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## FEATURES

**04 Zutari’s adaptive leader programme nurtures the next generation**

Shamenthee Naidoo is pioneering the Adaptive Leadership Programme.

**16 Sun City empowers female-led construction company as Vacation Club expands**

Despite COVID-19 woes, Charlotte Mosito’s company is flourishing.

**18 30 GW of wind energy project in development pipeline**

Eskom, SAWEA and SAPVIA have joined forces to solve our energy crisis.

**23 CCSA guidelines on the safe usage of cement and concrete**

Consider the risks in handling and working with cement and concrete mixes.

**26 Afrimat to acquire Lafarge South Africa**

This acquisition will see Afrimat produce its own cement.

**30 Numbers that matter don’t appear on any sales quotes, argues Pilot Crushtec**

Quotations say nothing about the history, experience, product quality and service infrastructure.

**34 Cape Town’s skyline is enhanced as the first Harbour Arch Tower is raised**

Amdec’s massive project is progressing at a rapid pace.

## REGULARS

04 MARKETPLACE

16 PROPERTY

18 ENVIRONMENT & SUSTAINABILITY

22 CEMENT & CONCRETE

32 CRUSHING, SCREENING AND RECLAMATION



## ON THE COVER

Part of AfriSam’s well-respected Centre of Product Excellence (CPE) in Gauteng, the specialised cement and materials laboratory plays a vital role on many fronts. Not only does it help to ensure product quality but it also contributes to the continuous innovation of solutions for customers. According to Mike McDonald, CPE Manager at AfriSam, the laboratory was recently recertified for a five-year period in terms of the South African National Accreditation System (SANAS), supported by a stringent process that requires surveillance audits every 18 months.

**Turn to page 20**



The research found that up to 80% of business leaders surveyed, list the loss of skills due to emigration as a major risk facing their company. Since the survey was done, it appears that emigration is accelerating as conditions in the country get worse – almost on a daily basis – with electricity, water, economic and political problems.

Playroll found that over 900 000 South Africans have already left the country. This number was published in 2022 by the UN Department of Economic and Social Affairs' 2020 International Migrant Stock. This report states that 914 901 South Africans were living in other countries and territories – a dramatic increase of the 786 554 in 2015.

Even before the current woes that are experienced in the country, the number of people that emigrated increased threefold between 2015 and 2020. Individuals emigrating leave our shores for England, Australia, the USA and New Zealand.

What is especially worrying is that the survey has found that it is younger people leaving – very often professional people who have either recently graduated or stayed just long enough to complete graduate programmes. This is the very generation who is lost to solving the country's problems. Among these are engineers who can assist with the very problems that are driving them away: infrastructure collapse and the energy and water crisis. That is before one even comes to the individuals with the skills to assist with an exploding urbanisation and the planning for this.

The people most likely to leave the country are aged between 25 and 40 and it forecasts that over 50% of future graduates will leave the country in future. Individuals who classify as 'senior employees' will relocate within the borders of South Africa - most likely

*Recent research has shown that the South African skills shortage runs far deeper than industry-specific shortages portray. I am referring to research done by Playroll and OfferZen.*

to a well-run and stable province such as the Western Cape – simply because they have the financial means to do so.

The research takes the most recent tax data into account. As there is no official government data on emigration, the number of South African taxpayers who have ended their tax residency in the country provides a rather accurate (if dooming) insight into these trends. Data shows that over the last five years, over 40 500 taxpayers have ended their tax residency. The base from which SARS collects tax is now lower income earners.

The survey showed that while most companies considered C-Suite and management tiers as the most vulnerable to emigration, tech-focused (such as construction) businesses perceived the threat at an associate level.

It is a worrying trend, but one has to keep in mind that the 60 million people in the country will still need places

to live, roads to drive on, water to drink, hospitals to go to and lights to switch on. Despite the expertise leaving the country in now (seemingly) droves, my suspicion is that they will be back as there will be opportunity here – perhaps just not right now.

*Wilhelm du Plessis*  
Editor



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# ZUTARI'S ADAPTIVE LEADER PROGRAMME NURTURES THE NEXT GENERATION

*A lot can be learnt about an organisation where leaders grow other leaders and are willing to make the time to engage, encourage, and invest in those who want to make a positive impact and contribution. This is the view of Shamenthree Naidoo, Learning Experience Leader, Zutari, whose team has successfully pioneered the Adaptive Leader Programme (ALP) at the leading consulting engineering and infrastructure advisory firm.*



“The ALP looked to attract future leaders with an owner mindset, a passion for inclusive leadership, building Zutari’s culture, and a keen interest in developing ones’ agile leadership approach,” says Blanché Hanstein-Kaber (**pictured**) Country Manager: Namibia. Candidates from South Africa, the rest of the continent, and even as far afield as the Middle East met up at the Zutari head office in Centurion through various stages of the ALP.

Ushantha O’Donnell, a Commercial Lead at Zutari who empowers engineers to lead projects by troubleshooting complex contractual issues and unlock any disputes, typically between contractors and clients, is a successful ALP graduate. “It has been an important rung in my career ladder, not just within the organisation, but in terms of my own personal development. It was an intense experience that drew us out of our comfort zones, pushed us to new levels, tested our limits, and gave us the tools to become

The first cohort of ALP candidates kicked off the 18-month programme in August 2021, with the last webinars and in-person sessions concluding in April this year. High-potential candidates were identified and then shortlisted, following which the final list of 23 was announced.

“It is noteworthy that the ALP is the first formal leadership programme under the Zutari banner and one that was launched during the Covid-19 pandemic,” notes Naidoo. It made the programme an essential test of hybrid learning and the application of digital technology. The ALP is “a signature Zutari flagship initiative” aimed to develop inclusive, agile, and owner-minded leaders to achieve rapid, sustained, and profitable growth by tapping into the five unlimited sources of energy of a vital organisation and pivoting around a centralised awareness of impact.

“Our aim was to develop adaptive leaders equipped to embrace change, navigate ambiguity and complexity, and harness an increasingly diverse workforce across a networked organisation,” explains Naidoo. The programme was delivered across a blended approach of face-to-face, virtual, and remote learning, including both team and individual assignments and assessments. It was co-created with Zutari leaders and in collaboration with a number of renowned global and local leadership development institutions, service providers, and external facilitators.

thought leaders.”

She continues: “Zutari is a large, living entity. For most of our careers, we have been concerned with that one function we operate in. Now we can look at the organisation in its entirety and how it functions holistically and perpetuates itself. The programme has taken away that microscopic lens and given us a macroscopic overview. It has fostered our trust in the organisation as individuals, knowing that we are part of something greater. It has been an incredible journey.”

“Leadership development will never be an isolated event, but rather a journey of meaningful connection, deep conversations, rigorous debate, realistic business challenges peppered with fun, and so much larger-than-life personalities and an attitude of making a difference for the greater good of the business,” says Naidoo.

ALP has leveraged off the Zutari codes of ‘We are One’ and ‘Foster Trust’. “As with everything, learning opportunity has reinforced the ability to be relatable, to be vulnerable, but also to build self-confidence and recognise the strengths within the core group. Undoubtedly this programme has been inspirational, and this is how legacies are born. What I recognise and admire is how each of these future leaders have supported each other and been the cheerleaders on the sideline. That shows real-time respect and empowerment to each other,” concludes Naidoo. ©



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# SUCCESSFUL CONCLUSION OF THE ASAQS WESTERN CAPE PRESIDENTIAL TOUR

*The Western Cape Chapter Annual General Meeting and Presidential Tour 2023 successfully concluded despite early season rain and cold weather, which affected attendance on 7 June. The event, led by Chris Steffen, the Western Cape Chapter President, showcased the resilience and determination of the attendees.*



The Annual General Meeting commenced with an engaging address from the Executive Director of the ASAQS, Karl Trusler, followed by speeches from the President of the SACQSP, Nosiyabonga Mongane, and the President of the ASAQS, Newton Baloyi. These insightful presentations highlighted the commitment of both organizations to advancing the quantity surveying (QS) profession on a national level and beyond.

Participants enjoyed productive networking sessions, enhanced by welcomed refreshments that fostered camaraderie and knowledge exchange. Despite the challenging weather conditions, the event proved to be enriching and left a strong message that the ASAQS and SACQSP are fully committed to demonstrating unwavering local support for the QS profession.

The President of the SACQSP, in a heartfelt appeal, called for collective efforts to create a better future. This appeal was met with warmth and appreciation, signalling the unity and shared vision among professionals in the field.

In separate meetings with the MBA Western Cape, the University of Cape Town, the Cape Peninsula University of Technology, and local practices, the ASAQS President unveiled proposed initiatives. These initiatives include

the development of a pricing guideline for contractor QSs, collaboration with academic institutions on research in areas of common interest, exploring alternative methods for calculating professional fees, and conducting a comprehensive survey of outstanding professional fees from all levels of the Public Sector.

The occasion underscored the importance of face-to-face meetings, particularly in an era marked by remote work and online interactions. The unique dimension that in-person gatherings offer was evident, emphasizing the significance of effective human connection, goodwill, and progress among fellow professionals and industry partners.

The resumption of Presidential Tours, post-COVID, is expected to ignite a revival of the Chapters. These Chapters serve as the "eyes and ears" on the ground, providing vital feedback on local conditions as practising professionals. The ASAQS acknowledges its responsibility to recognize and address these conditions, working towards crafting effective solutions.

With the successful conclusion of the Eastern Cape and Western Cape Presidential Tours, we now look ahead with great anticipation to the Northern Cape Chapter, scheduled for 2 and 3 August 2023. ©

# CMA's 18<sup>TH</sup> AWARDS FOR EXCELLENCE COMPETITION NOW OPEN FOR ENTRY SUBMISSIONS

*The Concrete Manufacturers Association's 2024 Awards for Excellence competition was officially launched on 9 May 2023 and CMA members have until 28 May 2024 to submit their entries. The competition will be staged to the same digital formula as the 2022 event, which was a resounding success.*

“Our rationale for the extended submission period,” said CMA Director, Henry Cockcroft, “is that the competition is more about gaining exceptional visibility for the multiple applications of precast concrete than it is about winning an award. It’s about creating an informative resource for engineers, architects, property developers and other professionals, encouraging them to tap into the many advantages of precast concrete.”

“As in 2022, videos will be made of all entry submissions and these will be posted on the CMA’s social media platforms which will provide outstanding levels of focused exposure in the lead up to the judging in 2024. For example, 210 000 views on social media, equivalent to 575 hours of accumulated social media view time, were achieved in 2022. And for the 2024 competition, we will build on our 2022 knowledge to make improvements and gain even more exposure.”

The event is one of the highlights in the construction industry’s calendar and presents an outstanding opportunity for CMA members, both large and small, to showcase their products digitally and to establish themselves as trendsetters in the use of precast concrete.

There are two entry categories, Aesthetic Excellence and Engineering Excellence, each split into seven and eight sub-categories, respectively. The winner of each category will receive an award certificate and floating trophies, which in the judges’ opinion best exemplify applied precast concrete, will be presented to four overall winners chosen from the category winners’ pool.

Besides the completed entry forms, each entry requires

footage comprised of seven photographs and/or videos accompanied by a 450 word project description motivating the entry.

“It goes without saying that the better the quality of visual footage, the greater the chances of winning an award. Therefore photos taken by professional photographers will have the edge on snap shots taken on cell phones,” advises Cockcroft. Motivations are mandatory and should highlight either aesthetic and/or engineering elements. They will be used as the voice-over text for the production of the entry videos and should be well written, preferably by a professional writer.

Company branding or product/proper is permitted and entrants are required to submit high-quality company logos for use in the entry videos.

Judging, by an independent panel of construction professionals, will take place in July 2024 and the award results will be announced as soon as the digital winners book is completed in the final quarter of 2024.

Anchored in the promotion of top-quality precast concrete, the Awards showcase the ubiquitous use of precast concrete to built environment professionals, but even more so, they provide a mechanism which informs the consumer. ©

*“As in 2022, videos will be made of all entry submissions and these will be posted on the CMA’s social media platforms which will provide outstanding levels of focused exposure in the lead up to the judging in 2024.”*





# CONSTRUCTION COMPANIES MUST ACT NOW TO REVERSE A GLOBAL TALENT CRISIS

*Despite challenging economic headwinds, half of the construction companies surveyed anticipate they will grow headcount during the remainder of 2023, according to new research by the global accounting and business advisory organisation, BDO.*

The research finds that roles in skilled fieldwork, engineering and procurement are most in demand globally across the construction industry. However, these roles are becoming less attractive to next generation talent. As a result, the construction industry is losing ground in the global war for Gen Z to industries such as financial services, technology and life sciences.

The global survey from BDO captures 713 perspectives on the construction industry. It comprises viewpoints from 336 construction industry decision-makers and 378 representatives from Gen Z across 10 markets spanning five continents.

The research finds that the construction sector is navigating a perfect storm of challenges including inflationary pressures, supply chain challenges, a rising cost of finance and increased regulatory burden. These problems are made worse by the challenge of recruiting and retaining early career professionals.

Gen Z – individuals born between the late 1990s and early 2010s – emerge from BDO’s research as an empowered and socially motivated generation who prioritise personal development opportunities and wellbeing at work.

However, industry executives do not fully appreciate the factors that motivate this generation’s career choices. For example, while Gen Z prioritise work-life balance and being respected at work as the most essential criteria for their future career, industry executives believe that students and young professionals are most strongly motivated by financial reward. In reality, financial reward is only the fifth most important criteria for young people.

Climate impact is now also a leading motivator for next generation talent. Six in 10 (60%) of the young people in the research rate having a career in an industry that positively impacts climate change as important.

As a result, the construction industry faces an image problem. Not only do a third (32%) of students and young workers believe the industry has a net negative impact on the climate, but a majority (55%) believe working in the sector may put their physical or mental health at risk. Construction is perceived as involving hard labour, longer working hours and lower pay compared to other industries.

There is a window of opportunity for construction companies to correct these misconceptions before they cause lasting harm to the industry’s talent acquisition potential. The industry has a strong story to tell about its leading role in supporting the transition to net zero carbon through the construction of new energy efficient buildings

and the retrofitting of older assets, yet this impact is not currently recognised.

