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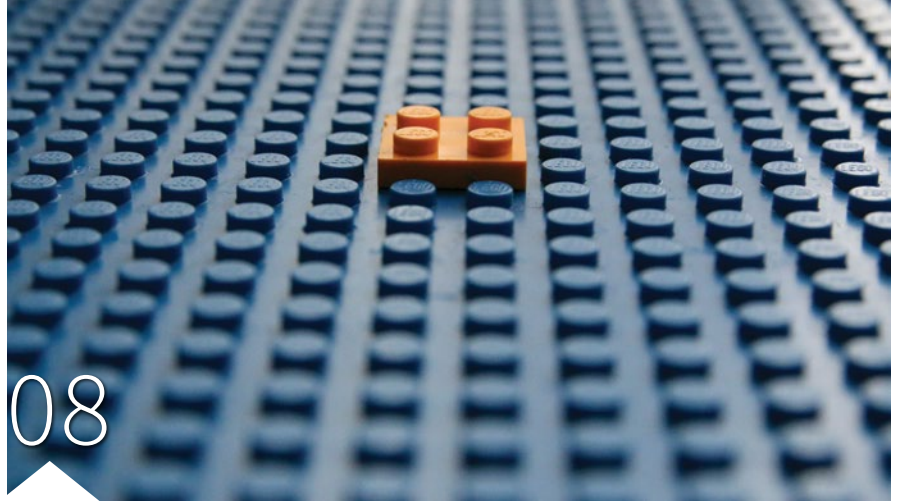
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ON THE COVER

AfriSam, South Africa's leading construction materials supplier, says that sub-standard cements are entering the South African market and cautions against their use, which – in a worst-case scenario – could result in structural failure and possible loss of life. According to Mike McDonald, chemical expert and manager of AfriSam's Centre of Product Excellence (CPE), despite a lack of official statistics on the scale of the problem, it appears to be on the increase.

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Despite a recent decline in business activity brought about by the return of sporadic load shedding, global (and local) political uncertainty, confidence in the future of the construction industry reached its highest levels in five years.

This is the finding of the quarterly SME Business Conditions Survey conducted by the Bureau for Economic Research on behalf of the Construction Industry Development Board – cidb. The role of the cidb is to facilitate and promote the improved contribution of the construction industry to SA's economy and society. The cidb is an agency of the Department of Public Works and Infrastructure under the executive authority of the Minister of Public Works.

The survey says that the construction sector has been hard hit by the economic downturn which was aggravated by COVID-19. Despite this, says the cidb, there are positive sentiments that forecast that the industry is on the road to recovery. The survey reflects the strongest sentiments since 2017.

According to the report, confidence levels in Q2 of 2022 were 42 compared to the 35 of Q1. It also states that there has been a steady rise in confidence levels for the past seven quarters since the start of the pandemic.

The survey

The Bureau for Economic Research has conducted the quarterly survey on behalf of the cidb since 2008. It polls the opinions of senior executives in the building and civil construction sector within grades 3 to 8. The recent survey was done prior to the start of the current cycle of load shedding.

The survey states that the availability of work will remain under pressure for some time to come. Respondents indicated that the lack of demand is a constraint on normal business operations.

Despite this, confidence in general building contractors improved from 33 to 44 while there was a marginal increase in confidence in the civil engineering sector (38 to 40).

Regional confidence

Sentiments in KwaZulu-Natal almost doubled (from 26 in 2022Q1 to 49), but fell in the Eastern Cape (41 from 62 in 2022Q1). Confidence in Gauteng and the Western Cape was unchanged at 32 and 29 index points respectively. While activity in the Western Cape improved

nicely, and to a lesser extent in KwaZulu-Natal, contractors in Gauteng saw activity fall noticeably.

Confidence was boosted because there was a decline in tendering price competition. However, almost 80% of respondents indicated that order books are under pressure and that businesses are put under pressure because there is a lack of building demand.

Order books remained under pressure with 79% of respondents indicating that the lack of new building demand places constraints on the business.

Best Projects 2022

This issue publishes the last call for entries in the 2022 installment of Best Projects. Entries close on 5 September. Enter your best project – entry is free. An awards function will be held on 9 November in Johannesburg during which we will celebrate excellence in projects – big and small.

Stay safe

Wilhelm du Plessis

Editor



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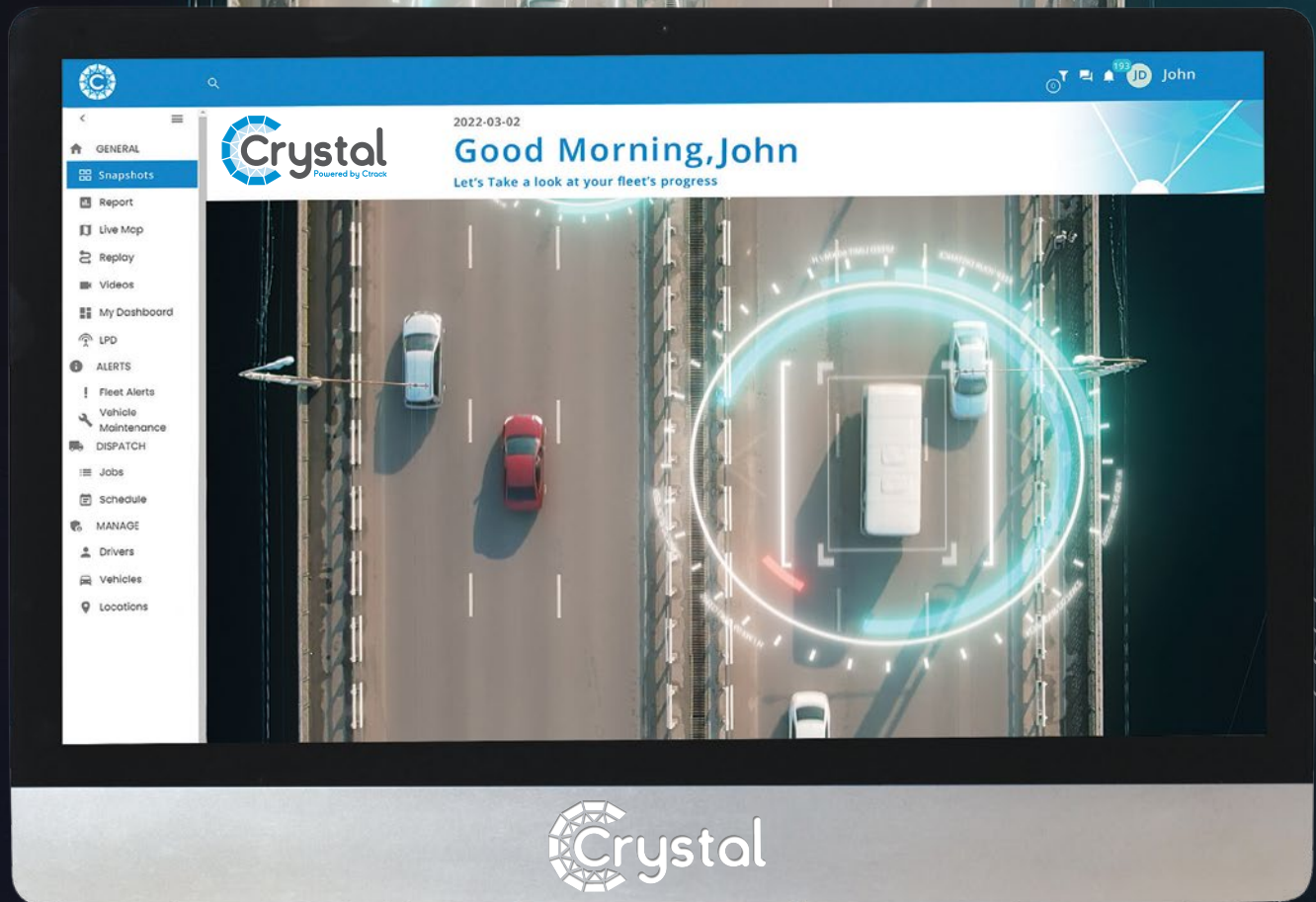
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CANDIDACY PROGRAMME PUTS YOUNG WOMEN ON UPWARD PATH AT AECOM

In celebration of International Women in Engineering Day (INWED) on 23 June, trusted infrastructure consulting firm AECOM is showcasing its candidacy mentoring programme. The programme plays a vital role in ensuring newly employed graduates and experienced young professionals attain professional registration.

Engineering from the University of Pretoria in 2015, followed by Honours in Water Resources Engineering. She was the recipient of an AECOM bursary for both degrees and also did part-time work while studying. "This was quite exciting because we were working on the Gauteng Freeway Improvement Project (GFIP) at that time. I was lucky to be able to stand by the roadside while they were casting asphalt in the middle of the night." Karien has now been at AECOM for seven years and achieved her registration as a professional engineer in March.

