the various colours of Eva-Last decking, as well as a range of railings, and even offer specialised items such as composite joists for mounting decks on screeds, or paved areas, which you may typically find

surrounding a swimming pool.

"We also provide comprehensive information on our websites to help people understand which is the right product for their specific application and budget, as well as in-depth installation guides for all our ranges to assist the contractors," adds Chapman. Once you have a firm visualisation of the deck you wish to create, and the product you will be using, there are a number of considerations that need to be addressed, before actual construction can begin.



### Does a deck require building plans?

Eva-Last recommends that at the outset you contact your local building authorities to check the legal requirements for decking construction in your area. In the case of raised decks it is essential to check with your local authorities on the exact legal requirements and obtain the required approvals. There are also requirements for raised decks of a certain height above ground level to be accompanied by protective railings, such as Eva-Last's RapidRail composite railing system.

### What sort of substructure should you specify for an Eva-Last deck?

The type of substructure used for your

deck can vary from region to region. For instance, in the dry inland areas, most Eva-Last customers use a steel sub-structure because corrosion is not a big factor at high altitude. But in coastal regions, deck builders should ideally specify the use of treated timber, because rust and corrosion of steel has to be mitigated. In areas where there is a high incidence of aggressive insect infestation, it would be recommended that steel be used in preference to a timber substructure, except in areas near the coast.

Where it is required to lay the decking on top of an existing concreted or paved area, such as in a pool area, Eva-Last has a composite joists which has been designed and may be used for this type of application.

### Constructing a substructure

The main requirement of a substructure is that it should be safe and able to support the loads imposed upon a deck, and by the deck itself. For this reason Eva-Last recommends that substructures should be designed and planned in consultation with experts who have a working knowledge of the materials and span widths to provide adequate safety margins for the finished structure. This is all detailed in Eva-Last's various product installation guides.

### Should I build the deck myself?

Eva-Last recommends that decks should be built by people who have prior deck-building experience. There are a number of technical considerations to take into account, such as ensuring that the sub-structure provides an even and appropriate platform for decking placement. In decks located very close to ground level, provision must be made for ventilation and drainage beneath the deck so that there is not a build-up of moisture and mildew.

There is no hard and fast rule against a home-owner constructing a deck him or herself, but the warranties applicable to Eva-Last decking will be voided if a deck is not constructed in accordance with the guidelines laid-out in Eva-Last's installation guides. Some of these procedures require a sound basic grasp of construction techniques, so it will also come down to the capabilities of the individual.

### What sort of finish and colour should I go for?

Eva-Last is proud of its extensive range

of colours and finishes that mimic traditional timber. Here you should consult the Eva-Last website to see the myriad colours and grain patterns on offer. In making your choice, you should consider whether darker or lighter colours would be appropriate for your needs, taking into account the prevailing climate in your area.

The biggest consideration, however, when choosing colours is that it ties in with the design and architecture of the building. Since the products come with up to 30 year warranties, these are not products you will be replacing based on annual colour trends, so it's important that your choice is universal and in line with the building design.

### Deck installation guides

Eva-Last provides extremely comprehensive decking installation guides on its website at [www.eva-last.com](http://www.eva-last.com).

The installation guides cover the various specific techniques for deck construction and board placement, various fixing system types, to ensure that correct spacing is provided for expansion and contraction for a particular Eva-Last brand.

Even if you are contracting the construction of your deck to an expert, Eva-Last recommends that you familiarise yourself with the installation procedures to get an idea of precisely how a deck construction should be planned and executed.

### Warranties

Eva-Last has been an leader in composite decking manufacture for almost two decades and is one of the fastest-growing composite decking manufacturers in the world.

Its decking ranges offer comprehensive warranties for peace-of-mind purchasing. Eva-Last's product technologies carry warranties from 10 to 30 years, depending on the brand and the requirements for a specific project.

All Eva-Last warranties are subject to terms and conditions, and home-owners and contractors alike are encouraged to read the finer points of the warranty contracts for each product, as published on Eva-Last's websites.