There are reasons to be optimistic: students surveyed by BDO report that a greater focus on promoting the new science and digital skills involved in the construction industry, and its role in the energy transition, will make a career in the industry more attractive to them in future.

Arjan Endhoven, BDO’s Head of Global Real Estate & Construction, commented: “In many regions the construction industry has rebounded after the pandemic. Demand for affordable housing, essential infrastructure and greener buildings is high. Existing properties need energy saving investments as demanded by government regulations, banks, investors and tenants.

The construction industry needs to recognise it risks not being able to meet demand if it cannot develop a reliable pipeline of young talent who see a bright future ahead for themselves in construction. The industry has certainly a great story to tell but needs to talk a different language and place greater emphasis on the issues that appeal most to next generation workers.

“The results of BDO’s global survey highlight that the construction industry has an image problem in the minds of Gen Z. Executives don’t fully understand what motivates this new generation. Yet these problems are not insurmountable. Construction companies need a fresh approach to their talent strategy and to dial up communications on their environmental and social credentials.

With the right approach they can show an ambitious generation entering the workforce that it is a place where they can develop skills with long-term career progression and make a personal social contribution and positive impact to environmental change.” ©

- 51% of construction companies surveyed are planning to grow headcount during the second half of 2023.
- Yet half (50%) say they find it challenging to attract and retain early career professionals. Only one in six (16%) companies in the industry report no difficulties in hiring to fill vacancies.
- Gen Z ranks construction as only the eighth most popular career option among 11 industries rated in BDO’s research.
- Only 28% of students say they are ‘very interested’ in a career in construction.

# HOW THE CONSTRUCTION INDUSTRY CAN MANAGE CURRENCY RISK AND STREAMLINE PAYMENTS

*According to Statistics South Africa, the construction industry currently contributes 2,4% of GDP, compared to 4% prior to the COVID-19 pandemic. While the construction sector plays a vital role in the country's economy, South African construction companies face formidable payment challenges, hindering their growth.*

Currency fluctuations, high fees, and lengthy processing times limit profitability and expansion, especially as the industry has a heavy reliance on materials and labour. If construction companies are not prepared to hedge against currency risk, it could seriously impact revenue and their profit margins. Streamlining cross-border payments is crucial, requiring improved solutions.

Ola Oyetayo (**pictured**), Chief Executive Officer at Verto says, "Embracing advanced digital payment technologies and platforms can unlock remarkable growth opportunities. Real-time exchange rates, automated processing, and transparent tracking empower businesses to optimise cash flow, allocate resources effectively, and expand operations." Therefore, investing in tailored payment systems is a vital business consideration. By overcoming payment barriers, South African construction firms can fuel growth, increase competitiveness, and secure a prosperous future in the global marketplace.

## Understanding currency risk management in the construction industry

In today's global economy, construction companies in emerging markets face a wide range of challenges, including the need to manage currency risk. Currency risk refers to the potential impact that fluctuations in exchange rates can have on a company's finances, particularly when it comes to cross-border transactions. The impact of currency risk can be significant, particularly for construction companies that often operate with thin profit margins and rely heavily on cash flow. Currency risk can lead to delays, increased costs, and reduced profitability, making it essential for companies to have a solid currency risk management strategy in place.

There are several different types of currency risks that construction companies may face. One of the most common is transaction risk, which occurs when a company must make a payment or receive a payment in a foreign currency. In this scenario, the exchange rate at the time of the transaction can significantly impact the amount of money that the company ultimately receives or pays.

Another type of currency risk is translation risk, which occurs when a company has assets or liabilities in a foreign currency. If the exchange rate between the company's home currency and the foreign currency changes, it can impact the value of those assets or liabilities, potentially leading to significant gains or losses.

The impact of currency risk can be particularly acute in emerging markets, where exchange rates can be volatile and regulatory environments may be less stable. For example, imagine a construction company in South Africa has signed



a contract to build a new factory for a foreign company. If the exchange rate between the two currencies fluctuates significantly during the construction process, it can impact the cost of labour, materials, and other expenses, potentially leading to delays and cost overruns on the project. Similarly, if the same South African construction company takes out a loan in a foreign currency, changes in exchange rates can impact the cost of servicing that loan, potentially leading to financial instability.

"To address these challenges, construction companies in emerging markets must have a solid currency risk management strategy in place. This may involve hedging against currency fluctuations through financial instruments such as futures or options. Alternatively, using payment platforms such as Verto to track currency exchange rates in real-time and manage risk exposure by booking in trades at favourable FX rates or by using multi-currency wallets," Oyetayo explained.

Using Verto's platform for currency risk management can bring significant benefits to help companies navigate the complexities of cross-border transactions that translate into reduced exposure to currency fluctuations and improved financial stability.

"In the current trading market where exchange rates can be volatile and unpredictable, these are particularly important considerations for local construction companies," Oyetayo concluded. ☺

# THE VITAL ROLE OF RELIABLE WATER INFRASTRUCTURE IN PREVENTING CHOLERA OUTBREAKS

*The recent cholera outbreak in Hammanskraal in the Gauteng province, as well as in Limpopo and the Free State, resulting in the tragic loss of 23 lives, serves as a stark reminder of the critical importance of reliable water infrastructure.*

“Access to clean and safe water is a fundamental human right, and a robust water infrastructure is vital in preventing the spread of waterborne diseases such as cholera. In this regard, the Southern African Plastic Pipe Manufacturers Association (SAPPMA) has been at the forefront of ensuring the use of quality pipes and pipe infrastructure to safeguard public health and prevent such outbreaks”, explains Jan Venter, CEO of SAPPMA.

## The threat of cholera outbreaks

Cholera is a highly infectious waterborne disease caused by the bacterium *Vibrio cholerae*. It spreads rapidly in areas with inadequate sanitation and poor water supply. Contaminated water sources and unhygienic sanitation facilities create a breeding ground for the disease. Once infected, individuals experience severe diarrhoea and

vomiting, leading to dehydration and, if left untreated, death within a matter of hours.

As the death toll and reported cholera cases continue to rise, many residents are blaming the government for a lack of clean water for drinking and other household uses. “This dire situation once again highlights the urgent need to prioritize reliable water infrastructure to prevent future outbreaks,” Venter stresses.

## The role of reliable water infrastructure

Reliable water infrastructure encompasses a range of components, including pipes, treatment plants, distribution networks, and sanitation systems. High-quality pipes play a pivotal role in ensuring the safe and efficient conveyance of water from its source to communities. By using durable and well-maintained pipes, the risk of pipe bursts, leaks, and



contamination is significantly reduced, thereby safeguarding public health.

### SAPPMA's commitment to quality pipes and pipe infrastructure

The Southern African Plastic Pipe Manufacturers Association (SAPPMA) has been actively involved in promoting the use of quality pipes. It formed the Installation and Fabrication Plastics Pipe Association (IFPA) in 2009 to expand regulation of the Plastic Pipe Industry in Southern Africa and pipe infrastructure across the region.

"SAPPMA is comprised of leading industry players who are consistently advocating for the use of correctly manufactured and installed plastic pipes that meet stringent quality standards. This commitment ensures the reliability and longevity of water infrastructure systems, minimizing the risk of waterborne disease outbreaks," Venter explains. He also emphasizes the dedication of this industry association to maintaining high standards.

"We believe that the use of quality pipes and pipe infrastructure are crucial in preventing waterborne diseases like cholera. We strive to create awareness about the importance of reliable water infrastructure and collaborate with industry stakeholders to ensure adherence to quality standards."

### When quality is non-negotiable

SAPPMA actively works towards educating stakeholders, including government bodies, engineers, and contractors about the importance of using quality

pipes for water infrastructure projects.

Through regular conferences, webinars, technical manuals and interacting with the industry, SAPPMA provides valuable information on best practices for pipe selection, installation, and maintenance.

Moreover, SAPPMA frequently performs independent audits and tests on samples of plastic pipes manufactured by its members, thereby ensuring they meet the required industry standards. By promoting quality control and compliance, SAPPMA enhances the durability and reliability of water infrastructure systems.

### Conclusion

"The cholera crisis serves as a tragic reminder of the critical importance of reliable water infrastructure in preventing waterborne diseases. To mitigate such risks, SAPPMA has been dedicated to advocating for the use of quality pipes and pipe infrastructure. However, we cannot do this alone. We urgently need the support and buy-in of politicians and industry stakeholders to prioritize public health.

Only by investing in reliable water infrastructure, communities can ensure access to clean and safe water, reducing the risk of cholera outbreaks and other waterborne diseases", Venter concludes. ☺

*"We believe that the use of quality pipes and pipe infrastructure are crucial in preventing waterborne diseases like cholera."*

## KAGISO MALEKA JOINS CORESTRUC'S MANAGEMENT TEAM

**K**agiso Maleka has joined Corestruc's management team. Maleka is a seasoned built environment professional who graduated from the Tshwane University of Technology



with a diploma in civil engineering in 2012. He has since worked extensively in the construction industry for various contracting companies and as a successful entrepreneur, which appealed to his passion for the "new and innovative".

He, therefore, lunged at the opportunity to be part of the Corestruc team when a vacancy became available for a Manager at the company. "It was a chance to work with a company that is well known for breaking traditional boundaries in construction to deliver essential infrastructure quicker, as well as more efficiently and cost-effectively.

A case in point is the way in which the company has revolutionised the construction of reservoirs and water towers, with its innovative precast-concrete systems now the norm for such projects. Certainly, there is more precast-concrete innovation in the pipeline, and I am looking forward to being part of this," Maleka says.

He says that he is especially excited about his participation in two new Corestruc reservoir projects for a mine and a leading metropolitan municipality.

"Kagiso brings a wealth of construction experience to our team. We, therefore, know that he will play an instrumental role in ensuring that we retain our standing as the country's foremost turnkey precast-concrete company with a major focus on water infrastructure," Willie de Jager, Managing Director of Corestruc, concludes. ☺



## ACCELERATE INFRASTRUCTURE DEVELOPMENT TO PROMOTE **INTRA-CONTINENTAL TRADE SAYS PROJECT MANAGEMENT INSTITUTE**

*The annual commemoration of Africa Day marks the Organisation of African Unity (OAU) founding in 1963. Now called the African Union, 2023 is the diamond jubilee year of the OAU, the continental body representing 55 member states that make up the African Continent. While the anniversary is being celebrated under the slogan, "Our Africa Our Future," at the heart of this year's celebration is the vision and implementation of the African Continental Free Trade Area (AfCFTA). The AU theme for 2023 is Acceleration of AfCFTA Implementation.*

Once fully implemented, the trade pact will create the world's largest free trade area for goods and services across member states and deepen economic integration within the continent. The trade area created by this agreement is expected to have a combined gross domestic product of approximately USD3,4t.

Adopting AfCFTA is also expected to enhance mobility bringing transformative change and tremendous economic and business opportunities. According to the World Economic Forum, AfCFTA will provide investors unparalleled access to a population of 1,7 billion people and consumer spending reaching USD6,7b by 2030. The report highlights automotive; agriculture and agro-processing; pharmaceuticals; and transport and logistics as the four sectors expected to see a rapid acceleration in production and trade volumes, given they have a high potential to meet demand with local production.

Currently, intra-African trade accounts for approximately 14% of total trade in Africa, compared to significantly higher percentages achieved by Europe, North America, and ASEAN, which have reached intra-regional trade levels of around 60%, 40%, and 30%, respectively. To address this disparity, AfCFTA aims to facilitate the growth of intra-African trade by eliminating trade barriers, harmonising trade rules, and fostering synergies among African nations.

"Goods do not move independently," says George Asamani (pictured), MD, Sub Saharan Africa, PMI.

"Infrastructure is among the key elements essential to making AfCFTA work effectively. The development and improvement of power, transport, and communications infrastructure and the establishment of efficient road, air, port, and rail networks are crucial for enabling seamless trade facilitation and promoting economic integration."

South Africa, the continent's most industrialised economy,

is the largest intra-African trading nation, accounting for around 20% of total trade. After recording the fastest growth rate in 2021, Southern Africa's share of intra-African trade increased to account for more than 44% of total intra-African trade.

The Southern African region is represented by Mauritius, which joins Cameroon, Egypt, Ghana, Kenya, Rwanda, Tanzania, and Tunisia in AfCFTA's Guided Trade Initiative (GTI). The GTI seeks to allow commercially meaningful trading and to test the operational, institutional, legal, and trade policy environment under the AfCFTA. At least 96 products will be traded under the GTI, and the initiative will be reviewed annually to expand the list of countries.

"Increasing intra-African trade will bring numerous benefits to the continent, such as industrialisation, economic diversification, and the development of natural resources, commodities, and agricultural produce. However, it is important to acknowledge that this growth will significantly burden the associated infrastructure like roads, railways, power, ports, and telecommunications," adds Asamani.

There will be substantially increased demand for new industrial parks and Special Economic Zones. These parks need to be financed and built."

The African Development Bank estimated that Africa needs infrastructure financing of USD130-170b annually (pre-Covid), given its rapid population growth and urbanisation. South Africa's infrastructure investment gap will reach USD293b by 2030 unless it increases investment to meet the targets set under National Development Plan.

"It is abundantly clear that AfCFTA is the cart, and infrastructure will be the horse that pulls it forward. Megaprojects will be crucial to the future of AfCFTA, but the problem is that these projects often go off the rails, either regarding budget or time—or both. For AfCFTA to succeed,

Africa must engineer a skilling revolution. Never have the stakes been so high to ensure the timely execution of projects, concludes Asamani.

"There is a pressing need for competent and qualified project managers to deliver projects to a high standard, as efficiently and effectively as possible. As these projects come to fruition, they will contribute to the acceleration of AfCFTA by facilitating smoother trade flows, enhancing connectivity, and driving economic growth in South Africa and across the African continent."