A career highlight to date has been her involvement with the Polihali Access Road project as part of the Phase II infrastructure for the Lesotho Highlands Water Project. "It was definitely a highlight for me to be given the opportunity to go to such a remote site and see construction happening and a bridge being built from the ground up, and one day being able to go back and drive over the bridge with my family and say this is what we achieved." Van Heerden attributes her success at AECOM to the excellent mentorship provided throughout the candidacy programme.

Ntsako Masangu (**opposite top**) obtained her Bachelor's in Civil Engineering from the University of the Witwatersrand in 2015, followed by her Master's in Engineering Management from the University of Johannesburg in 2019. Barely a month at AECOM, Masangu says she has been struck by the diverse range of projects the company is involved with. "Another highlight which is something that could be taken for granted is the warm and friendly working culture I am greeted with every day."

In order to fast-track her professional registration, Masangu works closely with her mentor and manager on the candidacy programme. She is already excited at being afforded the opportunity to be involved with the design work on five interchanges for a major road project. "I can definitely see this as being an early career highlight for me."

Commenting on the challenges she faces, Soma says it was starkly apparent when she went to site for the first time that she was the only woman in a room of men. "I am quite short and small and just had to not be intimidated. As much as woman empowerment is punted, it is kind of scary when you are in that situation. I had to learn that if I felt something was right to put my ideas forward and to show that I am there to be taken seriously because I do know my job."

Karien points out that effective communication is key to manage

Completing her studies at the University of KwaZulu-Natal, Viashna Soma (**opposite bottom**) started her career at AECOM in February. "I feel like I am still on a learning curve as I am straight out of university. Obviously, my highlights are to come. However, every day is a learning experience, and I am enjoying it." Commenting on the candidacy programme, Soma says she is well on her way to registering as a candidate engineer with the Engineering Council of South Africa (ECSA).

Currently she is embarking on a training programme to acquaint her with her responsibilities at AECOM, as well as its corporate culture. "It has been interesting to date, and I have discovered a penchant for design work." Soma adds that working part-time for AECOM for four years during her studies gave her an appreciation of the company's global standing. "It is a truly great place for anyone to commence with a career in engineering."

Karien van Heerden (**top**) graduated with a B.Eng. in Civil

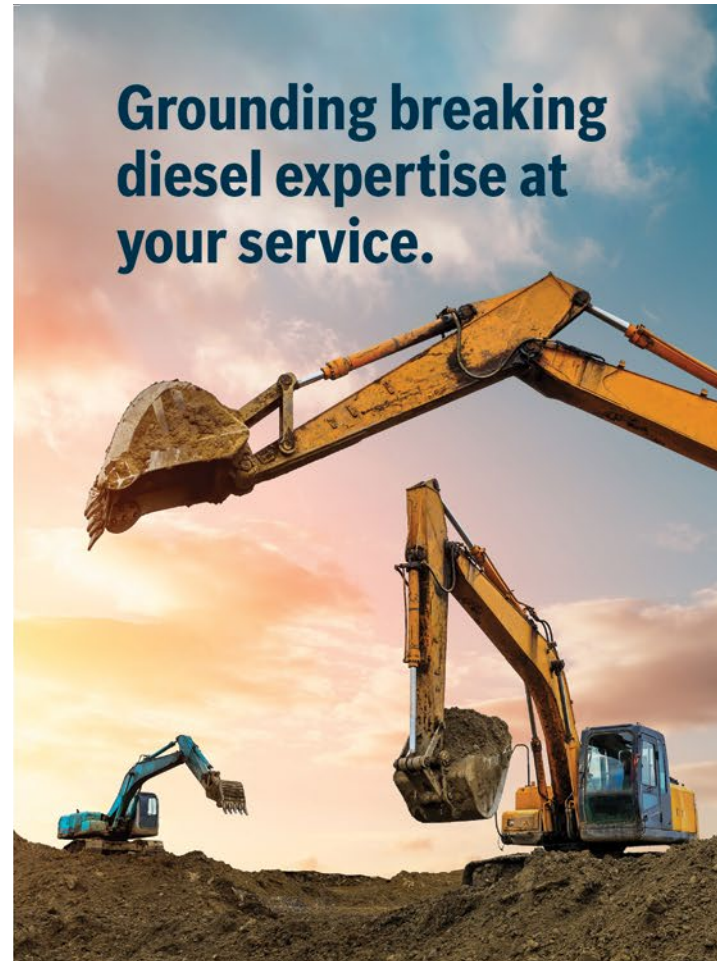
INWED from the Women's Engineering Society (WES) celebrates its ninth year in 2022. Figures as of June 2021 indicate that only 16,5% of engineers are women.

project deadlines and client expectations. “If you feel less confident in yourself, then that can affect communications. Being underrepresented, women struggle to assert themselves and communicate clearly. You have to be clear and concise and not stand back.”

Masangu’s brief stint is indicative of the prevailing culture at AECOM, which favours diversity and inclusion across the corporate and social realm. “On a personal level I have had a good experience to date. My gender has not played a major role in making my job that much more difficult. This is because I am fortunate to be at a company that is not gender biased. However, it is not lost on me that globally there are women in male-dominated environments who feel the need to work harder to be afforded the same level of respect as their male counterparts.”

Soma adds: “If you have the qualifications, you have an equal opportunity at getting the role, irrespective of gender. It is gratifying to see this as a young woman myself just starting out on my own career.” Karien points out that diversity at AECOM extends all the way to senior management and even board level. “There are a lot of women who are role models to me because of the positions they are in and which I know I can aspire to in my own career,” she concludes.

INWED from the Women’s Engineering Society (WES) celebrates its ninth year in 2022. Figures as of June 2021 indicate that only 16,5% of engineers are women. INWED gives women engineers around the world a profile when they are still hugely underrepresented in their professions. As the only platform of its kind, it plays a vital role in encouraging more young women and girls to take up engineering careers. ©



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CONCOR-MECSA CONSTRUCTION JOINT VENTURE ACHIEVES SAFETY MILESTONE ON MSIKABA BRIDGE

The CME JV (Concor – MECSA Construction Joint Venture) has achieved yet another safety milestone on the iconic Msikaba Bridge project, recording 2,5 million Lost Time Injury (LTI) Free hours on 24 May this year, notched up over a period of just over 1 000 days.



“This is a fantastic achievement by the JV team, given that this an extremely challenging project which involves working at extreme height and in excavations up to 20 m deep, often in very confined conditions. There is also a need for blasting, which, of course, comes with its own risks which have to be very carefully managed,” comments Contracts Director Laurence Savage.

He adds that some of the structures use High Density Reinforced Concrete, which places demands on the construction teams, and that the scope of the JV’s work also includes a substantial bulk earthworks operation for the construction of the approach roads, with a dozen large earthmoving machines handling cut-to-fill activities.

“We’re extremely proud to have reached this safety milestone and everyone on site deserves to be congratulated on this impressive performance,” he says.

Savage stresses that safety is a core value for the JV partners. “There is nothing more important than ensuring that our people work on a safe site and that they return home every day unharmed. The importance of safe practices is ingrained in every worker on site and we all understand that the goal is ‘Zero Harm’. The safety culture is underpinned by Concor’s ‘Stop. Think. Act’ awareness philosophy and our ‘Care’ value – Care for one another, Care for yourself and take Care in the environment you are working in.”

The workforce participates every day in a morning briefing, which reviews the day’s tasks and how they are to be accomplished safely. A half-an-hour later there is a daily management meeting, where the managers report on and review all safety matters.