After taking all the above into consideration, with Eva-Last you'll be well-equipped to create an outdoor space that impresses, without the need for constant upkeep and costly maintenance, for many years to come. ©

# VOLVO LAUNCHES POWERFUL BIOGAS TRUCK

Volvo Trucks is now launching a new, stronger gas-powered truck that can run on liquified biogas. The new truck can carry out demanding, long distance transport tasks, while reducing overall CO<sub>2</sub> emissions. The range will also be available for order by South African customers.



Five years ago, Volvo Trucks launched its trucks that can run on liquified biogas, often called bio-LNG, which is a renewable fuel that can be produced from many types of organic waste, including food scraps. The fuel can reduce CO<sub>2</sub> emissions by up to 100%.

“Biogas is a great complement to electric transports, helping hauliers with their sustainability ambitions and aims towards climate neutral transports,” says Waldemar Christensen, MD of Volvo Trucks South Africa. “That is especially true for Southern Africa, where fleets need to travel long distances to deliver cargo across the region for which bio-LNG trucks, with their larger 225 kg fuel tanks and a range of up to 1 000 km, would be ideal.”

The gas-powered trucks, the Volvo FH and FM are getting a new power level of 500 hp, joining the previous 420 and 460 hp engines. The gas engines also get major technical upgrades that makes them up to 4% more fuel efficient\*\*, which together with a new 10% larger gas tank, contributes to a longer range.

The efficient gas-powered trucks have a performance comparable to their diesel equivalents. Fueling up is almost as fast as a diesel truck.

Eric Parry, Sustainability Solutions Manager at Volvo Trucks South Africa, points out that there is no single solution that can solve climate change.

“The strengthened gas-powered line up fits well with Volvo Trucks three-path strategic roadmap to reach zero emissions: battery electric trucks, fuel cell trucks and combustion engines that run on renewable fuels like biogas, HVO or even green hydrogen,” explains Parry.

In South Africa, the first Volvo electric trucks will arrive in March 2023. However, LNG and Bio-LNG infrastructure, supply and dispensing are still a major challenge in the country.

“Several technical solutions are needed because the availability of energy and fuel infrastructure differs greatly between countries and regions, and also because the requirements for each transport assignment can vary,” comments Parry. “However, locally we are in a position to work with customers and suppliers to bring bio-LNG vehicles in as needed.”

Europe has a growing network of more than 600 fuel stations for both bio-LNG and LNG, which makes them ideal for long-haul transports.

European production of bio-LNG is expected to ramp

up quickly to shift away from the use of fossil LNG. The EU Commission has put forward a plan called REPower EU, where the focus is on creating greatly increased domestic production capacity for different kinds of energy.

The plan is to boost annual biogas production ten times by 2030\* and the sector has already started a rapid growth phase. Also outside of Europe the potential for biogas is gaining interest.

## Facts about Volvo's gas-powered trucks:

- **Product models:** Volvo FH, FM and FMX (on request).
- **Power levels:** 420, 460 and 500 hp.
- **Fuel:** bio-LNG (liquified biogas) or LNG. A small amount of diesel or HVO is used to ignite the gas.
- **Range:** up to 1000 km\*\*.
- **Engine technology:** By utilising the diesel engine's high efficiency, the same drivability as a diesel truck is achieved, making it possible to run with high loads and cover long distances.
- The new gas powered Euro6 step E engines are up to 4% more fuel efficient\*\* than the step D engines.
- The gas engines have been completely updated and the increased efficiency is obtained by new injectors and pistons for lowered friction, together with a new turbo, variable oil pump, and Crank Case Ventilation that handles unfiltered oil.