According to the latest research conducted by the Project Management Institute (PMI), effective project management practices have significantly improved project success rates. The PMI Pulse of the Profession report highlights the value of project managers in navigating complexities, mitigating risks, and seizing opportunities, ultimately ensuring the seamless execution of initiatives. "Given the scope and

objectives of the AfCFTA, it is crucial to identify and develop the project management skills needed to support its successful implementation and operation. At the PMI Africa Conference, we are bringing together industry experts and stakeholders to share their views and insights on building a skills base that is equipped to execute on the significant opportunities presented by the pact. We are hopeful that the discussions will inform policy decisions, facilitate collaboration between public and private sectors, and place more project professionals in leadership roles within AfCFTA," concludes Asamani

The highly anticipated PMI Africa Conference will take place from 10-12 September in Nairobi, Kenya. It will focus on skills transformation, youth empowerment, women in project management, and accelerating Africa's infrastructure development under the theme - Africa, We Want: Together We Can. ☺

## EARTHQUAKE-PROOF 3D CONCRETE PRINTED HOUSES ON THE CARDS FOR SA

As South Africans ponder this week's unprecedented earthquake in Johannesburg, the South African Housing & Infrastructure Fund (SAHIF) announced today that the innovative 3D concrete-printed homes it plans to roll out in South Africa can withstand seismic activity.

This roll-out is possible due to a joint venture announced in June between SAHIF and Dutch construction technology company CyBe Construction, a leading provider of 3D concrete printers and earthquake-proof material.

SAHIF CEO Rali Mampeule says this week's earthquake in Johannesburg further illuminates the country's need for resilient, sustainable and quality housing.

"The demand for affordable quality housing in South Africa far outstrips the supply. We can better address this challenge by reducing the cost of materials and labour, speeding up the construction process, and improving the quality of the finished houses. Not only are 3D houses more affordable and time efficient to build, but we know they are durable enough to withstand the kinds of seismic forces that surprised us all this week," says Mampeule.

The cornerstone of constructing these resilient structures

lies in advanced design principles and materials selection. 3D concrete printing allows architects and engineers to work in unison to design and create buildings that can absorb and dissipate the energy produced during seismic events. These aesthetically pleasing houses are structurally sound, incorporating earthquake-resistant materials such as steel and polymer.

Integral to this innovation is the CyBe Mortar, a high-strength, earthquake-resistant concrete specifically formulated for 3D printing. Coupled with the option to use enhanced graphene polymer from UK manufacturer 2-DTech, these advanced materials promise superior durability and flexibility, making them ideal for constructing earthquake-proof homes.

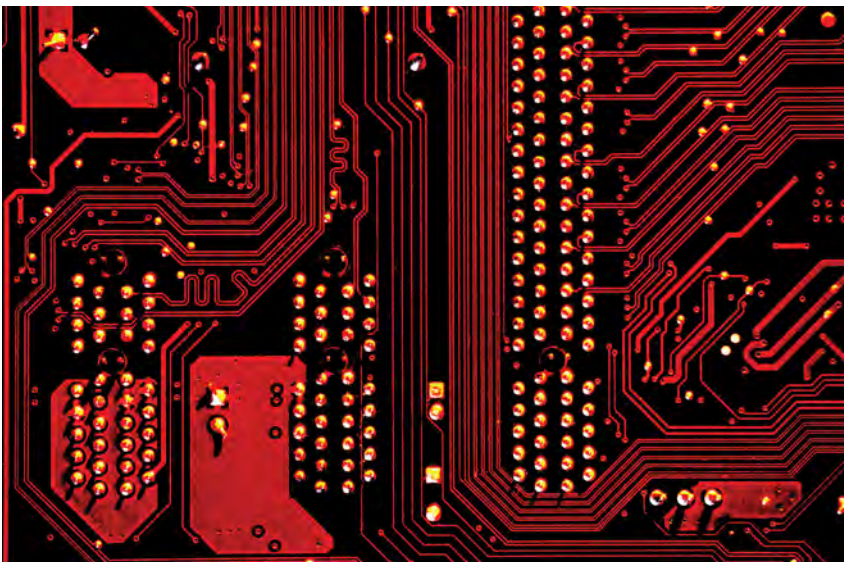
Statistics SA's 2019 General Household Survey shows that almost 13% of the 59 million population lives in informal settlements. An estimated 2,5 million affordable homes are needed to solve the shortage, which is increasing daily.

Mampeule says their partnership's mission to provide affordable and rapid housing solutions is bolstered by the successful on-site training using CyBe's mobile 3D concrete printer at the University of Johannesburg.

"This technology demonstrated its capacity to construct a complete house within just five days, marking a significant stride towards addressing the country's pressing housing deficit," said Mampeule. "Introducing these innovative 3D-printed, earthquake-proof homes offers a sustainable solution to the country's housing shortage and reassures residents of their safety."

As SAHIF continues to pioneer the housing sector in South Africa, Mampeule says this joint venture can revolutionise the construction landscape.

"We have a significant housing deficit, a problem that has persisted for many years. With the blueprint for resilient, cost-effective housing at their fingertips, we can accelerate constructing a safe and secure future for all our citizens," Mampeule concludes. ☺



## About the SACPCMP

**T**he South African Council for the Project and Construction Management Professions (SACPCMP) is a statutory body established, through an act of Parliament. It derives its mandate from Section 22 of the Constitution of the Republic of South Africa and was established by Section 2 of the Project and Construction Management Professions Act (No. 48 of 2000,) “to regulate Project and Construction Management Professionals to protect the public”.

The Council, which is self-funded, protects the public by identifying the type and scope of work, registering professionals and maintaining a national register of professionals who adhere to a Code of Conduct.

**SACPCMP Registered Persons are the principal agents on all sites, determining the selection of other agents required for the progression and continuation of all construction-related projects.**

The SACPCMP is a juristic person established by the Project and Construction Management Professions Act (Act No.48 of 2000) to “provide for the registration of professionals, candidates and specified categories in the project and construction management professions; to provide for the regulation of the relationship between the South African Council for the Project and Construction Management Professions and the Council for the Built Environment; and to provide for matters connected therewith”.

### Mandates of the SACPCMP

1. Identification of Work
2. Guideline Professional Fees
3. Continuous Professional Development
4. Accreditation of Built Environment Programmes
5. Code of Conduct for the Professions
6. Professional Registration
7. Recognition of Voluntary Associations
8. Recognition of Specified Categories
9. International Agreements
10. Recognition of Prior Learning
11. Standard Generation
12. Appeals and Tribunals
13. Competency Standards for Registration

# The Importance of Utilising Registered Professionals

## Public Recognition by a Regulator

Being listed on a national register (database) signifies that the professionals you employ are properly qualified in accordance with prevailing legislation. The register is available to the general public and private bodies for confirmation of a professional's status.

## Proof of Competency

Registration means that your client or employee is competent; having been independently attested, the registered professional is duly verified and accepted by an impartial statutory body in the fields that they are deemed to be competent in.

## Proof of Continuous Excellence

Because registered professionals are required to be CPD compliant, they are continuously sensitised to considerations of industry-related practices, public health, safety, environmental protection etc.

## Recourse for Unethical Behaviour

Employers understand that a transgressor of the code of conduct can be removed from the public register in order not to sully the reputation of unlicensed practitioners where actions of misconduct or conduct unbecoming are proven.

## Employer Surety

Employers have the surety that Registered Persons' knowledge of their commitment as a professional is to the highest ethical standards as prescribed by the code of conduct and disciplinary procedures.

## How to Register via the SACPCMP

### Construction Health and Safety:

<https://mychs.sacpcmp.org.za>

### Construction Project Management

<https://mypcm.sacpcmp.org.za>

### Building Inspectors:

<https://mybi.sacpcmp.org.za>

### For details on

open days & events,  
registration fees,  
registration requirements  
or registration processes,  
visit:

[www.sacpcmp.org.za](http://www.sacpcmp.org.za)

To contact the  
SACPCMP, email:  
[admin@sacpcmp.org.za](mailto:admin@sacpcmp.org.za)

# SUN CITY EMPOWERS FEMALE-LED CONSTRUCTION COMPANY AS VACATION CLUB EXPANDS

*The pandemic may have caused Charlotte Mosito's (in the middle below) one-year-old construction company to stumble. Still, her perseverance has paid off after the 31-year-old businesswoman was awarded part of Sun City's Vacation Club's expansion project.*



**A**CPKM Services is the principal contractor for the Sun Vacation Club's phase 3 Lefika Villas; they are responsible for building the reception and recreational areas. The first phase of development of Lefika Villas started in October 2022; upon completion, it will comprise 48 three-bedroom villas and 10 four-bedroom villas, providing accommodation for an additional 400 guests. There is also "The Face of Lefika", called the Recreational Facility, which will be the first point of contact with a natural ambience where guests will arrive for check-in, get to relax, read a book in the lounge, dine at the restaurant and enjoy a swim in the pool while the kids enjoy and explore the surrounding play areas.

Before this big win, CPKM had done several small projects such as storm water drains and road reconstruction as a sub-contractor at the JST Hospital in Rustenburg as well as indoor security fencing installations for all NHC Medical branches in Gauteng Province. Charlotte expressed that she's always on course and knocked on many doors seeking more rewarding opportunities; needless to say, "The Sun City project is massive and will boost my profile", she said.

## A steep learning curve

Mosito spent endless holidays at the resort as a child, clearly the finest in her home province. As a young adult, she managed a sunglass shop called Sunglass Boutique from 2017 to 2019 in Sun City's Sun Central. "My love for Sun City has been passed down to my nine-year-old son, who has a keen interest in the project, even though he doesn't fully understand the magnitude of it."

She has always had an interest in running her own business and is fascinated with infrastructure, and inevitably decided to venture into the world of construction. "I have always been intrigued by building something from the ground up and leaving behind a legacy for future generations. I acquired a strong basic foundation in Engineering Graphics and Design during my school years, which sparked my interest in pursuing

further education in the construction-related fields. I am keen on expanding my knowledge in this domain and exploring avenues that will enable me to develop my expertise in this area", She's also recently completed a short course programme in Construction Management at UCT.

With several successful female mentors, Mosito drew on their experience and guidance to prepare herself to work in the male-dominated construction industry. "I was prepared for long days and the fact that projects I bid on do not always land, meaning cashflow must be carefully managed." Here, her BCom Business Management from Unisa and the Construction Management short course from UCT have come in handy as they allow her to manage her company skillfully.

"There are days when I've been challenged, but I never give up. I network with other successful businesswomen and men on social media to

create opportunities."

## Local involvement

Meetings with architects are underway, and Mosito is working with all parties to ensure a superior development bolsters the province's tourism. The deal included a provision that 30% of the build value must be allocated to local contractors, which is the case with CPKM Services.

"This arrangement will see skills transferred, helping them to secure further work opportunities in the future. The bulk of workers will come from Moses Kotane municipality, and staff will also be sourced from the Sun City door-step communities," said Tebogo Mokgejane, Sun City's Socio-Economic Development and Stakeholder Engagement Manager.

CPKM Services had two permanent and four part-time employees, which has grown to 22 employees to meet the project's requirements.

Lefika Villas is an extension of Sun City's perennially popular Vacation Club. It proves that the resort is putting its money where its mouth is in terms of women empowerment and local community development. Mokgejane said that by including women and youth from local communities in the project, Sun City affirmed its Local Socio-Economic Development Strategy. "We are pleased to contribute to eradicating poverty and improving the sustainability of the local economy through skills development and job creation."

"It will be a legacy that will be remembered for years," said Mokgejane of the project, which was officially handed over to CPKM on 21 November 2022 by Sun City General Manager Brett Hoppé.

Abe Magashoa, Local Economic Development (LED) manager from the Moses Kotane Municipality, where Sun City is located, said the planned upgrades were an exciting progression for the popular resort. "We are grateful to Sun City for continuing to grow tourism in the area with this most recent investment," he said. ☺



# VILLAGE WALK TO BOOST THE SUCCESS OF MIXED-USE OLD EAST PRECINCT

*Leading South African property investor and developer Atterbury has embarked on a project to link two of its already successful retail precincts in Hazelwood, Pretoria, with a vision to create a connected urban retail experience with a unique character.*

**T**he Village Walk will connect The Village – an eclectic food, drink and leisure hub – on 16<sup>th</sup> Street with The Club precinct, which stretches between Hazelwood and Dely Roads.

The heart of the Village Walk development will be the pedestrian walkway linking The Village to the Club Precinct. This will enable easier and more fluid movement between the two hubs while providing a unique attraction in the form of restaurants and boutique retail stores along the way.

Charles-Louis Herbst, Atterbury's development manager for Village Walk, explains, "The new development will create both a conceptual and a physical link between the rustic and organic Village feel and the more structured Club Precinct."

The Village, The Club retail centre, Die Klubhuis and Club One office buildings, The Club Surgical Centre and the Advocate Chambers collectively form part of what is known as the Old East Precinct.

The newest addition to this precinct, Village Walk, will also provide much-needed additional structured parking. The link will make it safer for the public to park in a secure area with easy access to both The Village and The Club.

In total, the R52m development will introduce new gross lettable area (GLA) of 1 495 m<sup>2</sup>, of which 744 m<sup>2</sup> will be restaurants and 1 030 m<sup>2</sup> retail, and 80 new parking bays.

Village Walk is inspired by the character of the Old East Precinct, which combines the best of urban and suburban life with unique charm, giving communities a 'village' feel within an urban setting.

"The guiding philosophy is one of creating a design and mix of tenants unique to the feel that The Old East precinct provides, setting it apart from conventional offerings," says Herbst.

The design strives to link the Village and Club precincts, but at the same time to be its own particular offering which blends

inspirations from the two. The resulting aesthetic is a blend of modern, rustic, vintage and industrial designs, expressed through a combination of different materials such as exposed brickwork, metal sheeting, stone walls, wood panelling and open truss roof designs.

At street level, this is integrated with hard and soft landscaping along the route to soften the lines of the buildings. As Village Walk is essentially about its public space, the public experience of the linking walkway will be enhanced by means of seating areas, courtyards between the buildings, and public art. Rhino sculptures, by Angus Taylor, will be placed in the main courtyard as one of the key focal points.

Many of the retail offerings will be local, trendy brands with unique product offerings and business growth potential. "Several of these tenants are young entrepreneurs with visions to grow and build their businesses," says Herbst.

The Atterbury team believes that Village Walk will have a massive benefit for the overall precinct.

"Once the precincts are connected, the Village, Village Walk and The Club will reinforce its position as one of the most attractive mixed-use precincts in Pretoria with its unique location, design and offerings. The added parking and ease of access will further boost its appeal as a destination," says Herbst.