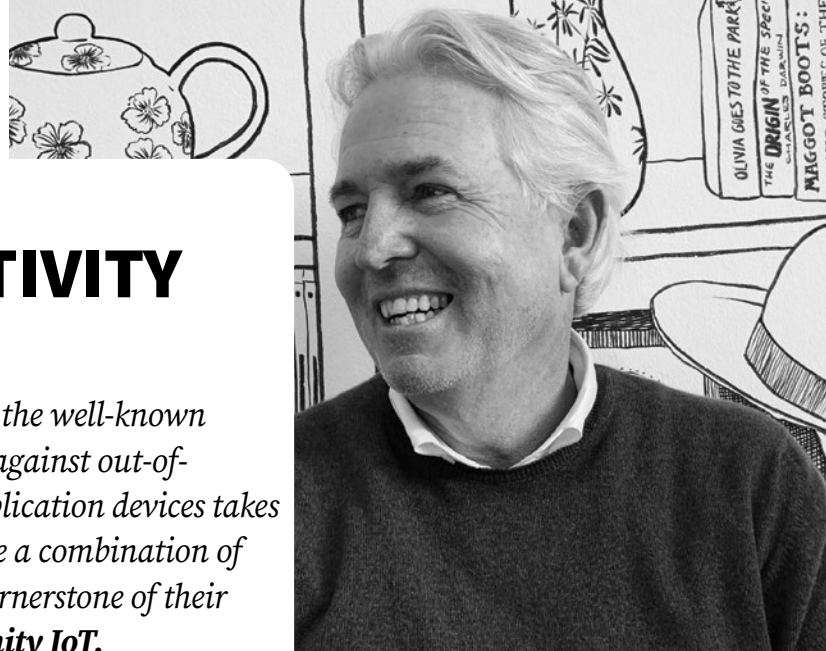
According to Savage, the JV understands the role of management as custodians of the safety culture and implementers of a safety culture. “This is the principle of Visible

Felt Leadership, he states. “How we act, re-act and manage ourselves has a direct impact on how our people working on the project, take decisions, prioritise and act. This leadership from management allows employees at all levels to understand and ‘feel’ the importance that is attached to safety. No one is left in doubt that working safely is a non-negotiable principle.”

The Msikaba Bridge project forms part of the new N2 toll road between Port Edward and Umtata in the Eastern Cape. A 580 m long cable-stayed structure, it will span the spectacular 198 m deep Msikaba Gorge – making it one of the highest bridges in Africa – and forms part of the N2 Wild Coast project being undertaken by the South African National Roads Agency Limited (SANRAL). It includes two pylons that will stand 128 m high on each side of the gorge. These support the bridge deck using a network of 34 cable tendons strung through their upper reaches.

The JV team has now embarked on the most difficult phase of the project – construction of the pylon superstructure (which will entail working to the 128 m height of the pylons) and the deck segment lifting activities that will result in the north and south banks being connected mid-span across the gorge. Complicating the work is the exposure to severe winds, which can gust at nearly 100 km/h at the site. These two major construction activities will be taking place simultaneously, being the completion of the pylon build, while the deck launch commences.

“These activities are requiring the highest levels of risk management to be undertaken on a mega- construction project,” says Savage. “Everything will obviously be pre-planned to the last detail and we’re confident that our intensive preparations will allow the work to be accomplished safely and further extend the project’s excellent safety record.” ☺



THE IMPORTANCE OF DEVICE AND CONNECTIVITY MANAGEMENT

*With companies embracing digital transformation, the well-known practice of managing SIMs and devices to mitigate against out-of-control data costs and inefficient use of business application devices takes on new importance. Today, many businesses require a combination of device and connectivity management to form the cornerstone of their output. **By Ross Hickey, Founder and CEO of Trinity IoT.***

Device and connectivity management can be defined as the process of controlling, monitoring, maintaining, and configuring devices and SIMs remotely. If access to device data through cellular connectivity is the lifeline of a company's business model, then device management is the key to sustaining this with connectivity management being the golden thread tying everything together.

If access to device data is mission-critical to the organisation, then device management is imperative. If not, then there is a significant risk of disruption to operations if devices and data cannot be managed, controlled, or accessed in real-time. The ability to gain visibility and control of one's device and SIM fleet also opens the opportunity for companies to develop new revenue streams through digital services and products or increase their operational efficiency.

Making it real

But what does this mean for a business? For example, a food delivery company needs to notify restaurants that there is a new order, notify its drivers to pick up that order and notify customers when food is on the way. To coordinate these events on a large scale considering that thousands of orders must be processed every minute, the food delivery company must have access to their devices and SIMs that communicate the status of the order both to and from the kitchen.

Another example can be found in a security company. Given the nature of the business, it must immediately send an armed response team to a home if an alarm is triggered. Therefore, the security company must be notified in real-time whenever there is a breach in a security system via live data. Using devices installed with networked SIMs, security businesses can ensure that their panels are always able to transmit these critical events.

Device and connectivity management becomes significantly more crucial when a company owns thousands of highly distributed assets. It is not operationally or financially viable to travel to each asset to perform routine checks and maintenance. For instance, a traffic management solution must access data from traffic lights all over a city to regulate traffic flow. A gaming company that lets thousands of slot machines to casinos throughout the country needs access to asset data to ensure slot machines are in working order.

Getting things in place

Like with most internet of things (IoT)-related business deployments, device and connectivity management can quickly become very complex. The difficulties can be tripled when a business must deploy an 'at-scale' solution. Something as straightforward as sourcing an IoT device or a SIM can become

a chaotic and time-consuming process which takes time away from a company's main operational focus. Furthermore, the expertise, resources, and experience required to build a management platform and infrastructure from the ground up are greatly underestimated by many. Often, companies do not consider aspects such as the deep domain expertise necessary, the continuous engineering required to keep the environment running optimally, the importance of partnerships with key industry players, and the time it takes to develop an IoT device management platform that works.

When built internally, device and connectivity management projects require a company's team to decide which services are needed and then piece together a complex infrastructure from developer manuals. Ultimately, this takes the focus away from their core responsibilities. If the newly-built infrastructure has weaknesses, it will only be a matter of time until the system buckles especially when put under pressure on a large scale.

Unlocking value

Understanding and appreciating the complexity of IoT can be overwhelming. Fortunately, companies do not have to manage everything themselves or need to appoint experts in the field of connectivity and device management. Instead, the true potential of these powerful toolsets can be unlocked through robust IoT partnerships.

It all begins with putting the basics in place. Unlocking additional value from connectivity and device management will then look significantly different depending on the goals of the business using the system. We all know that data is king, but the real value lies in its visualisation, analysis, and interpretation.

Linking core device and connectivity management systems to another critical operational system can be the next significant leap forward for a digitally-centric organisation. Anything from an operational maintenance platform to a user application can be used as an additional revenue stream for companies to create more value for their customers and themselves.

From our own experience, we have seen clients take their rugged device and transform it using connectivity data into a customer-facing mobile application while delivering operational portals for maintenance teams. Massive potential for these infrastructural deployments lies in the ability to connect real-time data to a fly-wheel of other applications to drive further business insight, and customer value.

Device and connectivity management has therefore become a cornerstone for business success in today's digitally-driven business environment. If this is not done effectively, then the company stands to lose significant momentum in a highly competitive market. ☺

CAN THE CONSTRUCTION SECTOR BE REBUILT?

Significant business disruptions, a constrained economic climate and a decline in the resultant revenue exacerbated by the COVID-19 pandemic are some of the challenges faced by the South African built environment.

Key concerns are the decline in large build opportunities and investment in infrastructure, as well as the significant shortage of construction projects. These impacts have resulted in the need for the built environment to address both short-term and long-term business challenges as it is faced with a new national environment.

According to the 2021 PPS Graduate Professional Index (GPI) results released in late May 2022, it is evident that many graduate professionals in the built environment sector are continuing to feel the rippling effects of the pandemic. In November 2021, the financial service provider PPS engaged with 3 264 of its members – all graduate professionals – across various industries to gauge their confidence in the future of their profession and understand their views on issues they feel are influencing their careers and their livelihoods.

While the pandemic placed a serious damper on economic activity in the country, 59% of the respondents felt positive and confident about the future of their professions. However, 48% of the respondents operating in the built environment felt less confident about prospects in their industry.

“For many businesses in the built environment already teetering on the brink of having to close their businesses, the pandemic has been a crisis of unprecedented scale, the remnants of which are still being felt,” says Ayanda Seboni, Group Executive of Marketing and Stakeholder Relations at PPS. “The slowdown experienced by the built environment was severe as activities grounded to a halt and contractors were faced with a new variety of unknowns relating to occupational health and safety in addition to the uncertainties of when and how the economy would recover,” Seboni explains.

The impact of the pandemic has been felt by all sectors, with 63% of respondents stating that COVID-19 negatively affected their careers and 47% stating that during the pandemic, business opportunities in their sector dried up significantly. These trying circumstances have made professionals in the built environment more financially

conscious, with 90% reportedly being more astute in their approach to money matters, such as financial planning and investing.

Notwithstanding this savvy savings behaviour, the cost of living for these graduate professionals increased, with many having to pay more to maintain the same lifestyle. While South Africa’s inflation rate has been quite stable for the past few years – levelling off between 3,3% (in 2020) and 4,1% (in 2019) – 93% of the respondents stated that the historical inflation rate was much higher than the real rate experienced when paying for goods and services.

“With the onset of South Africa’s national lockdown, the government diverted infrastructure spending to alleviate the country’s economic and social crisis, cutting traditional expenditure by 80%. While necessary, this had dire consequences for all sectors, especially the built environment, and now the sector is faced with the arduous task of trying to recover and rebuild to get back to operational sustainability,” says Seboni.