## Facts about liquified gas:

- Bio-LNG (also called LBG) is a renewable fuel that is liquid biogas (biomethane). Any organic waste can be digested to produce biogas, for example sludge from treatment plants, food waste, manure and other residual products.
- LNG (Liquified Natural Gas) is a fossil gas (methane) which is extracted from underground or undersea reserves.
- The process for liquifying biogas is the same as for LNG; the gas is cooled down to -162 °C. The fuel then takes significantly less space, which makes it possible to bring a much larger amount of energy onboard the truck, which increases the range significantly.
- The EU Commissions goal (REPower EU) is to boost annual biogas production ten times to 35 billion cubic meters by 2030\*. More than 78 bio-LNG plants are already confirmed to be ready in Europe by 2024. Germany and Italy, together with the Netherlands, are expected to be the leading bio-LNG countries in the coming years. ☺

\* EBA (European Biogas Association) Statistical Report 2022.

<https://www.europeanbiogas.eu/SR-2022/EBA/>

\*\* Real world fuel performance and range may vary depending on many factors i.e. driving speed, use of cruise control, vehicle specification, vehicle load, actual topography, the driver's driving experience, vehicle maintenance, and weather conditions.

# PURSUING SMARTER LOGISTICS TO OVERCOME CHALLENGES FACING THE INDUSTRY

*As the market gained more sales momentum in 2022, steady growth was observed across all segments. A respectable 12% growth in total industry sales with 30 249 sales compared to 26 969 sales in 2021. UD Trucks Southern Africa's local sales figures show steady progress in the medium and heavy-duty segment, with a growth of 27% over the previous year. As UD Trucks Southern Africa's Managing Director, Filip Van den Heede explains, it's not just about pure growth numbers, but aligning the business growth aspirations with our purpose, a Better Life, and even more important, meeting customer expectations.*

**C**OVID-19 crisis, global supply chain constraints weakened an already fragile economy in the last two years, however UD Trucks Southern Africa managed to keep the business buoyant, while growing significantly in emerging markets.

## Overcoming challenges facing the industry

Our founder Kenzo Adachi's vision to "make the trucks the world needs today" was actually a vision for smarter logistics. The world today needs less CO<sub>2</sub> harmful emissions released into the environment, which is why we launched the Quester and Croner Euro 5 models in 2022, and the Quon in 2019: ahead of local government regulations and manufactured in South Africa since then. Through these vehicles, which are much more fuel efficient, are fitted with SCR (Selective Catalytic Reduction) technology we have reduced CO<sub>2</sub> emissions as well as total cost of ownership. To date, we have produced and sold close to 1 000 Euro 5 units in South Africa, consistently staying one step ahead of local regulations and market demands. Keeping the tradition of a challenger and innovator.

Our journey never ends, later this year the Quon range will receive further upgrades that will improve vehicle safety. With innovation that puts people first, these safety enhancements are set to support a sustainable future.

The new Quon safety features, including the traffic eye cruise control, put people first, helping us achieve Vision Zero - a future with no injuries, deaths or minor injuries from road collisions, and safety for drivers, communities, and other road users.

There are many challenges facing both industry and customers, and one of the most significant challenges is the rising cost of doing business. Consequently, we focus on providing solutions that will improve efficiency and profitability through our smart logistics approach. UD Connected Services helps us achieve this end goal, and our pioneering approach has resulted in enhancements set to limit fuel theft, provide a recovery solution, as well as ensure safety through alcohol detection. In a world of digitalization, the logistics industry will benefit significantly from these additional features.

## Sustainable growth through continuous improvement

A reliable and knowledgeable workforce is key to innovation, and in 2022 we trained more than 2 000 delegates across our dealer network to improve their skills. Through this process, we guarantee our customers' uptime and ensure that they receive reliable, trustworthy service. Additionally, we went an extra mile and provided training to Diesel apprentices.

The success of our business depends on strong relationships with our network and on proven support that we provide to improve daily business operations, said Filip Van den Heede.

UD Trucks SA will also open over three new dealerships this year in strategic areas where we can better serve our customers and grow our brand to achieve excellent customer service.

As a result of the brand-new facilities, we will be able to increase visibility of our holistic solution and increase our dealer footprint to over 40 locations across the country.