Its success rests on the fact that it provides something different – both new and true to itself – in its design and retail offerings.

Construction on Village Walk commenced in February this year. Fit-outs are scheduled to start for the restaurants in August, with retail stores following thereafter.

Completion and the commencement of trade are expected by mid-November 2023, right on time for the summer holiday season. ©



## 30 GW OF WIND ENERGY PROJECTS IN DEVELOPMENT PIPELINE

*Working together with the country's State Utility, SAWEA (South African Wind Energy Association) and SAPVIA (South African Photovoltaic Industry Association) joined forces with this key energy stakeholder to execute an in-depth study that will support enhanced grid planning as well as the strengthening and expansion of this critical infrastructure.*

Results of this Renewable Energy Grid Survey, at a presentation on 6 June 2023, clearly demonstrated the commitment from industry to help drive the country's new power generation, revealing a pipeline of 66 GW of renewable energy projects under development, inclusive of all technologies.

Additional opportunities for market growth have been clearly revealed by a consistent stream of new wind projects being developed. The survey results further demonstrated the growing trend of wind and battery storage projects under development, with 21 GW of wind and 7,5 GW of wind and battery storage in the pipeline.

"This survey offered a valuable opportunity for the renewable energy industry to shape and influence grid planning, really considering the balance between grid expansion and grid optimisation. The results clearly indicated a good penetration of future wind power development across the wind map," said Niveshen Govender, CEO of SAWEA.

Looking specifically at future wind projects, short-term (2024-2026) development is located predominantly in the Cape and Hydra Cluster regions. However, this pattern shifts when looking at the medium term (2027-2029), when new wind power generation projects seem to dominate across the KwaZulu Natal and Mpumalanga Provinces.

"We now have clear market intelligence that shows stable and constant growth in wind projects being developed in South Africa, despite challenges, indicating hope and investor interest. It is vital for investors, both local and

global, to view South Africa as an investment destination for renewable energy to ensure that we achieve the desired impact for growth and development of our economy," added Govender.

Through the presentation, it was evident that curtailment is essential for future development, as with all markets that have high penetrations of renewable energy. As SAWEA has advocated, by pairing wind and solar power plants, a single transmission connection point can be used more effectively, matching renewable energy generation profiles with energy demand. This provides the country's national grid network operator (Eskom), with an increased uptake of power at a particular point. Considering that it has been proven in global energy markets that co-location of wind, solar PV and energy storage technologies offer more stable, predictable and dispatchable power output, the option of shared grid connections makes sense in the efforts to optimise the current grid infrastructure.

"The survey has reinforced the need for co-location and a curtailment framework to ensure new generation capacity and Eskom acknowledged this prerequisite to increase the supply of renewable energy going forward. The curtailment regime needs to be well thought out and well managed within the contractual structures to ensure positive outcomes. Furthermore, the overwhelming majority of industry responses indicated a willingness for curtailment in grid-constrained areas with many suggesting up to 5% being acceptable – this is very much in line with international examples," concluded Govender. ©

# SILENCING STRESS: THE IMPORTANCE OF ACOUSTIC COMFORT IN THE HOME

*Sensory overload is a condition where an individual's senses are overloaded with excessive stimulation, which can lead to feelings of stress, anxiety, and discomfort. This is particularly relevant in the context of acoustic comfort in the home, as excessive noise levels can contribute to sensory overload and have a negative impact on our health and well-being. By Carol-Anne Grimshaw, Sector and Market Intelligence Manager at Saint-Gobain Africa.*

Research studies have shown that excessive noise levels can have a significant impact on our physical and mental health. For instance, a study published in the *Journal of Environmental Psychology* found that noise-induced stress can lead to higher levels of cortisol, a hormone associated with stress and anxiety, in the body. Furthermore, noise pollution has been linked to sleep disturbance, which can have negative impacts on our immune system, mood, and cognitive function. A study published in the *Journal of Occupational and Environmental Medicine* found that exposure to high levels of noise in the workplace was associated with an increased risk of cardiovascular disease. The study also found that the risk of cardiovascular disease increased with the duration of exposure to noise, highlighting the importance of managing noise levels over time.

In addition, research has shown that excessive noise levels can have negative impacts on our cognitive function and productivity. A study published in the *Journal of Applied Psychology* found that noise in the

workplace can decrease performance on complex tasks, as well as increase the likelihood of errors and decrease the quality of work.

By prioritising acoustic comfort in your home, you can effectively reduce the risk of sensory overload and its negative impact on your health and well-being. Saint-Gobain offers a range of acoustic solutions, including Isover Insulation, Gyproc Ceilings and Dry Walling Solutions, and Ecophon panels, specifically designed to minimise unwanted noise levels and create a peaceful and comfortable living space. One significant step towards enhancing acoustic comfort in your home is by insulating your ceiling with Aerolite® Soft Touch glasswool. Not only does it improve acoustic comfort, but it also complies with the legislated thermal comfort standards outlined in SANS 10400-XA Building Standards for Energy Efficiency. By creating an environment that promotes relaxation, rest, and productivity, you can significantly reduce the risk of sensory overload and elevate your overall quality of life. ©





## WORLD-CLASS STATUS RE-AFFIRMED AT AFRISAM LABORATORY

*Keeping its product development and customer service at world-class standards is the ongoing focus of construction materials leader AfriSam, and the recent recertification of its laboratory bears testimony to its success.*

Part of AfriSam's well-respected Centre of Product Excellence (CPE) in Gauteng, the specialised cement and materials laboratory plays a vital role on many fronts. Not only does it help to ensure product quality but it also contributes to the continuous innovation of solutions for customers. According to Mike McDonald, CPE Manager at AfriSam, the laboratory was recently recertified for a five-year period in terms of the South African National Accreditation System (SANAS), supported by a stringent process that requires surveillance audits every 18 months.

"Recertification is a challenging process which we always rate as a significant milestone," says McDonald. "It requires a real commitment from everyone – from senior management through to all our laboratory staff – and demonstrates our common commitment to going beyond the ordinary to keep ourselves aligned to global standards of excellence."

### Mitigating risk

Adding to the onerous process this year has been the move by SANAS to the new ISO/IEC 17025:2018 management requirements, which introduced a risk-based approach internationally, he explains. The SANAS certification therefore now requires laboratories to consider a range of risks, and to apply measures to manage these risks.

"For instance, protecting the anonymity of test-work is an area that has received much attention," he says. "The standard requires measures that ensure no bias arises in the testing – even from prior relationships between laboratory staff and a company submitting materials for testing. The AfriSam laboratory therefore has a numbering system, so that the analyst will not know the source of the samples they are working on."

SANAS certification also means that every test is backed up by a proficiency scheme; this means that AfriSam seeks out other laboratories with similar standing to run comparative tests for all testing for which it is accredited.

This is an important benchmark to ensure that results are always trustworthy.

### Training up

"As part of the recertification, our alignment with SANAS guidelines from ISO/IEC 17025 meant considerable internal and external training for our laboratory staff, who number over 15," he says. "This ongoing development of skills in evolving best practice is vital to keeping our services at the cutting edge."

McDonald highlights that the laboratory is a key resource within the CPE, which in turn delivers a total package of customer and product support through AfriSam's technical consultants.

"A large part of our laboratory's value is its specialisation, allowing us to focus on elements such as cement, concrete, aggregate and admixtures," he says. "It is one thing to design a theoretical concrete mix for a customer through a desktop study, but quite another to practically verify the outcome in our laboratory."

He points out that the SANAS certified laboratory allows AfriSam to confirm the veracity of mix designs, using customer's site-specific materials and quantifying the results, paving the way for customers to make reliable and informed operational decisions. The benefits are significant, given the costly process for concrete product manufacturers, for example, to test new mixes on a trial-and-error basis. The risk of rejects carries considerable losses in terms of material, labour and waste that must be removed from site. He highlights that using the laboratory for testing streamlines this process and defines more predictable outcomes.

### Technology

The specialised equipment in AfriSam's CPE laboratory includes a micro calorimeter, to monitor and analyse heat

*The laboratory is a key resource within the CPE, which in turn delivers a total package of customer and product support through AfriSam's technical consultants.*



*The laboratory continues to conduct a range of tests for contractors and other concrete users who encounter issues on site and need expert help in resolving them.*



*A large part of the laboratory's value is its specialisation with specific focus on elements such as cement, concrete, aggregate and admixtures.*

evolution of a sample in real time, making it a powerful technique for in-depth characterisation of cement and admixture interaction. This allows different mixes, admixtures and conditions to be tested, providing valuable predictions on how concrete will behave in mass concrete applications like foundations.

"Among our other specialised instruments that set our laboratory apart is equipment for thermal gravimetric analysis (TGA), for measuring material weight in micrograms while heating it to over 1 000 degrees Celsius," he explains. "This gives us detailed data on mass losses at various temperature points, which allows us to go a step further than most laboratories in developing critical insights for complex investigations that benefit customer applications."

The laboratory's range of technology and expertise has proved useful in various projects, including a recent initiative to help a concrete product manufacturing customer reduce cost of production and carbon footprint by using cement heat of hydration to augment their curing process.

"Looking even beyond the materials they use, we have assisted customers in adjusting their overall production process – using smart concrete mixes with very successful results," he says. "Where coal-fired boilers are used for creating steam for curing, for instance, we have been able to assist with solutions that require lower temperatures in steam curing, and in some cases actually do away with steam completely in the curing phase."

### **Cement testing**

AfriSam's position as a leading cement manufacturer and innovator in South Africa also feeds into the laboratory's depth of expertise, developed over decades of scientific and field studies. Among the company's experts enhancing the work of the CPE are Product Professional (Cement) Grizelda du Toit and Concrete Application Specialist Rajen Naidoo. With a PhD in cement chemistry, Du Toit specialises in the activation of fly ash in a cement matrix, while Naidoo shares with customers more than three decades of experience in the quality control of readymix.

"I don't think there are any other laboratories in the country with this kind of knowledge base and industry experience, which are readily available to customers when they need assistance," he says.

In the context of a global drive to reduce carbon dioxide emissions across industry sectors, cement manufacture is associated with about 8% of anthropogenic carbon emissions. AfriSam therefore has a concerted focus on developing durable cement products with a lower carbon footprint – using less clinker through the judicious use of alternative materials such as fly-ash and slag.

"Leveraging the capabilities of the CPE and our specialised laboratory, we make continuous progress in this regard, including a product with a carbon footprint of less than 40% of an ordinary Portland cement," he says. "In fact, we have quantified the carbon footprint of each product, and we print this on the bags for customers to see."

A key focus of the laboratory is therefore on cement testing, including expert cement analysis for internal use by AfriSam's production departments. This extends from oxide analysis using X-ray fluorescence technology, physical testing of cement fineness and strength, and testing for gypsum content – all within the SANAS-accredited system.

### **Investigations**

"We continue to conduct a range of tests for contractors and other concrete users who encounter issues on site and need expert help in resolving them," he says. "A recent interesting project was to investigate a failure of the plaster being used in a construction contract. Through our laboratory, we were able to analyse the constituent materials and determine that the cement content in the plaster was not what had been specified in the mix design; the cement and fly-ash component had been reversed by mistake."

McDonald concludes that the SANAS recertification of AfriSam's laboratory reassures the industry and customers that the company remains committed to upholding global standards. This is good news for the quality of cement and concrete on projects, and raises the bar once again for the construction materials sector. ©

# SUPPORTING CONTRACTORS' GREEN AMBITIONS

*With the trend towards green buildings, contractors are expected to support their customers in reaching sustainability goals; AfriSam's product range has been evolving with this front of mind.*

Decades of innovation in terms of environmental responsibility and carbon reduction have put AfriSam out front, according to Hannes Meyer, Cementitious Executive at AfriSam. The company was one of the first to develop its own sustainability road map, and this is now paying off for customers.

"The sustainability drive in the construction sector is gathering momentum," says Meyer. "The carbon footprint of construction materials is where contractors can make immediate gains when looking to align a project with more stringent environmental standards."

Meyer points out that the company has made continuous progress in fields such as energy efficiency, cement extenders, water conservation and biodiversity. This allows customers to procure products in the knowledge that the environmental and carbon impact is minimised.

"We give our customers the opportunity to support a more sustainable future for the sector by choosing construction materials that embody this commitment," Meyer explains. "We do not just set theoretical targets for environmental performance; we are practical about what we can achieve, because we have been innovating on this front for so long."

This is in clear contrast to a significant level of 'green-washing' in this sector, where many companies advertise a sustainable approach but without credible evidence of how their targets are to be achieved. Since 1990, AfriSam has been able to reduce the volume of carbon dioxide emissions per ton of cementitious material by 33%.

In a carbon-intensive industry like cement manufacturing, it is difficult to reduce the carbon impact without a depth of expertise and constant investment in innovation, says AfriSam Process Engineer Marieta Buckle. It is also important to consider the cost implications of any changes, given South Africa's need for a just transition to a sustainable future.

"In our position as a developing country, our future will demand the construction of millions of houses –

structures that require considerable quantities of cement," says Buckle. "The way we pursue our just transition must take into account the affordability of these homes for the vast majority of citizens."

AfriSam has therefore been cautious in how it sets and publicises its sustainability targets, while all along continuing to prioritise research and development into how to achieve lower carbon products. Having considered a wide variety of options available, it has implemented strategies that have the least cost impact on customers and the market. ☉



*"The carbon footprint of construction materials is where contractors can make immediate gains when looking to align a project with more stringent environmental standards."*

# CCSA GUIDELINES ON THE SAFE USAGE OF CEMENT AND CONCRETE

*Concrete is the world's most widely used building material, and workers in every sector of the construction and precasting industries, as well as DIY enthusiasts, handle portland cement and wet concrete every day. But, as with many building materials, there are noteworthy potential risks involved in handling or working with cement or cement mixes, says Bryan Perrie, CEO of Cement & Concrete SA (CCSA).*

Perrie says when dry cement is exposed to water a chemical reaction called hydration takes place, resulting in an alkaline mixture that can be caustic. "This could cause alkali burns on the skin so safety measures should be observed to prevent fresh concrete or its bleed water contacting the skin," he cautions.