The road to recovery is long, and while the government has committed to using infrastructure projects to drive post-COVID-19 economic recovery, 71% of skilled professionals do not believe there are enough building and construction projects in South Africa to help the sector rebuild and recover,” says Seboni.

The South African Economic Reconstruction and Recovery Plan is aimed at stimulating equitable and inclusive growth.

“However, 63% of skilled professionals stated that they lack faith in the government to drive this plan and unlock greater job creation and faster economic growth,” concludes Seboni.

- 71% of skilled professionals do not believe there are enough built environment projects in South Africa.
- 63% of skilled professionals believe there is a decline in large build opportunities and infrastructure investment.
- 63% of skilled professionals lack faith in the government to drive the South African Economic Reconstruction and Recovery Plan and unlock greater job creation and faster economic growth. ©

COROBRIK OFFICIALLY ACCREDITED AS A BRICKLAYING TRADE SCHOOL

Leading clay brick and paving manufacturer Corobrik has been officially accredited as a Skills Development Provider (SDP) by the Quality Council for Trades & Occupations (QCTO). “We are now a fully accredited trade school for bricklayers,” says Talent Developer Manager Sibongile Dlamini.

The company actively contributes to the government’s skills development and empowerment initiatives by offering bricklayer training at building schools at Avoca in KwaZulu-Natal, Lawley in Gauteng, and Lansdowne in the Western Cape. The training is fully accredited by the Construction Education & Training Authority (CETA).

These not-for-profit training centres are open to the public, government appointed students, and members of various organisations. Another major focus is assisting its own customers. The building schools offer two types of training: Firstly, a one-year learnership that includes theory and a practical component and, secondly, a short nine-week skills programme that cherry picks modules from the learnership. The trainers themselves are employed by Corobrik and qualified both in their trade and as training facilitators.

“We have been offering this training for over a decade to date,” says Karabo Motsepe-Marutla, Government Development Manager at Corobrik, adding that the manufacturer celebrates its 120th anniversary this year. “The focus is obviously to equip

unskilled workers with building and bricklaying skills such as that they can be gainfully employed and gain knowledge of building and the construction industry as a whole.”

The training offered by Corobrik not only provides an entry level for a rewarding career in the construction industry, but also allows for existing skills to be developed further and affords an opportunity for retraining if required.

Given the government’s commitment to a significant rollout of infrastructure projects, it is critical to have such a skills pipeline in place. Motsepe-Marutla highlights that basic bricklayer and building skills play a vital role in rebuilding flood-ravaged KwaZulu-Natal, particularly in the worse-hit rural areas.

“The long-term goal is that everyone who gets trained is employed. The idea is to bring together as many property value chain partners as possible in the various regions – from contractors to developers and occupiers – with ourselves as the training provider and to pool all our resources along with the government,” highlights Motsepe-Marutla.

An interesting trend, according to Sibongile, is an increased uptake of the training by women. Minister of Human Settlements Mmamoloko Kubayi recently handed out certificates to a group of women from the Western Cape who successfully completed the Corobrik training. “That is changing the face of the construction industry from the ground up,” notes Dlamini. ☺



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THE OHS AMENDMENT BILL ENFORCES STRICTER HEALTH AND SAFETY REQUIREMENTS FOR SOUTH AFRICAN BUSINESS

*The original Occupational Health and Safety (OHS) Act was enacted in 1993, with the purpose of providing for the health and safety of people at work while operating equipment and machinery. While the OSH Act is legally enforceable, and managed by the Department of Labour, the aim of the OHS Amendment Bill is to ensure that businesses have a direct consequence for non-compliance. **By Louise Woodburn, General Manager at KBC Risk Solutions, a Division of KBC Health & Safety.***

This will be gazetted and signed into legislation in the first half of 2023. The Bill enforces stricter health and safety requirements for South African businesses, and while it is not law yet, this is coming, and organisations need to be prepared.

Formalising the process

The biggest fundamental change of the Bill is that businesses will now need to develop a health and safety management system to formalise workplace health and safety. This change applies to Section 7 of the OHS Act, which is currently limited to a health and safety policy.

According to the revised definitions proposed by the Bill, “a health and safety management system means, a co-ordinated, comprehensive set of interrelated or interacting elements to establish occupational health and safety policy and objectives in order to optimally manage health and safety”.

Essentially, this means businesses will be required to formalise health and safety procedures with policies, objectives and measurement tools. In addition, Section 8 of the Act will now require a documented risk assessment and risk management plan. This is separate from the health and safety management system.

More severe penalties

The current penalties for non-compliance with the OHS Act include a prohibition notice with a period of time in which to correct infringements, but no real implications for not doing so, aside from the potential implications should an incident occur. With the Amendment Bill, however, inspectors will be given the power to issue administrative fines on the spot for certain contraventions of the Act. This includes not establishing

a health and safety committee when required, and not ensuring the health and safety committee meets at least every two months. These fines amount to R50 000 per infringement or contravention, so businesses with multiple areas of non-compliance could find themselves facing significant financial penalties.

What does this mean for business?

Businesses that have the right systems and processes in place already to manage health and safety, are most of the way toward compliance with the OHS Amendment Bill. There may be some adjustments necessary, but they should not be too onerous.

However, businesses that have not previously paid attention to health and safety will now be required to have formal policies and risk assessments in place to protect employees. This applies to all businesses, in both the formal and informal sectors, and includes persons who employ domestic workers in their homes. Employees are also empowered to report their place of work to the Department of Labour should they feel their working conditions are unsafe.

Safety first

The OHS Amendment Bill provides for more formal processes, procedures and validation against health and safety requirements. Ultimately, this is about protecting people and ensuring better health and safety in the workplace. Businesses have legal, moral and financial responsibility to ensure compliance and make sure that people, their biggest asset, are safe.

With over 220 pieces of legislation that can impact a business, the process of compliance may seem overwhelming, but having the right partner on board can be a saving grace. Working with a health and safety partner ensures that businesses are able to build the systems and policies they need to comply from not only a legal standpoint, but from a cultural and administration point of view as well.

A health and safety partner can ensure businesses do not fall foul of new legislation and can continue to ensure compliance as laws get stricter. ©

Businesses that have the right systems and processes in place already to manage health and safety, are most of the way toward compliance with the OHS Amendment Bill.



CAN YOU REFUSE TO GO TO WORK IF VACCINES AREN'T MANDATORY?

The COVID-19 working challenge continues as companies and employees face a new challenge – office working without vaccination.

Companies in South Africa are rebooting the office and restarting traditional ways of working. A reality that has several repercussions, not least of which being the management of vaccination policies. Many are ditching the demand for mandatory COVID-19 vaccines which puts employees in a tight spot, especially those who are immune-compromised or have comorbidities. However, as Nicol Myburgh, Head: CRS Technologies HCM Business Unit points out, the law is on the side of the business not the employee, so if the business says back to work, employees either return, resign or face retrenchment.

“It all comes down to the reasoning behind having a mandatory vaccination policy in place,” he explains. “If a company has undertaken a safety and risk assessment, considered the various risk factors, yet still finds it unnecessary to have a mandatory vaccination policy, then employees have to come in to work. If someone refuses to come in based on health concerns, the company simply refers back to the assessment that says it is safe to work and that person has to go back to the office.”

Of course, this is the hard line that companies can take. They can insist that a person come in to the office and if there is an issue, the person has to weigh up whether or not they should continue working for that company. However, many companies are likely to take each person’s unique circumstances into account – if the employee can work from home and has a legitimate health concern, then they may be allowed to continue doing so, but if they have to be physically on site for operational or productivity reasons, the situation becomes complicated. The hard reality is that if a business says come to work, employees have to go to work, even with

unvaccinated people who put them at risk. “If an employee continues to refuse to come in to the office, the employer can conduct a hearing and the outcome will be balanced against operational requirements and business expectations,” says Myburgh. “This is a messy situation, however, because if a person has comorbidities, and has had these since they first started working at the company, but is unable to continue working in their original role because of the health risk, they can be dismissed. But they have equally good justification to go to the CCMA. After all, many people in this situation have been successfully working from home for the past two years so companies really have to prove that the employee must be in the office.”

There are options, of course, that can be implemented to ease the situation for both company and employee. The latter could be provided with a separate office and not be forced to interact with other employees, or employees could be asked to wear a mask when engaging with them. There are multiple routes to easing the transition for employees and making it possible for people to work together more effectively.

“A lot of factors go into weighing up whether or not the approach a company takes is fair or unfair,” concludes Myburgh. “In a case like this, when an employee is required to return to the office and no middle ground can be found, the employee can be dismissed and may not have recourse with the CCMA.”