## Logistics: a lifeblood of society

Vision 2030 was announced through the launch of Fujin and Raijin - an innovation roadmap addressing the need for connectivity, automation, and electromobility in logistics by 2030. As part of our current fleet range, we already offer some of these features, such as the Connected Services, ESCOT technology, and Traffic Eye system, which address both automation and connectivity of our vehicles, making them an appropriate choice for meeting logistics challenges of today.

Globally, our headquarters in UD Trucks Japan, has been testing innovative solutions to drive operational efficiencies and digital transformation. The autonomous driving trial was conducted with Kobe Steel's Kakogawa Works using a heavy-duty Quon equipped with L4 autonomous driving technology.

A major goal of this initiative<sup>3</sup> is to alleviate driver shortages at steel facilities and promote digital transformation in manufacturing and logistics. Visit [www.udtrucks.com](http://www.udtrucks.com) to read more on the story<sup>4</sup>.

### Notes

- NAAMSA monthly industry report
- Level 4 vehicles can operate in self-driving mode under pre-defined conditions and will not operate unless required conditions are met. To ensure safety, the route will be off limits to people and driver safety will be present behind the wheel, able to intervene in the event of any unforeseen situation or emergency.
- Initial Press Release – November 12, 2021
- UD Trucks:
- <https://www.udtrucks.com/news-and-stories/news/ud-trucks-and-kobe-steel-to-conduct-level-4-autonomous-driving-trial-0>

### Kobe Steel:

- [https://www.kobelco.co.jp/english/releases/1209681\\_15581.html](https://www.kobelco.co.jp/english/releases/1209681_15581.html)
- <https://www.udtrucks.com/news-and-stories/news/ud-trucks-and-kobe-steel-to-conduct-level-4-autonomous-driving-trial-0>



## ISUZU TRUCK CELEBRATES 10<sup>TH</sup> YEAR IN THE LEAD

*ISUZU Motors South Africa (IMSAf) and the ISUZU Truck brand have once again maintained their top position in the South African truck market – celebrating their 10<sup>th</sup> consecutive year as the truck market leader according to the latest NAAMSA report.*

“We have several reasons to celebrate when ringing in the new year, with such an excellent sales record, the amazing hard work of everyone in the ISUZU Dealer Network, and the team members who power the ISUZU products and stand by them day in day out,” says Craig Uren, Senior Vice President, Revenue Generation at ISUZU.

### 2022 Sales Review

The South African truck market including van and bus recorded total sales of 30 153 units for the 2022 calendar year, an increase of 11,4% overall on 2021 numbers, with ISUZU’s growth at 4,7%.

ISUZU achieved a total sale of 3 304 units of the total market, excluding vans and buses – a record performance for the brand which smashed the previous year’s total by an increase of 4,76%.

- The Medium Commercial Vehicle market increased by 17,8%. ISUZU sales in this category increased by +10,12% compared to 2021.
- The Heavy Commercial Vehicle market increased by 19,6%. ISUZU sales in this category increased by 0,24% compared to 2021.

On achieving 10 consecutive years of market leadership, Uren said, “Our growth can be attributed to the relentless hard work of the greater ISUZU team, the backbone of which is our Dealer Network and their relationships with our Customers.”

### Market leadership

Challenges such as global and domestic supply chain issues impacted many sectors of the South African economy in 2022. However, this did not stop the strong market demand, which helped drive ISUZU truck sales.

“I have been working closely with our Dealer Network over the past years and it’s fantastic to see ISUZU chalk up another stellar sales performance off the back of this determined effort,” says Uren. “With such high demand for ISUZU products, it’s been our top priority to maintain a steady supply of ISUZU trucks while delivering excellent customer service and after-sales support, he adds.

ISUZU’s 2022 market success is propelling the brand to continue building capacity and capability to meet and exceed its Customers’ and the industry’s needs.