To prevent roughness and dryness of the hands after exposure to cement, and protect against accidental skin exposure, appropriate protective equipment such as impermeable gauntlet type rubber gloves and high length rubber boots is recommended. Trousers should overlap the boots rather than be tucked into them.

"Hydrophobic alkali-resistant barrier creams should be applied to the hands and any areas of skin likely to be in contact with fresh concrete. Ordinary barrier creams will not offer adequate protection. Furthermore, these precautions may be ineffective if the skin itself is not clean and free of concrete residue. Even a tiny trace of cement dust remaining in contact with wet skin could burn the skin so it is recommended that disposable gloves be used on site."

Perrie says other organic body tissue (for example, mucous membrane) can also be attacked by strong alkalis, leading to burns.

"The use of cement inevitably creates dust, as from operations such as handling aggregates or cutting concrete. This dust is suspended in the air in the working area and inhaled by people on site, potentially causing irritation of the nose and throat, as well as eyes. So, airborne cement dust should be kept to a minimum but should this be impractical, goggles and dust masks should be worn.

"Many of the aggregates used in concrete have high silica contents. The fine silica dusts created when crushing or handling these aggregates could cause lung problems, and precautions should be observed to avoid breathing in such dusts.

"Dust from demolishing or cutting hardened concrete may contain unhydrated cement and could cause respiratory problems. In addition, if the coarse or fine aggregate used in making the concrete contains crystalline silica, inhaling these fine silica particles could expose workers to occupational lung disease. The use of suitable respiratory protective equipment such as dust masks is recommended," Perrie adds.

He adds that particular care should be taken to ensure that:

- Normal and protective clothing does not become

soaked with wet concrete or concrete fluids as this could result in extended exposure leading to skin tissue damage that can be severe; and

- Workers do not kneel on fresh concrete during placing, compacting and finishing operations. If kneeling is unavoidable, thick waterproof kneepads should be worn and a kneeling board used to prevent the pads sinking into the fresh concrete.

"Protective clothing should also be regularly and properly washed to keep it clean and free of concrete. Any areas that have been accidentally splashed with wet concrete should be rinsed clean with water as soon as possible," Perrie states.

"Guide to the safe use of portland cements and concrete", a free leaflet that identifies the areas of risk, provides guidance on how to avoid unprotected exposure, and outlines basic first aid procedures, can be downloaded free of charge from the CCSA website: [www.cemcon-sa.org.za](http://www.cemcon-sa.org.za) or email [info@cemcon-sa.org.za](mailto:info@cemcon-sa.org.za) for more information ©



# VHEMBE DISTRICT MUNICIPALITY HARNESSES PRECAST-CONCRETE TECHNOLOGY

*Vhembe District Municipality has harnessed the many benefits of precast concrete to deliver critical infrastructure faster than would be possible using conventional cast-in-place methods. The absolute control provided by prefabricated concrete also facilitated a higher quality final build.*

The technology was successfully deployed on components of the upgrade of the Vondo Regional Water Scheme, which will provide a reliable and secure source of drinking water to about 500 000 people who reside in Phiphidi.

Located along the road to Sibasa to Nzhelele, the scheme consists of the Vondo Dam and water-treatment works (WTW). From here, water is pumped to two command reservoirs that supply specific areas within the scheme. Water is also pumped and gravitated to the WTW from two other reservoirs where it is distributed to various areas.

Infraburo Civil and Structural Consulting Engineers, a leading consulting engineering firm, commenced with the preliminary design of the upgraded scheme in 2012. In 2017, the construction work went out to tender and was awarded to Morawa Building and Civils, the principal contractor. The upgrade of the scheme is being financed by the Municipal Infrastructure Grant.

The project entails upgrading the WTW and associated infrastructure. This includes the gravity-feed pipeline from Vondo Dam, as well as a pipeline from the WTW to a command reservoir. Moreover, a new command reservoir was constructed and work on the second water retaining structure was recently completed. This is to supply the 10 Mℓ daily water demand with an additional 10 Mℓ of water held in reserve. The construction of the two reservoirs was undertaken in phases. One of the reservoirs had to be commissioned before an existing water-retaining structure could be demolished to make space for the construction of a new reservoir on the restricted site.

This is where the municipality is successfully exploiting the benefits of prefabricated concrete technology.

Vhembe District Municipality is now one of many South African municipalities to use a unique precast concrete system to construct these technically complex structures.

The reservoirs were designed by Infraburo Civil and Structural Consulting Engineers and Corestruc, one of the country's foremost precast-concrete companies. Corestruc was also tasked with erecting the system while working alongside principal contractor, Morawa Building and Civils. The various precast-concrete elements that make up the system were manufactured by Coreslab, one of Corestruc's approved manufacturers.

The first reservoir was erected in record time. It has passed all relevant tests and has now been operating successfully for just under two years. The stellar performance of the reservoir to date further motivated the use of the technology to also build the second water-retaining structure.

Using this precast-concrete system, a 10 Mℓ reservoir can be completed in only four months, therefore, providing significant savings in construction costs for the client.

Using *in-situ* construction methods, it can take up to nine months to complete a reservoir of a similar capacity.

This is without any errors and the need to redo work. With conventional cast-in-place construction methods, work first commences with the floor slab. This is followed by the wall and columns for the roof structure. The process ends with the completion of the roof which, together with the wall, are the most complex aspects of the build.

However, Corestruc's system enables the various trades to work simultaneously. The wall and roof are manufactured while earthworks and site terracing, as well as the construction of the roof column bases are under way. This work is undertaken by the principal contractor.

Notably, the system facilitates greater participation of emerging contractors in these projects. Bear in mind their highly specialised nature with only a few contractors having the skills, experience and capacity to build cast-in-place reservoirs.

Morawa Building and Civils introduced Infraburo Civil and Structural Engineers to the system, noting the role it could potentially play in keeping this aspect of the work scope on track, while also providing two reservoirs of an unrivalled quality.

"We initially designed conventional pre-stressed reservoirs for this project. However, the principal contractor had undertaken extensive research into Corestruc's system and put forward the idea to use it to construct the two reservoirs. Although initially sceptical, I personally visited one of the company's approved manufacturers' factories and spent time with representatives of Corestruc to gain a greater understanding of the system. Needless to say, I was very impressed especially with the quality control processes deployed in the factory to ensure prefabricated concrete elements of the highest possible quality are used to build these structures. I thus motivated the use of the system to the client. Vhembe District Municipality was also already aware of the technology considering that it had previously been successfully deployed in several other municipal jurisdictions. The client, therefore, accepted my proposal," Rudolph Dippenaar, Infraburo Civil and Structural Consulting Managing Director, says.

Corestruc's technology consists of a reservoir roof and wall system.

Dispatched to site once the cast-in-situ bases have been completed, the roof columns are the first precast-concrete elements to be erected.

They are connected to the hold-down bolts in the column bases. Suspended precast-concrete beams are then connected to the dowels that protrude from the precast-concrete columns. Thereafter, hollow-core slabs are connected to the stirrups protruding from the precast-concrete beams.

Steel reinforcing is placed into the cores of the hollow-core slabs and these voids are then filled with in-situ concrete. By forming a composite mechanism with the infill

concrete, the stirrups act as mechanical interlocks.

Once the inner portion of the roof has been erected, the principal contractor is able to commence constructing the in-situ floor slab. The cover provided by the roof structure also facilitates optimal curing conditions.

At this stage, the individual wall panels are ready to be dispatched to site where they are placed on the ring beam that was constructed by the principal contractor.

The first panel is supported by a push and pull prop. For temporary stability, the wall is braced back to the roof structure. The steel brackets assist in holding the panels together and, therefore, eliminating the need for extensive propping to free up space.

Once all of the panels have been placed, unbonded cables are pushed through the polyvinyl sleeves in the panels. They are then grouted monolithically with the joints of the panels.

Hereafter, a grout is poured continuously in between the wall panels and horizontal cable sleeves. It is a high strength and flow grout with an extended pot life so that it does not segregate and set to early. These characteristics are achieved by manipulating the water-to-cement ratio of 0:37 with the use of admixtures. The water temperature is also reduced and controlled to act as a chiller in the mix. In addition, only cement, including an un-hydrated type that reacts with water to seal possible leaks, is used in the concrete mix.

The cables are stressed to 75% when the grout has cured to a strength of 80 MPa. This is undertaken via four precast concrete buttress panels that have been spaced along the perimeter of the reservoir.

The wall is then pinned by casting a 200 mm to 250 mm-high reinforced kicker on the wall footing on both sides of each

panel. Joints between the panels are grouted with a high-flow and strength grout and post-tensioning renders them in compression to achieve water tightness.

Corestruc uses a “slide-and-pinned” system. Post-tensioning is undertaken when the wall is not yet fixed to the ring footing and it is, therefore, allowed to slide on a steel bearing or locating plates. The coated post-tensioned cables are not bonded to the grout with the reservoir designed to maintain a residual compression of a minimum of 1 MPa in all directions. Horizontal reactions to the wall base are transferred to the ring foundation through the second phase cast in-situ kicker. This is where the ring tension in the base is also activated to resist the reaction. Additional post-tensioning of the lower part of the wall reduces the amount of rebar required in the cast in-situ ring footing.

As part of the final aspects of the build, the concrete floor slab is completed and the hollow-core slabs that make up the outer portion of the roof structure connected to the precast-concrete beams. A grout topping is then placed over the hollow-core slabs to form a single monolithic structure and a precast concrete coping installed around the perimeter of the roof as an aesthetic finish.

Dippenaar says that he was also very impressed with the ease at which the system was erected. “I do believe that Corestruc is at the cutting edge of this technology. It has absolute control over the entire precast-concrete value chain, spanning design and manufacture through to the extensive rigging capabilities required to erect these structures. Based on my experience working with this technology, I will not hesitate to recommend it again. I do believe that it is the future of reservoir construction,” he says. ☺



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# AFRIMAT TO ACQUIRE LAFARGE SOUTH AFRICA

*Leading mid-tier mining and materials company, Afrimat, recently announced the acquisition of Lafarge South Africa Holdings (LSA), including all its subsidiaries, subject to the fulfilment of conditions precedent relating to the receipt of customary regulatory approvals.*



characterising the entire portfolio being acquired.

The purchase price for the acquisition of the equity in the LSA Group is USD6m, with an additional amount of R900m towards repayment by or on behalf of LSA of an amount owing by LSA to the Holcim Group. The effective date of the acquisition is 10 business days after all the conditions precedent have been met.

Van Heerden adds that "Operational synergies between the two businesses are substantial, considering Afrimat's existing national footprint of aggregate quarries, readymix concrete operations and precast manufacturing operations, and we believe that the time is right to strengthen our Construction Materials division."

He went on to add, "Afrimat operates its Construction Materials

**L**SA Group, a member of the Holcim Group, is a provider of construction materials in South Africa, offering an extensive range of products to the construction and infrastructure industry, including aggregates, concrete, cement, and fly-ash.

The acquisition will be housed in Afrimat's Construction Materials division, which together with its subsidiaries (the Afrimat Group) supply a wide variety of aggregates and concrete-based products to the market, and the Afrimat Group, in response to customer demand, continues to focus on market and product development within this segment.

Speaking on the acquisition, Andries van Heerden, CEO of Afrimat said, "A key focus of Afrimat is our conscious operational efficiency initiatives, which are aimed at expanding volumes, reducing costs, and developing the required skill levels across all staffing categories. This exciting deal forms part of the Afrimat Group's ongoing diversification strategy and will increase Afrimat's offering in the construction industry, by expanding our quarry and readymix operations nationally and allowing for Afrimat to enter the cement value chain competitively."

Afrimat is highly cash-generative and effectively debt free, allowing this acquisition to be financed largely in cash. "We are confident that this acquisition is a good use of our cash reserves, and following the purchase, the Afrimat Group's balance sheet will remain healthy with debt levels well within our target range."

Core assets acquired consist of aggregate quarries, readymix batching plants, an integrated cement plant, cement grinding plants, cement depots, and high-quality fly-ash sources. The lime and aggregate sources are long-life assets, well-designed and all with good-quality plants and infrastructure

segment at a low and efficient cost, supported by ongoing efficiency projects. This philosophy will be applied to the acquisition, where we believe further efficiencies can be extracted, and build on our successful integration of similar transactions. Afrimat's Construction Materials division contains all the expertise and strategic management execution capabilities required to ensure successful integration and expansion of our products into the infrastructure and construction sectors of South Africa."

According to Van Heerden, management is confident that a sharp commercial strategy comprising operations, marketing, and logistics, will enhance the Afrimat Group's overall business strategy in the Construction Materials segment.

Van Heerden noted that "Afrimat believes the private sector will assist significantly in reducing the need for loadshedding over the next two years and that Government will, at the very least, realise that it needs to maintain infrastructure. This will greatly benefit the Construction Materials and Industrial Minerals divisions as Afrimat is well-positioned to provide the aggregates and products necessary for this infrastructure maintenance."

Van Heerden concludes that this acquisition is planned in accordance with the Afrimat Group's cash generation, operational expertise and capacity, and thorough market research. "I am confident that we have the marketing and logistics know-how, expertise, experience, skills and business acumen to inculcate all elements of this acquisition into our current businesses and continue to ensure the growth of Afrimat through diversification. As always, Afrimat will execute this exciting endeavour guided by the precision and cautiousness that we have come to be known for." ©

# WORLD-CLASS FLOORING FOR A WORLD-CLASS VENUE

*Nestled in the aptly dubbed ‘Valley of Dreams’, Franschhoek Cellar is a stunning addition to the region’s breath-taking wine route. Less than a kilometre from the town hall this unique, elegant venue combines the charm of country life with ultimate luxury and is a must-see for anyone visiting the Western Cape.*

Even paradise, however, is not without its flaws. Recently, issues arose around the wine cellar floor, which was deemed unbecoming of the world-class venue. Having crafted some of the world’s finest wines since 1990, DGB knows a thing or two about class. When it came to the complete refurbishment of the wine cellar floor, their instruction was clear: they wanted an elegant, high-quality, granite-grey finish - the perfect finishing touch to the otherwise pristine cellar. At this point specialist applicator, Botwei Projects, called upon Sika to assist.