There are multiple factors that play a role in managing the complexities of this situation, but one thing is clear – more work is needed with the current labour laws around the nuances of vaccinated vs. unvaccinated and managing a pandemic within the workplace.” ☺



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AFRISAM FLAGS THE RISK OF SUB-STANDARD CEMENTS

AfriSam, South Africa's leading construction materials supplier, says that sub-standard cements are entering the South African market and cautions against their use, which – in a worst-case scenario – could result in structural failure and possible loss of life.



The Centre of Product Excellence supports customers and provides internal as well as external training.

According to Mike McDonald, chemical expert and manager of AfriSam's Centre of Product Excellence (CPE), despite the lack of official statistics on the scale of the problem, it appears to be on the increase. "What I can say is that we have tested a number of commercially available cements recently and found some of them to be sub-standard," he says. "In fact, one product we tested only contained 25 % cement, with the rest of the material being fly ash."

McDonald believes that the danger of sub-standard cements of this type finding their way into multi-storey buildings or large civil engineering structures is limited, given that work at this scale is largely carried out by reputable contractors who, in turn, source their cement and other building materials from reputable compliant producers within the industry.

"What worries me more is that these sub-standard cements will find popularity at the lower (and very price sensitive) end of the market – in other words, with smaller builders, 'emerging' contractors and possibly even homeowners upgrading their properties on a DIY basis," he says.

Whilst sub-standard cement in the residential and non-industrial sector of the market may not show its impact in the short-term, experience shows that the long-term impact with regards to durability of structures could be quite severe.

Given the climate change the world is experiencing, the likelihood of extreme weather conditions and floods, like we've unfortunately experienced in our country recently, is no doubt going to increase. The one things that a home owner needs, is the assurance that in though weather

conditions, they will feel safe in their homes because of the sound structure.

Over-and-above that, is the increased maintenance costs that comes with sub-standard walls that have been built and plastered with these poor quality cements. If we are going to reduce poverty and create generational wealth, the responsible thing to do as a nation, is to leave homes, buildings and infrastructure that are durable and long-lasting and does not place a financial burden on future generations.

According to McDonald, the producers of sub-standard cements that have been detected are in most cases breaching the law. "Cement production and quality is governed by the compulsory SANS 50197 standard, which is a demanding specification," he says. "The National Regulator for Compulsory Specifications (NRCS) is responsible for ensuring compliance. So, in theory, it should not really be possible for sub-standard cements which do not meet specification to be sold but, inevitably, it does happen."

By contrast with the 'rogue' suppliers, McDonald says that AfriSam goes to extraordinary lengths to ensure product excellence, with its cement, aggregate and slag products having SABS certification and its readymix business operating to ISO 9001 standards.

"Quality is what AfriSam stands for and all our products outperform the relevant specifications," he states. "They have been thoroughly tested, are totally safe to use and are fit for purpose. Moreover, and this is where the CPE comes in, we are not only happy but indeed eager to assist customers, large or small, with advice on which of our products they should use in any particular application and how they should

Based at its Roodepoort cement plant, AfriSam's Centre of Product Excellence was established 10 years ago.



Durable, attractive structures require high quality cements and concretes.

help?’ We will get a sample of the sand delivered to us and will then come up with an appropriate mix.”

With sustainability and the quest for Net Zero being of huge importance to AfriSam and many of its customers, the company has made great strides towards ensuring a low carbon footprint for its product range. “The CPE has played a significant role in this,” says McDonald. “We have been able to reduce the carbon footprint of our products quite substantially without sacrificing performance and we believe we are at the forefront of the move towards sustainable cement production processes and ‘green’ construction. We have been able to produce cements with just half the carbon footprint of standard cements.”

Research and development falls within the remit of the CPE and projects researching different properties of cements, supplementary cementitious materials, aggregates and concrete have been carried out in conjunction with customers, universities and other bodies. Current projects include an eight-year assessment of the effects of highly corrosive environments on concretes made with differing proportions and types of raw materials.

McDonald says that the CPE is a key contributor to AfriSam’s high standing in the marketplace, where it is renowned for the quality of its products and the support it gives to customers. “We are a major player in the cement industry, with more than 1 300 proud employees throughout the group. We have been able to become a trusted advisor to our customers because of the strength of the AfriSam brand and the trust that people put in AfriSam’s products.”

Founded in the 1930s as Anglovaal Portland Cement company, AfriSam has changed its name several times over the decades, adopting its present name in 2008 after an historic BEE transaction. The company operates two fully integrated cement plants in South Africa, a milling plant, five blending plants, a slag grinding plant, 17 readymix concrete plants and 10 aggregate quarries. It is one of the largest suppliers of concrete materials in South Africa. ©

be applied to achieve the optimum outcome.”

Established around ten years ago, the CPE is based at AfriSam’s Roodepoort plant in Gauteng. “The CPE team totals 11, which includes a team manning a SANAS-accredited laboratory, and we work countrywide and in neighbouring states where we have operations, specifically Lesotho and Eswatini,” says McDonald. “Essentially, we support our products wherever they are used. There is no charge for our services as long as the customer is either using or thinking of using our products.

“Part of our work is done over the phone but we believe in a ‘hands-on’ approach and frequently visit sites as well. We also provide both internal and external training. One group in particular that we’ve assisted over the years is the small concrete product manufacturers, who typically make products such as concrete blocks. They are often lacking any deep knowledge of cement and concrete. We show them how to achieve good quality while using as little cement as possible.”

Mix design is another area of activity for the CPE. “This is a very important part of what we do,” says McDonald. “We will work collaboratively with customers to ensure that we come up with a mix which is perfectly suited to the application and which can be made from the materials available locally. For example, we might have someone from the Northern Cape who contacts us and says, ‘This is the sand we have and we want to use your cement. Can you



AfriSam’s products have been thoroughly tested, are totally safe to use and are fit for purpose.

2022

T W E N T Y - F I R S T

BEST PROJECTS

LAST CALL FOR ENTRIES



Construction World's Best Projects showcases excellence in the South African building, civil engineering, supply and project management sectors. In its 21st 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, CIOB and Architecture.

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 address 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 or by requesting it from 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 .jpps and the copy in Word (not PDF format).
- The submission must also contain a **summary of important project information** such as the client, main contractor 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 format/venue and date of the awards evening will be available in July when there is more clarity with the situation around COVID-19.

Entry form available on

www.constructionworldmagazine.co.za
or by requesting it from constr@crown.co.za

Contact

For more information contact the editor,
Wilhelm du Plessis, on 011 622 4770 or constr@crown.co.za

1 *Category* Civil Engineering Contractors

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

3 *Category* Civil Engineering and Building Contractors (outside South Africa)

- In addition to the common prerequisites, projects outside South Africa must be executed by a **South African** contractor.

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

5 *Category* Consulting Engineers

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

7 *Category* The AfriSam Innovation Award for Sustainable Construction

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

2 *Category* Building Contractors

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

4 *Category* Specialist Contractors or Suppliers

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

6 *Category* Architects

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

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Construction WORLD





THE WORLD'S TALLEST BUILDING CONSTRUCTED WITH HEMPCRETE IS IN CAPE TOWN

A global first, 84 Harrington Street is officially the world's tallest building constructed using hempcrete blocks and hemp building materials.

A partnership between two Cape Town-based companies, Hemporium, and Afrimat Hemp, 84 Harrington Street is setting the benchmark for how to build a safe, carbon-neutral, multi-story building using hemp blocks and hemp systems.

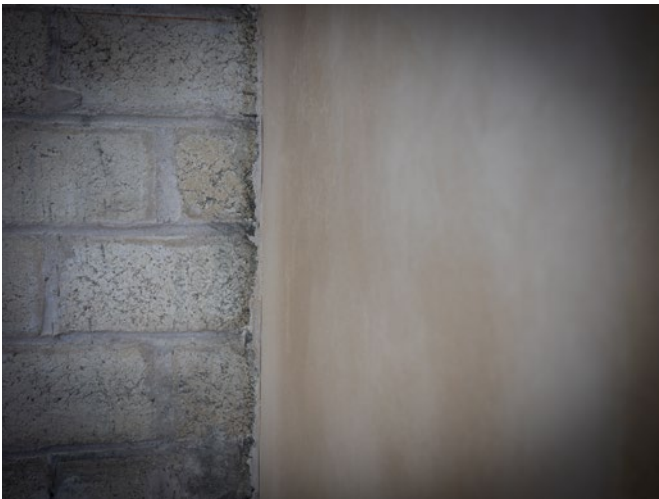
"I bought 84 Harrington in 2016, with the idea being that it would become the flagship Hemporium store, a steak restaurant, and house the 'Hemp Hotel', a place where people can experience living in a hemp-constructed space.

From a sustainability and eco-construction perspective, we wanted to take hemp construction in South Africa to the

next level, while also contributing to the inspiring hemp construction projects being undertaken globally.