“We understand that the South African Customers deserve the best, which is what ISUZU delivers year in, year out,” ends Uren. ☺

*“Our growth can be attributed to the relentless hard work of the greater ISUZU team, the backbone of which is our Dealer Network and their relationships with our Customers.”*



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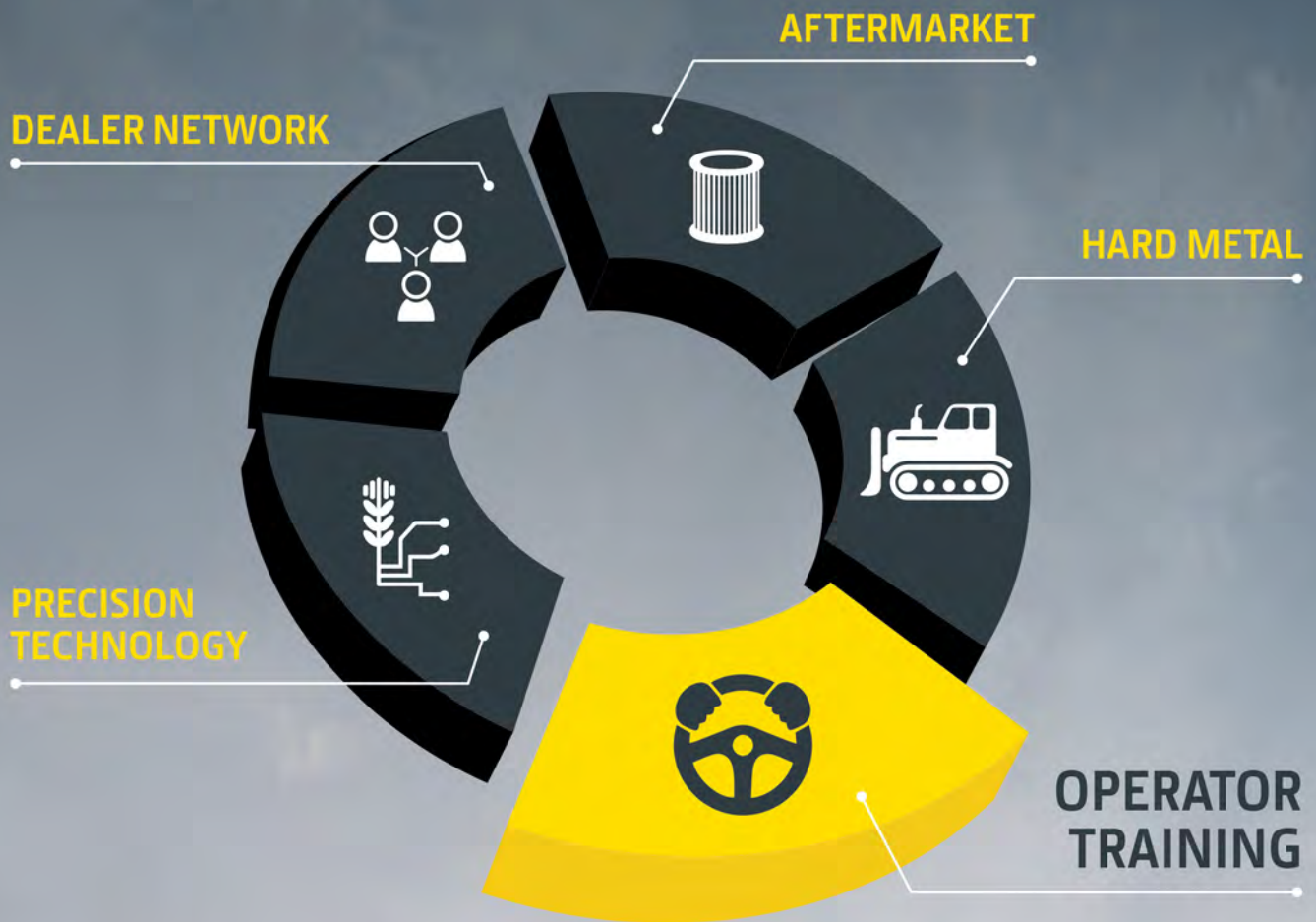


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