On initial inspection, it was found that the existing floor was curling, delaminating, and riddled with bad joint specifications. As these were all very undesirable conditions, the floor’s poor state required a decision to be made whether to repair the existing flooring or redo it completely. After some deliberation, it was ultimately decided to strip 1700 m<sup>2</sup> of existing cementitious flooring completely. No easy task, but specialist applicator, Botwei Projects never shy away from a challenge. On top of that, the client wanted an additional 400 m<sup>2</sup> of flooring installed – a testament to the faith placed in the Sika brand.

Despite numerous obstacles and being tested under less-than-optimal conditions, Sika’s products rose to the challenge beautifully, thanks to the specialist team from Botwei Projects who ensured the perfect installation of all products. They began with the preparation of the existing floors using Sikadur®-52 ZA to seal all existing cracks, by means of gravity feed, a process by which a bead of sealant is used to create a reservoir around the crack, which is filled with the low viscosity resin, allowing it to slowly penetrate the crack, creating a robust permanent seal. Sika’s well known SikaGrout®-212 was used to quickly and easily fill all voids and defects. SikaGrout®-212 is a high strength cementitious grout with shrinkage compensation properties and is the go-to product on most projects, when repairs to high strength concrete is required. Additional repairs were undertaken using SikaQuick®-2500 which, true to its name, promotes very rapid hardening. This in turn allowed for early strength gain.

Sikafloor®-20 PurCem® was trowel applied at 6 mm. Sikafloor®-20 PurCem® is a high strength Polyurethane cement hybrid screed, with amazing characteristics. The product is odourless, non-tainting when used in food processing areas and thermal shock-resistant, when used in industrial freezers. The Sikafloor®-20 PurCem® polyurethane hybrid screed superseded the client’s expectations with its robust, yet elegant durable finish.

Finally, Sika® Primer-3N and Sikaflex® PRO-3® polyurethane joint sealant were used to prime and seal the joints, respectively.

Overall, the Sika products utilised



during this installation proved themselves superior once again, and the client was thrilled with the quality finish. Knowing that time was of the essence, the team endeavoured to get the job done without delay, while still refusing to compromise on quality.

All in all, the project not only met and exceeded the customer’s brief, but it also provided an elegant and world-class floor to match the world-class winery in which it resides. ☺

*Despite numerous obstacles and being tested under less-than-optimal conditions, Sika’s products rose to the challenge beautifully, thanks to the specialist team from Botwei Projects who ensured the perfect installation of all products.*

# 2023 TWENTY-SECOND BEST PROJECTS CALL FOR ENTRIES

**Construction World's** Best Projects showcases excellence in the South African building, civil engineering, supply and project management sectors. In its 22<sup>th</sup> year, the aim of **Construction World's** Best Projects is to recognise projects across the entire construction industry: from civil and building projects to professional services to specialist suppliers and contractors.

There are **SEVEN** categories in which to enter. Projects may be entered in several categories, provided they meet the prerequisites for entering each one, and meet the criteria.

**This competition is by submission only – it is judged solely by what you submit – so it is essential to take careful note of the entry requirements.**

## JUDGING

A panel of independent judges from the construction industry has been appointed. These judges represent ECSA, SAICE, MBA and CIOB.

Each criterion set out for the various categories, will be scored out of 10 – with 10 being the highest score and one being the lowest. It is therefore **VERY IMPORTANT** that the entry addresses the criteria for the particular category it is entering.

If a criterion is not answered, it will be awarded a medium of five points.

In each category a 'Winner' is announced as well as a 'Highly Commended Award'. A 'Special Mention Award' may be given.

## SPECIAL ISSUE

The December issue of Construction World is dedicated to the various winners and entries and is an overview of activity in the entire built industry during the past year.

Contact Erna Oosthuizen, the advertising manager, if you wish to advertise in this issue. Advertising here will associate your brand with excellence.

## How to submit entries

- Each entry must be accompanied by the **completed entry form**, available from [www.constructionworldmagazine.co.za](http://www.constructionworldmagazine.co.za) or by requesting it from [constr@crown.co.za](mailto:constr@crown.co.za).
- The maximum length for submissions is **2 000 words**.
- Each submission must clearly state which **category** is entered.
- **IMPORTANT** It is to the entrant's own advantage to address **ALL THE CRITERIA** as set out in the category being entered. If the criterion falls outside the scope of the contract, please state this. It is advantageous to use the criterion as subheader and then to address this directly.
- The written submission must be accompanied by up to **six high resolution** photographs with applicable captions.
- The photographs and copy must be submitted separately. The photographs must be .jpgs and the copy in Word (not PDF format).
- The submission must also contain a **summary of important project information** such as the client, main contract etc. – i.e. the professional team involved in the project.
- **Electronic submissions only.**

## Prerequisites for entry

All the categories have the same prerequisites (unless otherwise stated). These are:

- Only South African civil and building projects that are executed by locally based companies.
- Projects are eligible during the execution of the project and up to 18 months thereafter (within reason).
- Projects must be at least 50% complete at the time of entry.

## Awards evening

Information about the venue and date of the awards evening will be available in July.

## Entry form available on

[www.constructionworldmagazine.co.za](http://www.constructionworldmagazine.co.za)  
or by requesting it from [constr@crown.co.za](mailto:constr@crown.co.za)

## Contact

For more information contact the editor,  
Wilhelm du Plessis, on 011 622 4770 or [constr@crown.co.za](mailto:constr@crown.co.za)



<p><b>1</b> <i>Category</i> <b>Civil Engineering Contractors</b></p>	<p><b>2</b> <i>Category</i> <b>Building Contractors</b></p>						
<p><b>Please address the following criteria:</b></p> <ul style="list-style-type: none"> <li>• Construction innovation technology</li> <li>• Corporate Social Investment</li> <li>• Design innovation</li> <li>• Environmental Impact Consideration</li> <li>• Health &amp; Safety</li> <li>• Quantifiable time, cost and quality</li> <li>• Risk management</li> <li>• Motivation facts about the project</li> </ul>	<p><b>Please address the following criteria:</b></p> <ul style="list-style-type: none"> <li>• Construction innovation technology</li> <li>• Corporate Social Investment</li> <li>• Design innovation</li> <li>• Environmental Impact Consideration</li> <li>• Health &amp; Safety</li> <li>• Quantifiable time, cost and quality</li> <li>• Risk management</li> <li>• Motivation facts about the project</li> </ul>						
<p><b>3</b> <i>Category</i> <b>Civil Engineering and Building Contractors (outside South Africa)</b></p>	<p><b>4</b> <i>Category</i> <b>Specialist Contractors or Suppliers</b></p>						
<ul style="list-style-type: none"> <li>• In addition to the common prerequisites, projects outside South Africa must be executed by a <b>South African</b> contractor.</li> </ul> <p><b>Please address the following criteria:</b></p> <ul style="list-style-type: none"> <li>• Construction innovation technology</li> <li>• Corporate Social Investment</li> <li>• Design innovation</li> <li>• Environmental Impact Consideration</li> <li>• Health &amp; Safety</li> <li>• Quantifiable time, cost and quality</li> <li>• Risk management</li> <li>• Motivation facts about the project</li> </ul>	<p><b>Please address the following criteria:</b></p> <ul style="list-style-type: none"> <li>• Construction innovation technology</li> <li>• Corporate Social Investment</li> <li>• Design innovation</li> <li>• Environmental Impact Consideration</li> <li>• Health &amp; Safety</li> <li>• Quantifiable time, cost and quality</li> <li>• Risk management</li> <li>• Motivation facts about the project</li> </ul>						
<p><b>5</b> <i>Category</i> <b>Consulting Engineers</b></p>	<p><b>6</b> <i>Category</i> <b>Architects</b></p>						
<p><b>Please address the following criteria:</b></p> <ul style="list-style-type: none"> <li>• Construction innovation technology</li> <li>• Corporate Social Investment</li> <li>• Design innovation</li> <li>• Environmental Impact Consideration</li> <li>• Health &amp; Safety</li> <li>• Quantifiable time, cost and quality</li> <li>• Risk management</li> <li>• Motivation facts about the project</li> </ul>	<p><b>Please address the following criteria:</b></p> <ul style="list-style-type: none"> <li>• Construction innovation technology</li> <li>• Corporate Social Investment</li> <li>• Design innovation</li> <li>• Environmental Impact Consideration</li> <li>• Health &amp; Safety</li> <li>• Quantifiable time, cost and quality</li> <li>• Risk management</li> <li>• Motivation facts about the project</li> </ul>						
<p><b>7</b> <i>Category</i> <b>The AfriSam Innovation Award for Sustainable Construction</b></p>	<div data-bbox="810 1608 1481 1751" data-label="Section-Header"> <h1>Construction <small>WORLD</small></h1> </div> <div data-bbox="810 1818 1481 1989" data-label="Complex-Block"> <table border="0"> <tr> <td style="text-align: center;"><i>Main Sponsor</i></td> <td style="text-align: center;"><i>Associate sponsor</i></td> <td style="text-align: center;"><i>Sponsor</i></td> </tr> <tr> <td style="text-align: center;">  </td> <td style="text-align: center;">  </td> <td style="text-align: center;">  </td> </tr> </table> </div> <div data-bbox="798 2027 1498 2136" data-label="Text" style="background-color: red; color: white; text-align: center; padding: 10px;"> <p><b>Entry Deadline</b> Friday, 8 September at 17:00</p> </div>	<i>Main Sponsor</i>	<i>Associate sponsor</i>	<i>Sponsor</i>			
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# NUMBERS THAT MATTER DON'T APPEAR ON ANY SALES QUOTES, ARGUES PILOT CRUSHTEC

*While the quotation for an item of equipment reflects its upfront price, it says nothing about the history, experience, product quality and service infrastructure required to sustain optimal production levels for the customer.*



*Pilot Crushtec runs a 24/7 operation and has over 15 dedicated support technicians available to ensure your plant and operation has minimum downtime.*

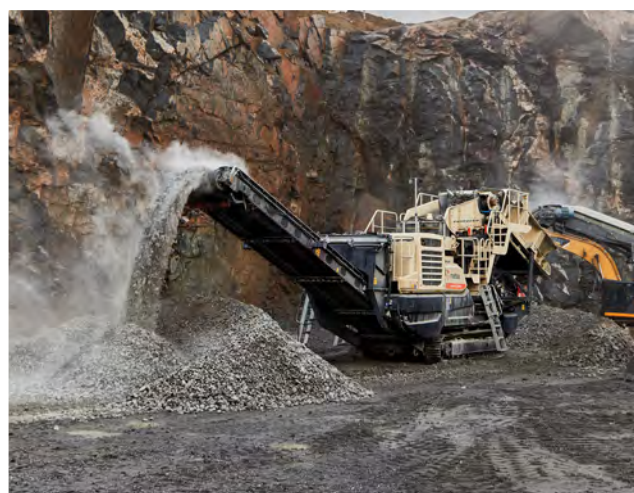
“Sustainable and reliable production is at the heart of any crushing operation, and this is what customers are really paying for when they purchase capital equipment,” says Francois Marais, Sales and Marketing Director at Pilot Crushtec. “For this reason, the numbers that matter are those that reflect a supply partner’s ability to help customers meet their vital deliverables.”

Marais highlights that Pilot Crushtec has spent 33 years building a reputation for its quality of product and its outstanding service levels. Its engineering prowess has already seen over 300 Pilot Crushtec modular plants placed into operation with customers, with over 2 000 mobile crushers, screens and conveyors sold and commissioned.

“Other numbers that matter include the 170 modular cone crushers and the 200 modular jaw crushers that we have sold into the market,” he explains. “We estimate that our equipment has to date processed about 5 billion tonnes of material – in around 1 000 different applications and processes.”

He notes that, all too often, equipment purchases are made purely based on capital pricing. Down the line, he says, it may be realised that the necessary technical assistance, experience or parts are not readily available to support the equipment. Pilot Crushtec has made a strategic philosophy of its customer commitment, by investing heavily and continuously in service infrastructure, spares and wear parts and continuous training of its people.

“For instance, we train, develop and retain the skills necessary to keep customers’ equipment up and running – to avoid costly downtime that could threaten their contracts and reputations,” he says. “This includes our 15 full time service



*Pilot Crushtec has sold and commissioned over 2 000 mobile jaws, cones, screens, washing and stock piling plants.*

technicians, who travel a million kilometres a year to see customers and deliver quality support.”

Underpinning these superior levels of service – which are available 24/7 365 days a year – is the company’s parts and aftermarket infrastructure, which is similarly always open for business. This starts with a large stockholding of around 93 000 items, including about 2 500 wear parts alone. There are 20 dedicated parts personnel to efficiently manage this valuable resource, dispatching 6 788 parts on average every month. “These numbers reflect the real value that we deliver to our customers and should be fundamental factors taken into account when any quotations are considered,” says Marais. “While the procurement function for equipment is often incentivised to save a little money upfront in a capital purchase, this can create unintended consequences for buyers when production is jeopardised.” ©



# MAXIMISING ENVIRONMENTAL COMPLIANCE WITH ASTEC HIGH FREQUENCY SCREENS

*To meet their Environmental, Social and Environmental (ESG) targets, quarries and mines are increasingly embracing dry separation methods to mitigate water usage on their sites. With the use of Astec high frequency screens, operations can use little to no water in their screening processes.*

While sand and aggregates are key to the urbanisation trend globally, quarrying also happens to be on the front line of water security risk. The industry uses water for an array of purposes, including mineral processing and dust suppression, amongst others. With experts warning of a serious global water shortage, sustainable water management within the extractive industry has become critical.

To aid the industry and meet the need for water sustainability, Astec Industries offers a wide range of high-frequency screens to produce specification sand product with the use of minimal to no water. Dry classification is a process that has been used in the aggregates industry to manufacture specification sands for many years, but the technology is not widely applied. However, the technology is gaining traction as a preferred solution in the global aggregate and mining applications.

Astec's high frequency screens are engineered to provide higher production capacities and more efficient sizing when compared to conventional screens. High frequency screens feature aggressive vibration applied directly to the screen, providing the high capacity for removal of fine material, as well as aggregate chip sizing, and producing dry manufactured sand.