We also believed that once licenses for the commercialization of hemp in South Africa were issued, having innovative examples of what can be achieved with hemp would assist with leading the way for the fledgling hemp industry in South Africa," Duncan Parker, Founding Partner and CEO, Hemporium.

There is a massive increase in the global demand for bio-based construction which is driven by the need for the reduction of CO₂ emissions. Hemp construction is



considered the gold standard for CO₂ reduction in buildings.

The South African government has initiated a drive to create employment within the industrial hemp sector, therefore the timing to develop hempcrete-based construction materials is ideal.

Previously, hemp houses built in South Africa used hempcrete. For a project of 84 Harrington's scale, this was not feasible, and inspiration was taken from hemp blocks developed in Europe. The creation of hemp blocks is a viable way to commercialise hemp in the construction industry.

"With this in mind, Hemporium naturally looked for strategic partners on this project, which we found in Wolf and Wolf Architects and Afrimat Hemp," Tony Budden, Founding Partner and Director, Hemporium.

Wolf & Wolf Architects is a small practice specialising in contemporary and sustainable architecture and are considered pioneers of hemp construction in South Africa. They are passionate about pushing the envelope of hemp construction and have set a precedent that will aid in stimulating the new hemp industry in South Africa.

"Afrimat, a mid-tier mining company, prides itself on having an innovative and entrepreneurial culture, always looking at global trends. A subsidiary, Afrimat Hemp, focuses on carbon-neutral construction and unlocking value in the industrial hemp sector.

Afrimat Hemp has developed its own formulated lime binder for hempcrete and is producing hempcrete blocks at one of its commercial block plants," Boshoff Muller, Managing Director, Afrimat Hemp.

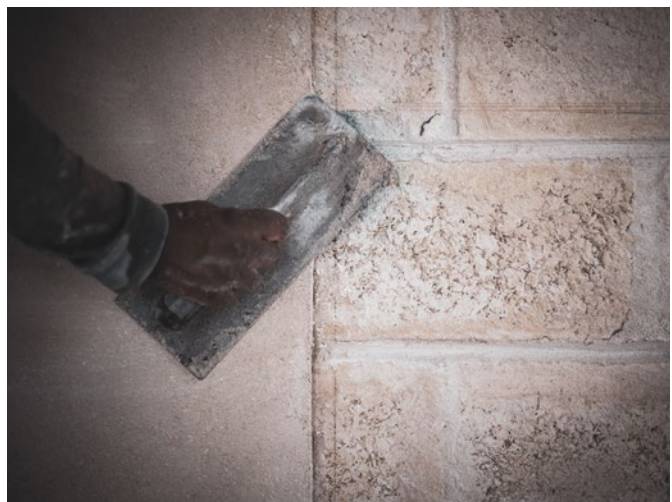
Afrimat Hemp is leading the way in South Africa and Africa for a new era of carbon-neutral building materials and investing in a sustainable future in construction, and proudly supplied the hempcrete blocks and building systems for 84 Harrington Street.

The benefits of using hemp in a multi-story building:

- Hemp is 100% natural, CO₂ absorbing, energy saving, and durable,
- The superior acoustic performance ensures privacy between units.
- Vapour-permeability: The ability of hempcrete to easily absorb and release moisture assists with regulating the buildings' internal humidity, thus maintaining a healthy indoor air quality.
- The lower density of the hemp blocks reduces the load of the walls on the foundations & therefore the cost of concrete.
- Using hemp blocks reduces the CO₂ footprint of a

building as well as its operational CO₂ footprint. Hemporium's long-term goal is to continue to promote legislative change so that cultivation of industrial hemp in South Africa becomes a mainstream reality. The hemp industry could provide solutions to many of the challenges that South Africa faces by way of sustainable housing, nutrition and job creation.

Afrimat Hemp also expands its upstream hemp processing capabilities through its built technology. This will help enable the hemp value chain to be unlocked cost-effectively in South Africa for all. Afrimat Hemp is also committed to creating jobs in South Africa and contributing to a sustainable, carbon-neutral, future. ☺





GREEN STAR – EBP CUSTOM INDUSTRIAL PILOT RATING TOOL SET TO BE A CATALYST FOR GREENING INDUSTRIAL PROPERTIES IN SOUTH AFRICA

The Green Building Council South Africa (GBCSA) announces the launch of its new Green Star - Existing Building Performance (EBP) Custom Industrial pilot rating tool. Sponsored by Growthpoint Properties, the pilot tool is now available for all industrial properties to use.

The South African industrial property sector has shown positive growth year-on-year post lockdown in 2020 (source: StatsSA). This is attributed in part to the rapid expansion of ecommerce (accelerated by the pandemic) leading to increased demand for logistics and warehousing type spaces. But as we ‘build back better’ after the pandemic, industrial buildings could have a key role in South Africa’s net zero journey too.

Industrial buildings form a notable portion of South Africa’s existing building stock. Better-managed and better-performing green industrial buildings have great potential to decrease energy and water consumption, as well as reduce waste-to-landfill production. Furthermore, warehousing and distribution centre types of buildings often have the

capacity, because of their roof-space-to-energy-use ratio for solar panels, to generate more energy than the building demands, enabling them to be exporters of energy.

“Industrial buildings, such as warehouses, manufacturing plants, and logistics facilities, play a key role in the smooth running of national and regional economies. It’s vital that these assets are future-proofed for the impacts of a changing climate and the rising costs of energy, water, waste, and emissions, as well as delivering a range of other benefits for their tenants,” explains Errol Taylor, head of Asset Management: Industrial at Growthpoint.

A new custom tool in response to a noteworthy market trend

Wanting to respond constructively to

this market trend and to support the variations of the industrial property market, the GBCSA board gave a directive that the Green Star – EBP rating tool should be specifically customised for existing industrial buildings in December 2020.

The GBCSA’s existing Green Star – EBP tool is aimed at rewarding buildings that are managed sustainably well, can demonstrate good operational performance over a measured period, and that contribute towards better quality spaces for tenants. “When the original EBP tool was developed, it endeavoured to take as many building typologies as possible into account, but there were nonetheless limitations and, in reality, it has largely been applied to the commercial office segment of the market,” explains GBCSA head of Technical, Georgina Smit.



The customisation process was adopted to ensure that GBCSA can offer the market standardised guidelines for energy and water benchmarking of industrial buildings, as this currently does not exist in the South African property market. Furthermore, nuances around industrial building ownership needed to be slightly reconsidered within the tool to better serve the market. For example, many single tenancies operate on triple net leases which places a lot of the operational decision making with the tenant and not the landlord. “A custom tool is not a new one, but instead focuses on customising the existing tool for a new typology, to better suit the functionality and user profile of that typology” explains Smit.

As a founding member of the GBCSA, and committed advocate for a more sustainable built environment, Growthpoint Properties came on board to sponsor the EBP Custom Industrial tool development. “Owning and operating green-rated buildings is integral to delivering our ESG strategy including tracking towards our target for all Growthpoint’s buildings to operate at net zero carbon by 2050,” says Grahame Cruickshanks, head of Sustainability and Utilities at Growthpoint Properties.

With a portfolio of assets in South Africa spanning all three traditional property sectors (office, industrial,

and retail), Growthpoint notes that the GBCSA’s Energy Water Performance (EWP) benchmarking tool, which is integrated into the EBP tool, facilitates bottom-up learnings on efficiency and costs as well as top-down learnings for sustainability and accessing financial products. This tool has been an essential starting point for Growthpoint’s green journey, and Cruickshanks believes a customised tool will add tremendous value for industrial properties.

GBCSA technical manager, Jenni Lombard, headed the project internally, and sustainability consultants Sow and Reap and Imbue Sustainability came on board to assist with the tool customisation. Francois Retief from Sow and Reap comments that the industrial typology is an interesting one because the sector itself is quite varied, with sub-categories including distribution centres, warehousing, light-manufacturing, workshops, and more. Also, because of the leasing structures which place more responsibility on the tenant than the property owner, issues of sustainability in the building are often neglected as they are seen as secondary to the industrial activities themselves, or responsibility is unclear between owners or occupiers. “As such, it is important to create a framework which allows for landlords and tenants to work together at improving the assets,” adds Retief.

What’s different about the new EBP Custom Industrial pilot tool?

The Custom Industrial pilot rating tool follows the same structure as the current Green Star – EBP v1 tool, but with clarifications and benchmarks specific to the industrial sector. Some specific differences property owners can expect to see are:

- Credits that are better aligned with the varied kinds of industrial building typologies. With respect to energy and water, benchmarks have been put forward for specific sub-categories such as distribution centres, warehousing, light manufacturing, and workshops. All energy and water usage is included within the benchmarking process, with certain conditions set out for the exclusion of unusually large process loads.
- A new Energy and Water Benchmark Framework that can be used when following

benchmarking operational performance for the industrial sub-categories. This has been developed from a dataset collected specifically from existing industrial buildings and will perform the function of providing a simplified industry benchmark, but one that has taken some normalising factors into account. Existing operational performance data was contributed by major REITS, analysed by the appointed sustainability consultants, and new benchmarking parameters were set to form this framework. “The significance is that it will tangibly support industry by offering a standardised methodology for analysing energy and water performance data both for comparisons (that is, to compare apples with apples) as well as in offering indicative benchmarks based on primary data that has been collected,” adds Smit.

- Credits that support property owners and tenants working together at improving assets. As with the EBP v1 tool, property owners are able to address some credits without necessarily involving tenants. However, for many of the credits relating to building management practices such as waste management, green cleaning, and so on, it will be necessary to have the tenant commit to implementing such procedures. “The custom tool incentivises increased engagement with tenants. We believe that this will be critical not only in the success of the tool but also has huge potential knock-on effects into tenant processes,” says Retief.

Taylor anticipates that over time the new tool will demonstrate that Green Star – EBP Custom Industrial certified buildings outperform non-certified industrial buildings against ESG criteria and financial returns on investment. Smit concludes: “GBCSA hopes to support the market transformation of the industrial sector, in the same way it supported the journey of the commercial office space, with this tool. We are also hoping to embark on a journey of continuous energy and water data collection in order to refine benchmarks for future iterations of the EBP tool.” ©

TUHF IS OPTIMISTIC ABOUT RENEWED GROWTH IN KZN PROPERTY MARKETS

Following the unrest in July 2021, the floodings earlier this year, and the continued threat of the ‘construction mafia’ in the province, the Durban CBD has been slow to recover. But this doesn’t mean property investors have lost their appetite for inner-city investing, according to Sershin Moodley, TUHF Regional Manager for KZN and Free State.

The human, social and economic impact of the July 2021 unrest have been significant in Kwa-Zulu Natal (KZN). Adding to the complexity of the situation has been the April 2022 floodings in the province which only exacerbated the challenges of repairing infrastructure and getting KZN fully operational. And then there has been the rise of the so-called ‘construction mafia’ that has seen a criminal element holding construction sites to ransom and demanding builders use only their people to cover a portion of the local procurement requirement.

It hardly comes as a surprise then that recovery has been slow, with individuals, local companies and multinationals opting not to rebuild their damaged properties within Durban. Furthermore, it has become more expensive over the

past 12-months to put up new buildings in the province. This can be attributed to the shortage of materials and the continually increasing steel prices. For instance, between this time last year and now, builders can pay substantially more for a ton of steel resulting in a significant knock-on effect. TUHF customers must now invest even more from their own pocket, leaving them with precious little wiggle room to cover any unforeseen costs.

On the upside, however, TUHF is seeing new investors take up the opportunity to establish themselves in the industrial area surrounding the CBD. This speaks volumes to the resilience of the inner-city property market.

“Three major trends, and the fact that new companies are establishing

themselves in the Durban CBD, could see KZN experience increased investment despite the perceived risk,” says Moodley. “Firstly, micro-units are still popular, as people are downsizing because of the economic impacts of the COVID-19 pandemic. Secondly, many are looking for more communal living areas with their families instead of staying at the outskirts of the city. And finally, there is a short supply of quality student residential offerings in and around Durban. With the city becoming a hotspot for tertiary education, there will be a growing need to house out-of-towners around the universities.”

“The regrettable events of the past 12-months have certainly given some investors reason to pause, but these three trends have not subsided and the

AGILITY AND RESILIENCE IN EXECUTING A FOCUSED STRATEGY

Just over two years ago the world was upended by the COVID-19 pandemic, an unprecedented global health crisis. Earlier this year, further geo-political upheaval in Europe through the Russian invasion of Ukraine has either directly or indirectly affected South Africans. The global effects of these shocks cannot be understated and require a heightened level of resilience and agility from businesses, their boards and financial and operational teams alike. By Raj Nana, Attacq CFO.

The property sector was significantly affected by the various national lockdowns during the first 18 months of the pandemic. Around 50% of Attacq’s portfolio consists of retail (retail experience hubs) with the balance comprising office (collaboration hubs) and light industrial (logistics hubs).

Our response was simple: keep our clients in business, keep our assets fully occupied and be proactive in managing these risks with our stakeholders. During this period, we assessed each client’s situation on a case-by-case basis and

provided R187m in total Covid-related relief. The silver lining was that most of our clients weathered the storm and our relationships with them are stronger than they have ever been. Since then, our retail valuations have stabilised and the most recent turnover performances show a marked improvement, exceeding pre-pandemic performances.

In addition, our other focus during this period was managing the balance sheet – ensuring we had a strong balance sheet together with a healthy liquidity position. Sometimes, this required

difficult decision making. We could not predict the length and breadth of the pandemic and therefore acted prudently. We identified assets for disposal and executed on these in a short time frame. During this period, R2,8bn of assets were disposed of, and gearing reduced from 46,6% to 38%.

A renewed post-Pandemic focus
Recently, the focus has shifted to income and yields. Much of the lease deal making during the pandemic was short term, with a view of not locking in low

demand for affordable inner-city housing remains on the rise,” he continues.

Tying these three trends together is the fact that the urbanisation of the CBD is expanding beyond Durban property. “Urban densification is a national imperative for South Africa. It has been for some time, and KwaZulu Natal is no exception,” Moodley says. “This is why TUHF has been expanding our offering in the province. We’ve recently extended our financing footprint in the Durban South Basin to include Seaview, Clairwood, Wentworth, and the industrial area of Jacobs, as well as additional parts of Durban North, Phoenix, the Bluff, and Montclair.”

TUHF21, though separate from TUHF, shares TUHF’s views regarding investment in KZN. TUHF21’s uMaStandi programme – which offers commercial property finance in targeted township areas based on freehold title – recently launched a pilot project in partnership with NOVAYA Labs in Kwa Zulu Natal. It’s using OneCity technology to map the infrastructure, activity, and land rights in Umlazi and KwaMashu, two of the largest townships in KwaZulu-Natal, and in so doing target its efforts to fund affordable housing projects.

“These communities were selected based on the potentially high demand for affordable housing investment,” Moodley says. “So, while we are not blind to the challenges that concern investors at this time, we are confident in the potential

KZN offers investors, and are willing to put our money where our mouth is to back our clients and upcoming property entrepreneurs.”

Moodley acknowledges that post-pandemic and post-unrest economic impacts are not the only risks that need to be discussed when it comes to inner-city property investment. “Some investors are cautious about the commercial property industry in the CBD due to subdued performance in recent years,” he says. “Sadly, lack of service delivery in the inner cities has also become a deterrent. Though some municipalities are performing better than others, we’re seeing some degree of lack of delivery in all our funding areas. This means that investors are increasingly cautious about investing in urban densification or regeneration projects because, without reliable basic services, it’s harder to attract tenants and retain them.”

In many instances, especially in KZN, the communities have taken matters into their own hands, coming together, and using their own funds to repair infrastructure like roads. People are bouncing back despite government’s inability to effectively manage recovery in the province.

Even so, as the country seeks to rebuild communities and recover economically following the major political and health events of the last two years, collaboration on urban

densification is key to ensuring inclusivity and sustainability.

“We are committed to engaging with local government to resolve the challenges around service delivery,” Moodley says. “We believe it’s part of our responsibility to our clients to put our weight behind these discussions.”

Moodley believes it is essential to take a long-term view of the opportunities. Entrepreneurs can capitalise on the new normal trends spurred on by the pandemic. “For example, provisioning units with work-from-home capability has become much more important. Good, reliable Wi-Fi is becoming a non-negotiable in development right now. Good lighting, good ventilation, cost-saving approaches to utilities and other facilities that are conducive to productivity are also important for property entrepreneurs who want to attract reliable tenants.”

“When you invest in a local economy, like TUHF does, you stimulate local economic development in a neighbourhood sense. As we invest in inner cities, we are more likely to create employment, stimulate spending, contribute support for small businesses and in so doing grow local micro-economies in an inclusive and sustainable way. Rebuilding in KZN must be done to protect the people and inspire confidence in the possibilities that still exist in our local economies and the country,” concludes Moodley. ☺

pandemic-level rentals, but to rather be able to renegotiate these once the market had ‘normalised’.

This is now bearing fruit. Retail trading densities are up 12,1% with Mall of Africa exceeding 18% year on year and most retailers are seeing improved performances of their own. All our retail experience hubs are more than 96% occupied and our Waterfall Precinct has recently transferred more than 235 residential units in its premium Ellipse sectional title development and Waterfall currently has more than 34,000 m² of developments under construction. Consequently, our strategy of owning and managing high quality precinct focused assets has paid off.