The frequency of the screen is mainly controlled by a

vibrator, which is mounted above and directly connected to the screening surface. Its high-frequency characteristics differentiate it from a normal vibrating screen. High-frequency vibrating screens usually operate at an inclined angle, traditionally varying between 0° and 25° and can go up to a maximum of 45°.

High frequency screens operate with a low stroke and have a frequency ranging from 1 500 to 4 500 RPM. Applying high speed vibration directly to the screen media allows for increased stratification and separation of material. This improves screen efficiency at high production rates as compared to conventional screens. Coarser material requires more amplitude and less frequency, while finer material requires less amplitude and more frequency.

Variable high frequency screens are more versatile to tackle varied material conditions such as particle size distribution, moisture and have higher efficiency due to incremental increase in frequency. These can also be used effectively to process manufactured sand for size segregation and removal of silt, which is typically 75 microns or below.

In addition, a unique tensioning system provides the quickest screen media changes in the market. Easy and safe replacement of each screen section translates into less downtime for screen changes and increased operation time. ©



# PROCESS MONITORING FOR MOBILE MACHINES: **LOADRITE C2350**

*Get actionable insights from performance and productivity data on mobile plants.*

To ensure accurate weighing for mobile crushers, screeners and stackers, Loadrite mobile belt systems give plant operators and managers a range of powerful tools to measure actual production, track final product stockpiles, analyse plant and machine downtime and monitor loadout of trucks, port and rail conveyor belt scales.

## Mobile screening and crushing

The C2850 for mobile equipment is quick to retrofit on suitable machines, simple to calibrate and easy to maintain. Access your production data either on the indicator, in the loading machine cab to control feed rates, using a printer, email reports or web-based dashboards and reporting.

Gain visibility into your operation's performance by seeing:

- Tons per hour, total tonnage, and average tons per hour
- Time spent running empty or partially loaded
- Start time and stop time, as well as first load to last load

- Downtime events to identify trends
- Multiple machines working together report to the same location giving insights from infeed through to finished products while also identifying waste and leak points.

## Features

- Accurate production measurement with state-of-the-art data communication capabilities and superior information management solutions.
- Gain actionable insights with access to your data from your smart device anywhere, anytime with InsightHQ
- Increase productivity by identifying unused capacity to improve asset utilisation
- Customised for the unique requirements of mobile machines to maintain the highest accuracy (+/- 1 % margin of errors)
- Suitable for a wide range of applications, mobile crushers,

screens, stackers and more. With a rugged design for proven reliability, durability and accuracy in the most challenging applications.

### Optional accessories and integrations

#### InsightHQ

Connecting your scale to InsightHQ brings all your quarry productivity information into one easy-to-use dashboard, enabling your team to see progress against targets. Your can collect productivity data from your belts, loaders, excavators, haul trucks and more into one location and access it from your desktop of smart device anywhere, anytime.

#### Loadrite Conveyor Interface (LCI)

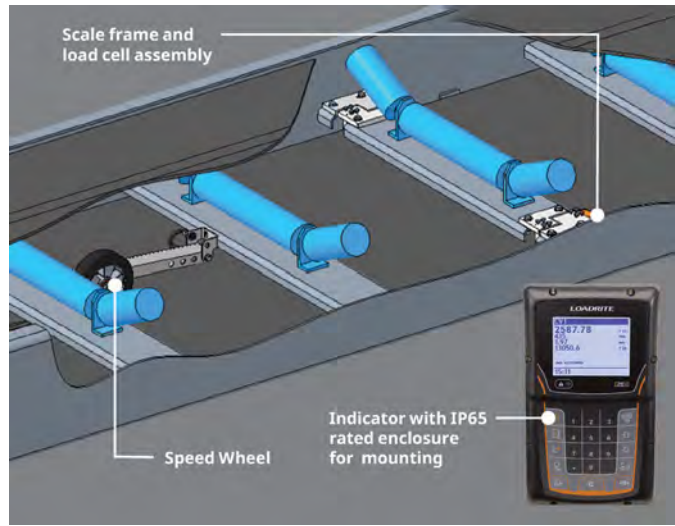
The LCI provides real-time plant production data at a glance to optimise performance, report production and capture downtime events. Identify trends and resolve issues by tracking the effectiveness of operational changes.

#### Additional insights your way

Get daily and weekly reports with the Loadrite printer or have them delivered straight into your email inbox. You can also choose live streaming of weighing data to the office or on a remote display in the plant. There is a range of flexible options to suit your business needs.

#### Third part scale support (C2820)

While Loadrite systems provide the richest information set, you can retrofit existing belt scales with the C2820 to collect basic data including material weight, belt status, product type and downtime event information to view next to all your other Loadrite collected productivity data. ☺



### SPECIFICATIONS

#### Weighting function

Dynamic weighing, total and rate display, optional volumetric measurements display, tracking of nine products, dual idler weighing, 4-conveyor weighing (including virtual scales) within one integrator, remote zero and clear function, auto zero function, three totalisers per scale (day, week, month or shift) on-scale reporting (with printer), alarm for diagnostic error, virtual conveyor display.

#### Connectivity

- Data connectivity to InsightHQ via Loadrite modern for actionable insights
- Monitoring and reporting via Loadrite printers
- Support for analogue and digital outputs
- Two communication ports
- Remote configuration

# C2880 BELT SCALE

**Increase Profit:**

- Increase production while maintaining or lowering your cost.
- Reduce Energy Consumption
- Extend Performance of Wear Parts.

**Increase Productivity:**

- Identify unused capacity to improve asset utilisation, resulting in increased plant availability.
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# CAPE TOWN'S SKYLINE IS ENHANCED AS THE FIRST HARBOUR ARCH TOWER IS RAISED

*There is a new resident on the Cape Town skyline: Harbour Arch. Property developer, the Amdec Group, has launched the impressive first tower of the multi-use development which will become an iconic citizen in Cape Town.*

The tower, which is worth about R2,4bn, includes 80 000 m<sup>2</sup> of built form, 560 residential apartments, restaurants, high-end vehicle retailers and ample parking of around 1 200 bays. The apartments are priced from R2,1m to around R8m each.

It has 2500 m<sup>2</sup> of restaurant space with stellar views of the city. The 3 500 m<sup>2</sup> ground floor area has been earmarked for motor vehicle facilities and dealerships. Further, the tower will soon include a desalination plant and water storage facilities so that residents have access to potable water should they need it, especially if Cape Town finds itself in a drought situation again.

"I'm proud of what our team has achieved with the first tower at Harbour Arch. We are excited to add Harbour Arch to Cape Town, creating jobs and investment opportunities and enhancing the lives of Capetonians and tourists alike," says the Amdec Group's CEO, James Wilson.

The whole multi-use precinct, which will be worth around R15bn and will include around 2 500 apartments when complete, is clearly coming to fruition, creating thousands of jobs. It is being built on the 5,8 ha Culemborg site on the south-eastern edge of the Cape Town CBD. The complex will offer 200 000 m<sup>2</sup> of usable space and will provide more than 20 000 construction jobs.

The Amdec Group has positioned itself as the developer of choice in the Western Cape, since it was founded by James and his father, John, in 1989. The group has grown from humble beginnings when its earliest projects included residential renovations and refurbishments in the southern suburbs of Cape Town to multi-billion Rand projects.

The Amdec Group portfolio includes eight major real estate investments in South Africa, notably Melrose Arch in

Johannesburg; Harbour Arch and The Yacht Club in Cape Town; Val de Vie and Pearl Valley in the Cape Winelands; Sitari Country Estate outside Somerset West; Westbrook in Gqeberha; and Evergreen Retirement Villages across the country. It has also developed three projects in the UK, and seven projects in the USA.

Construction of the first tower was funded entirely by ABSA Bank, strong long-term supporters of Amdec. The project started approximately 42 months ago, and was built almost without a hitch. The only break in construction was for a short period when the country was placed into hard lockdown amid COVID-19.

Numerous 'buy-to-let' investors have also supported the Amdec Group and the Harbour Arch project since inception, many purchasing as many as five units with the aim of renting them out afterwards. The buy-to-rent model remains popular in South Africa.

Construction will begin on Tower Two once Tower One has been fully let.

Harbour Arch, which will include six towers, will be rolled out over the next five to ten years. The one aspect which could slow the development's progress is the strength of the economy, but Harbour Arch is well positioned to attract local and international investors.

"We don't want to flood the market with units. We are on track with our master plan for Harbour Arch. In the best-case scenario, Harbour Arch will be completed in the next five years. In the worst case, it will be completed in the next ten. We applaud every person who has supported us on our journey so far," says Wilson. ☺

# PALIMPSEST – LAYERING **(SUB)URBAN FABRIC**

*More than 56% of the world's population currently lives in cities, according to The World Bank, with this trend expected to continue. In fact, The World Bank estimates that by 2025, almost seven out of every 10 people will live in cities. In South Africa, this percentage is even higher, with 68% of the country's population currently living in urban areas. As urbanisation has increased, however, so has urban sprawl and pressure on infrastructure. Philip du Toit, Project Architect at BPAS Architects, suggests that we need to look at our cities with a fresh lens to find sustainable ways of addressing increased urbanisation.*

Du Toit proposes a concept he calls “Palimpsest – layering (sub)urban fabric”. The term palimpsest was originally used to describe an ancient form of recycling, where parchment (which was expensive and difficult to come by) would be repurposed, scrubbing some or all of the existing text off of it to reuse it. Often, traces of the original content remained. This term has since been borrowed for other situations, such as artists reusing canvases and creating layered artworks.

Du Toit first became aware of the idea of palimpsest in art through the photography of Jason Shulman, who creates artworks by photographing whole films into single, abstract composite images. He began to implement the idea in his own photography, but using multiple photos of buildings and scenes in the real world.

As he was studying architecture, he began to consider how the idea of palimpsest could apply to urban design. “I ended up doing my thesis at the University of Pretoria on this idea, looking at how we can use existing buildings and build on them in a three-dimensional environment to create new spaces,” he explains.

Rather than developing empty sites or demolishing old buildings to make way for new ones, Du Toit suggests reusing the canvas of the cities to improve densification, minimise development costs, address housing pressures in urban and suburban areas and combat urban sprawl. This methodology also allows for wasted space to be repurposed, and for individuals – not only large-scale developers – to create solutions for themselves.

“It’s a green solution to use existing buildings,” says Du Toit. “It can help to address various issues, such as reusing buildings in cities that have become abandoned, or addressing changing population needs. There are examples of how this has worked internationally, and I think it’s something that could be very effective in South Africa too.”

Du Toit cites examples of how this methodology has worked well, and others where it could be improved upon. For example, in California, Jonathan Segal pioneered a model of architects as developers. To help address a shortage of rental housing in San Diego, he designed, built, and managed 15 projects that are credited with playing a key role in the city’s renaissance.

On the other end of the spectrum, Torre David, a development in Caracas, Venezuela, that was halted midway, is an example of organic urban palimpsest. A community of homeless people moved into the development and repurposed the space for their own needs.

While these types of ‘urban slum’ applications are not ideal, Du Toit says that when properly managed, urban or suburban palimpsest can be undertaken in a way that ensures existing

infrastructure and property prices are positively affected, rather than compromised.

For example, it’s increasingly common in South Africa for homeowners in suburban environments to build a granny flat in the backyard to accommodate ageing parents or grown-up children. Instead, Du Toit suggests exploring vertical urban interventions, which, if applied correctly and on well-suited properties, could help make cities greener.

“Homeowners working with architects can ensure that these interventions could take place based on good urban design principles,” he says. “The redevelopment, or layering, of existing single residential properties could be used to help provide more houses, offering opportunities for more people to live closer to commercial, social and educational nodes. They also offer additional income for homeowners by way of rental.”

He says that the City of Cape Town has created a precedent for this by changing its town-planning regulations in recent years to allow for up to three dwellings per residential erf, which simplifies redevelopment procedures by negating a zoning change application.

There is also room for developers to get involved in bigger projects, particularly within urban nodes, by partnering with city councils and town-planners to relook existing properties with an eye for development.

“This type of partnership means there’s proper consideration given to green infrastructure, such as rainwater harvesting and solar installations, which ensures existing infrastructure is not put under strain,” he says.

Urban and suburban palimpsest can help cities to evolve in the wake of COVID-19 and hybrid working, which has seen a downturn in the need for office space, as well as curbing urban sprawl, creating new economic opportunities and catering for shifting community dynamics. ☺

## **ABOUT BPAS**

BPAS Architects is a solutions-focused multidisciplinary architecture and interior design firm, founded in Cape Town in 2005. The company’s goal is to turn clients’ projects from dream to design to reality. BPAS offers wide-ranging experience and expertise, combined with adaptive thinking. As a digitalised practice, it implements top-tier technology at every point of its workflow. Bringing together practical skills and vision, BPAS works to deliver the best results for every project, balancing financial, economic and sustainability factors. BPAS has a portfolio of successful projects across the education, residential, healthcare and commercial sectors.

# AECOM TO SHOWCASE ITS ESG LEGACY ON WORLD ENVIRONMENT DAY

*The Middle East has a strong drive for renewable energy, smart cities and sustainability, while South Africa is looking at how best to bring about its Just Energy Transition (JET) and find effective solutions to move away from coal as a power source.*

The fact that globally trusted infrastructure firm AECOM is active in both the African and Middle Eastern markets places it in a unique position highlighted its environmental, social and governance (ESG) legacy on World Environment Day on 5 June. “It was a great opportunity for transfer of knowledge and experience between the two regions, although the focus is slightly different,” Elisabeth Nortje, Associate Director – Environment, Africa.

AECOM is collaborating on largescale projects in the Kingdom of Saudi Arabia from its South African office. Apart from World Environment Day, it will also leverage the COP 28 climate change conference to take place in Dubai in the United Arab Emirates (UAE) from 30 November to 12 December as an important platform for its Sustainable Legacies strategy as part for its ESG goals. This follows on from COP 27, which took place for the first time in Africa, at Sharm El Sheikh in Egypt from 6 to 20 November 2022.

Nortje adds that implementing ESG in South Africa represents a major growth market for AECOM, particularly in the mining industry. She notes an increased demand for ESG advisory services and audits. “I foresee a major push for the social and governance component of ESG in terms of the social aspects such as addressing vulnerable groups.”

AECOM Africa MD Darrin Green says that the considerable investment flowing into South Africa at present to propel the JET is likely to be affected by factors such as the country’s recent grey listing by the global financial crime watchdog the Financial Action Task Force (FATF), combined with its complex relationship with China and Russia. “The question mark is around the implementation,” says Green.

While the government struggles with implementation of the JET, Nortje points to green shoots in Mpumalanga where electricity utility Eskom has issued tenders to decommission some coal-fired power stations and replace these with renewables.

She notes that there have already been requests for Environmental Impact Assessments in this regard, funded by the World Bank. “Obviously there is a massive social component related to retraining people who have been reliant on the coal value chain to date,” she highlights.

In this regard, JUST SA is a collaboration by the German government and its agencies GIZ, the International Climate Initiative and the Department of Forestry, Fisheries and Environment. Other local organisations involved include the Mpumalanga Green Cluster Agency, GreenCape, Trade & Industrial Policy Strategies (TIPS), the National Business Initiative, Yes4Youth and the World Wide Fund for Nature.

The five-year project will see Germany inject R300m into Mpumalanga for technical assistance to develop ‘green’ skills among the youth. “I certainly think we are going to see more of these kinds of partnerships or clusters being formed to collaborate on the proper implementation of the JET,” says Nortje.

She adds that her expectations for COP 28 in Dubai are high, especially following on from some of the breakthroughs at COP 27. These include establishing a Loss and Damage Fund to provide financial assistance to nations most vulnerable and impacted by the effects of climate change. Another intervention is the Early Warnings for All Initiative (EW4All), which is anticipated to be rolled out globally by end 2027.

COP 28 in Dubai is likely to place the spotlight firmly on AECOM’s pre-eminence in the ESG field. “Particularly for experts in the environmental space, it is such a good opportunity for us to display AECOM as a global organisation.

We pull in voices from the local communities we are involved with and all stakeholders in our projects, whether in Africa or the Middle East. We have good relationships with all the specialists we co-opt when needed and we place a major emphasis on inclusivity and diversity and all other social aspects wherever we may be working,” says Nortje.

Green cautions about staging “talks for talks” and urges all countries involved in COP 28 to honour their commitments “so we can see it happening on the ground. AECOM has the skillset to provide support in this regard. Working globally as we do, from designing and authorising to permitting major infrastructure, we can make a difference.”

He continues: “It is embedded in what we do, and it is certainly very much a global focus for AECOM. The problem is sometimes convincing our clients, especially when these kinds of engineering measures add costs. It is all about lifecycle costs and sustainability, and not all of them necessarily think that way. Our clients need to be educated and made aware, but that is a broader issue.”

AECOM will use COP 28 to highlight the work it is undertaking on some of the leading smart cities in the Middle East, which need to address concerns around sustainability, infrastructure and enhanced service delivery, all within an ESG framework. Smart cities are climate resilient ESG cities where the city ecosystem serves as a framework that brings sustainability, liveability and equitable clean energy into one conversation.

Here AECOM’s Regenerative Development Strategies (RDS) set a framework to contribute to and achieve an overall vision and sustainability rating system requirements for all its scope of works.

The main RDS objectives include reversing climate change, extracting resources wisely, preventing environmental pollution, reversing biodiversity loss, improving nature services, supporting social cohesion, enlivening a sense of place, building for sustainability and demonstrating the circular economy. ©

# FIRST LUXURY HOME BUILT FROM PRECAST CONCRETE WITH PEIKKO PRODUCTS NEARS COMPLETION

*What is thought to be the first luxury home to be constructed in South Africa utilising precast concrete elements, with Peikko products, is nearing completion in Rugby Road, Oranjezicht, Cape Town.*

Supplying the special concrete connections and composite beams for both precast and cast-in-situ applications is Peikko South Africa (SA) – a speciality construction products company - whose innovative solutions aim to make pre-cast construction faster, safer, and more sustainable.

The project was originally conceived as far back as 2017 and construction began in earnest post-COVID. The striking design strives to implement sustainable architectural design derived from the Living Building Challenge, a very stringent green certification design founded by the Living Future Institute. It provides the owner with amazing views in all directions yet incorporates elements of sustainability - energy and water conservation.

## Design

The dwelling is one-single envelope comprising two four storey units, each with four bedrooms and a total living space of 425 m<sup>2</sup> per unit positioned on a 900 m<sup>2</sup> erf.

“We chose the precast method due to a number of factors: speed of construction, ability to cast intricate shapes repeatedly – necessary for capturing solar energy and rainwater retention – quality of surface finish and of course cost,” explained project architect Anthony Svelto, Architectural Designer at A-I-R Inc. in the USA.

“The striking visual concept of the project lends itself to the use of precast concrete, which is the desired effect in this up market elevated location, which will not only provide the owner with amazing Cityscape, Mountain and sea vistas,” he said.

“But we've also ensured that we could optimise water and energy collections better with a precast concrete design than with conventional construction. “The intent of the house, from an energy point of view, was to be net positive. To generate more energy than it consumes over the course of a year and to be entirely self-sufficient in water consumption, provided by integrating rainwater storage within the design parameters.”

## Special precast experience

Cape Concrete as the pre-cast suppliers, entrusted the specialised skills required to meet the architectural concepts, tolerances and the element's flush connections to Peikko SA, whose experience and range of precast connecting elements ensured a perfect fit between columns, beams and decks by the perfect positioning of anchor bolts within the pre-cast mould.

“We were contacted by Cape Concrete to assist in the construction of this unusual project,” said Daniel Petrov (pictured), Managing Director at Peikko SA. “Unusual, as most of our work involves more traditional uses of pre-cast concrete in industrial and commercial buildings and structures such as bridge design. There was something of a learning curve for all the professionals involved in the Rugby



*“The striking visual concept of the project lends itself to the use of pre-cast concrete, which is the desired effect in this up market elevated location.”*

Daniel Petrov,  
Managing Director at Peikko SA.

Road project and we were pleased we could assist in fully meeting the architect's design narrative.”

Petrov added that the company has been designing, manufacturing and supplying a wide selection of concrete connections and composite beams for both precast and cast-in-situ solutions in a variety of applications, since 1965.

“Our innovative solutions make a construction process faster, safer, and more sustainable by reducing the project's carbon footprint. Peikko is a family-owned company and currently operates in 33 countries around the world, having certified manufacturing in twelve, so we have quite a track record in pre-cast design and construction techniques, which is offered to designers and manufacturers in the pre-cast industry” Petrov concluded. ©

# “DELIVERING INNOVATIVE GEOTECHNICAL SOLUTIONS”



GeoCiv Group has been a leading specialist in geotechnical works, piling and lateral support in Gauteng, South Africa and other SADC nations since 1996. Services and products are on a full design and construct, or construct-only, basis.



GeoCiv Group’s ability to project manage entirely in-house has enabled it to secure major government and private contracts in the commercial, industrial and residential spheres. It is GeoCiv Group’s objective to further develop its experience, growing in a sustainable, controlled manner, and expanding in terms of both geographical coverage and product offerings.

### The company’s unique selling point?

GeoCiv Group consists of an excellent team of motivated, experienced and highly skilled professionals – able to assist in all parts of the process and offer clients the most cost-effective and innovative design for a geotechnical solution. It’s aim is also to meet clients’ exact requirements and the business is further underpinned by quality control systems, sound management, financial principles and its values.

### The company’s footprint?

The company has a national footprint and undertakes projects in most SADC regions.

### Brief sketch of the company’s history

The GeoCiv Group, formerly know as Mega Pile Inland was founded by Greg Whittaker in 1996 and has been operating for over 25 years. The company initially traded as KwaZulu Piling, specialising in the ‘niche’ market of piling and geotechnical works primarily for the residential sector. While competing against two companies in KZN, KwaZulu Piling’s hard work and perseverance supported the company’s evolution into the province’s “preferred piling contractor” by 2006.

After establishing an extended product offering, and importing BAUER Piling equipment from Germany, KZN Piling went on to service industry demands at a national level by opening a Gauteng branch and forming Mega Pile Inland.

By this stage Mega Pile Inland was respected as a major player in the piling and geotechnical sector, covering residential, commercial, marine, mining and specialist works projects around South Africa as well as cross-border. Sanyati Holdings acquired the company in December 2006.

Sanyati Piling & Geotechnical traded successfully until the dismantling of the holding company in June 2012. Mega Pile Inland was re-established on 1 July 2012, taking over all existing plant and personnel. Mega Pile Inland has been rebranded and renamed to GeoCiv Group from 1 May 2021. It remains committed to service excellence, business growth and “Delivering Innovative Geotechnical Solutions”.



### How do you ensure the quality of your execution?

An in depth and highly structured quality control plan drafted by senior management is implemented throughout the company's staff complement. This has been structured to suit its specific needs with regards to the specialist nature of work and includes not only the SANS 1200F specifications, but also site-specific testing methods designed by the company's design team for projects that require that special touch in ensuring our installations are sound.

### How do you approach the health and safety of your workforce?

GeoCiv's SHEM System is an integrated system which incorporates Health, Safety, Environment, Risk and Quality. The system is designed and implemented to reduce non-conformances and promotes a safe work environment for all employees, contractors and visitors.

### PROJECT SHOWCASE

#### Keystone Park in KwaZulu-Natal

GeoCiv was appointed to assist in the design and supply of a soil improvement project to assist in stabilising a filled platform with settlement issues. The difficulty and risk for the execution and design of this project lay in the stringent settlement criteria after the completion of the works. GeoCiv's scope included the installation of roughly 5 300 rigid inclusions to depths of -30 m to counteract the settlement of the earth platform as constructed for the warehouse.

The nature of the fill materials used for the platform and high loading on the floors for the warehouse created complex and various design criteria for the different areas within the warehouse. During the installation, large, voided areas within the fill required massive amounts of grouted void filling, collapse and re-drilling to complete the proposed remedial

works. Certain areas of the warehouse required limited access methods and specialist equipment to complete the installation.

The completed crew required to complete GeoCiv's scope, numbered in the range of 50 for a duration of eight months. Up to 50% of the labour used was procured from the local community.

This project was awarded in May 2022 and was completed in December 2022.

### PROJECT SHOWCASE

#### The Teraco Data Centre - CT2.2

This project entails phase 2 of the Teraco Data Centres under construction in Brakenfell Cape Town. GeoCiv was appointed to complete the piled foundations for this as well as the previous phase of construction. At the time of award, it was the largest CFA piling project in South Africa.

This project scope included the design and supply of CFA piles for the concrete structure. Piles required for this project ranged from 750 mm diameter to 900 mm diameter piles to depths of between 16 - 18m in saturated sands. A total of 850 piles were required for the project.

The saturated soil conditions of the area and heavy loading of the structure made use of large diameter CFA piles that needed to be installed to deep lengths to cater for these loads. Strict timelines also meant the piling works required upwards of 130m<sup>3</sup> of concrete supply for the duration of the project, each and every day. Two piling teams were required for this installation. Piling crews require a team complement of seven per rig to complete such a scope of works.

This project was awarded in March 2023 and was completed in June 2023. ▼





## WACKER NEUSON SOUTH AFRICA ESTABLISHES OWN SALES CHANNEL FOR ENAR PRODUCTS

*Wacker Neuson South Africa is pleased to announce that, from 1 June 2023, they offer ENAR products to the local market through a dedicated sales channel. ENAR is a Spanish-based manufacturer of light construction equipment specialising in concrete consolidation and compaction.*

Alongside a wide range of internal vibrators, the company's product portfolio also covers vibratory plates, rammers and walk-behind rollers for soil and asphalt compaction as well as surface products such as screeds.

"Aligning with our customer-centric focus, we strive to offer our customers everything they need to successfully complete their jobs on the construction site," says Dennis Vietze, Managing Director of Wacker Neuson Sub Sahara Africa. "The ENAR products present the ideal addition to the established Wacker Neuson portfolio, opening up new growth opportunities for us. Therefore, we are establishing an own distribution channel and enter a new customer segment."

Markus Einsele, Managing Director at ENAR, adds: "We are very much looking forward to working with Wacker Neuson in South Africa. We see great potential in this market as our products address the exact needs for sturdy and reliable equipment. This new sales channel will help us reach the right end customers." The ENAR products will be rolled out to South African customers in phases, kicking off with the volume-driven internal and external vibrators as well as screeds. Customers can also look forward to compaction equipment including rammers and pedestrian rollers as well as generators, pumps and mobile light towers that will be introduced over the next few months.

A dedicated team, who will wear the ENAR hard hat, has been appointed to exclusively look after customers in South Africa. Dennis Zuma, who was promoted from Wacker Neuson Area Sales Representative to ENAR Key Accounts Manager, together with designated Service

Mechanic, Jeandré Peypers, will support ENAR customers with full sales, service, and after-market solutions. Both bring massive experience in construction equipment and recently attended an intensive five-day training programme at ENAR head office in Zaragoza, Aragon, to deepen their understanding of the products and technologies.

In addition to technical and mechanical training, Markus says they also introduced Dennis Zuma and Jeandré Peypers to the commercial side of the business. They visited the ENAR production centre, became familiar with their systems and processes, and got to know the ENAR team. "It's important that they are acquainted with our culture and our value proposition of being close to our customers and delivering what they need by offering the right solutions. Our flexibility and agility have ensured that we continue to deliver on our promises, earning us an enviable reputation, for reliability in both our products and services, which has gained our customers' trust and respect."

In a bid to continue Wacker Neuson South Africa's legacy of bringing products and services to customers' doorsteps, the route to the local market for ENAR products will include dealers. "We have a detailed strategy in place to grow the ENAR sales channel", says Dennis Vietze.

He wraps up: "Our partnership with ENAR presents us with a tremendous opportunity for the company from a business sustainability and growth perspective and also for our country's economy as we are creating new jobs and business opportunities.

The team in South Africa is extremely excited to welcome ENAR to the Wacker Neuson family." ©

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Master Builders has been supporting contractors in South Africa for more than 100 years, and has the resources, infrastructure and experience to assist, promote and protect construction businesses in a number of key areas. Please note that some of these services are offered at no cost, while others are offered at discounted rates.



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