Maintaining the momentum

New initiatives that are aligned with our purpose of creating smart, safe and sustainable precincts are gaining momentum and these are sometimes borne from the infrastructure challenges we have in SA. These initiatives have an ‘environmental’ underpin providing either energy or water resilience, or

they play their part in reducing the cost thereof, and always have a yield enhancing angle to them. Robust budgeting processes are critical when top line growth is muted and there are no sacred cows, but we appreciate that costs in support of new revenue initiatives are required with long-term decision making taking priority.

Balance sheet management is ongoing – capital allocation is critically important, especially so in our stagflationary (high inflation, low economic growth) environment that we are currently experiencing. Our Waterfall City development pipeline continues to attract high quality multi-national clients and managing these development costs is of paramount importance.

Furthermore, supply chain challenges and high inflation on construction costs have required the team to develop strategies to mitigate these risks. Securing key components of the construction with reputable suppliers and conducting open-book transactions (rentals and selling prices based on actual final capital expenditures) are

some of these mitigants. The interest rate hiking cycle is well underway and our policy of hedging at least 70% of our interest-bearing debt will assist in managing the interest rate risk.

In business, much as in life, we will face challenges, but the resilience and agility we’ve developed will stand us in good stead in finding the opportunities that lie therein. ☺





BOARDWALK MALL IS READY TO OPEN ON 22 SEPTEMBER '22

With three months until Boardwalk Mall's official opening, the development is comfortably on track to open fully-let, bringing the best shopping, leisure and entertainment South Africa has to offer to Gqeberha.



The construction of the 24 000 m² single-level Boardwalk Mall is 80% complete and forging ahead. After preparing to commence work in February 2020, demolition and bulk earthworks were finally able to get underway from February to April 2021, and construction began in May 2021. True to the development's deep commitment to creating local employment and opportunities, 87% of the labour on site is local.

Boardwalk Mall in the Eastern Cape is a major development by Flanagan & Gerard Group and Emfuleni Resorts, a subsidiary of Sun International (JSE: SUI). The R500m project builds on the success and strong community roots of the landmark Boardwalk Casino and Entertainment World. Boardwalk Mall is an extension and upgrade of the Boardwalk Precinct and is more than doubling the retail space in the precinct. The first phase of Boardwalk Mall opened on 24 March 2022, and the grand opening is on track for 22 September 2022. "Boardwalk Mall is a retail and lifestyle powerhouse," says Paul Gerard, MD of Flanagan & Gerard.

The mall is introducing the first Checkers, Woolworths Food and Dis-Chem stores to the Summerstrand area while also providing all the convenience and choice of a Pick n Pay and Clicks and the very latest cinema upgrade from NuMetro. Patrons can look forward to style from Sportscene, Totalsports, Ripcurl, Queenspark, Senqu, American Swiss, Exact, Refinery, Legit and Side Step. Boardwalk Mall will also

serve up the much-loved menus of Spur, Steers, Debonairs, Fishaways, and Wimpy. Its McDonalds Drive Thru will also open on 22 September. Boardwalk Mall's banking line-up includes ABSA, Capitec, FNB and Nedbank.

The Boardwalk Mall philosophy is all about keeping it local. Providing a small taste of its signature style, the first phase of the mall spotlighted local independent retail talent when it opened in March this year. Already well supported by the community, local concepts include Hello! It's Me, Bem Vindo, Friesland Milk Bar, Shark Rock Tattoos, Village Hardware and Paco Taco. Hombakazi and Larpelo Eyewear are local fashionistas who have both opened in the mall to complement their established countrywide online presence.

More local and independent retail highlights are coming in the mall's main phase, including home-grown labels MaXhosa with their South African branded high-end fashion, BohoGirl and Obriani. Proudly independent South African brands joining the mall include the brother-and-sister duo making new food-waves in the city, including The Balkan Burger & Deli, Gussies Stationers for independent stationery, homeware from @home, gifting as well as the Cape Town brand Yokico, for unique and funky children's school accessories.

Main phase retailers are already preparing their Boardwalk Mall stores to welcome customers. The mall is 98% let, with only five shops available to lease, earmarked for retailers in categories including camping/outdoor, kids

accessories, high-end dining, toys, and electronics/tech.

“Unique in many ways, Boardwalk Mall offers guests so much more than its retail and restaurants because it is located in the Boardwalk Precinct and connects seamlessly with the city and its beaches,” notes Gerard.

Boardwalk Mall links with the Sun International Boardwalk Casino and the 5-Star 140-room Boardwalk Hotel. It is right on the beachfront, and shoppers can step out onto the beautiful promenade running along the incredibly popular Blue Flag Hobie Beach. It is also near the MSC cruise ship dock in Port Elizabeth Harbour, making it a must-visit for tourists.

“We are delighted by the reaction to the launch of phase one of the project, and the impact it has had so far. We are also extremely pleased about our joint venture with Flanagan & Gerard and the work done to date, and look forward to an exciting opening in September,” says Graham Wood, Sun International Group COO for hospitality.

Get ready for excitement levels in Gqeberha to rise: a new 2,500 m² events arena is being built at the Boardwalk’s heart - the Sunpark Events Arena. The Sunpark Events Arena will add to the lifestyle and entertainment activities on offer and provides an

exceptional quality Eastern Cape venue for the legendary events that Sun International hosts around the country.

On opening weekend, Boardwalk’s Sunpark Events Arena will host its first of many rugby events, Boks in the Park, broadcasting all the live action of South Africa v Argentina game on its amazing big screen.

“The major investment that goes into a shopping centre like Boardwalk Mall has exponential and multi-layered benefits for its community. With so many everyday needs taken care of under one roof at Boardwalk Mall, and so many new and special attractions for locals and tourists alike, we’re excited to welcome everyone to a great place where our community comes first,” says Gerard.

Boardwalk Mall officially opens on 22 September ’22. ©

The Boardwalk Mall philosophy is all about keeping it local. Providing a small taste of its signature style, the first phase of the mall spotlighted local independent retail talent when it opened in March this year.

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DESIGN QUARTER – RAISING THE BAR IN CUSTOMER EXPERIENCE

Launched in 2005, Design Quarter quickly established itself as the benchmark design, décor and lifestyle destination in Johannesburg’s northern suburbs. Now, almost 20 years later, Design Quarter is leading the way as it upgrades and repositions itself as a niche lifestyle centre focused on home, dining, leisure and convenience.



“The expansion of marque retailers to a more holistic offering will provide customers with a shopping experience that is convenient, accessible, safe and enjoyable,” says Darryl Mayers, Joint Chief Executive Officer of Investec Property Fund, Design Quarter’s owners. “The ethos behind the upgrade has been to create a space that is carefully curated, bespoke and connected to Design Quarter’s clientele.”

The hand-picked tenants have been selected on their ability to bring an innovative experience to their customers.

Design Quarter is conveniently situated on William Nicol Drive, acting as the gateway to the greater Fourways node. It is located in a secure, access-controlled precinct and is an ideal work-and-play destination.

Design and décor have always underpinned the Design Quarter’s offering, and this category is expanding. Cielo, one of South Africa’s leading online furniture and homeware retailers, recently launched their flagship 1 300 m² store. @ home will be growing, making their Design Quarter iteration the largest outlet within the group’s Gauteng collection. European high-end kitchen manufacturer Fabri, Iconomy Design Experience and the relocation of Mr Price Home complete the substantial category offering.

Dining options have raised their status on Design Quarter’s menu. The reconfiguration has facilitated the creation of a Food Street. The double-volume industrial design concept will create a buzzing food area that spills out onto an outdoor piazza strategically positioned alongside the recreational offering of The Golfers Club and TREK Bikes.

This north facing, open-air zone is unique in the local shopping area and provides a perfect space replete with

a child-friendly piazza. This will serve as the heart of the entertainment area with greater pedestrian access, landscaping, living sculptures and a water feature.

Boosting the dining options will be Bootleggers, one of Cape Town’s most recognised and exciting coffee and eatery brands. They will be offering the finest in sustainably-sourced coffees together with a comprehensive light menu. Existing restaurants will be migrating to the piazza precinct, including Lupa Osteria.

Convenience retailers round out Design Quarter’s offering, and include Checkers’ new concept store, Checkers’ Liquor and Checkers’ Petshop Science, along with a pharmacy offering, and Samsung who will showcase the latest in high-tech home appliances.

The first phase of the redevelopment is due for completion during August 2022 and the final project scheduled for completion mid 2023. Award-winning MDS Architecture, are bringing their expertise to the upgrade.

“Circulation and flow will be improved with greater accessibility and connection between the parking area and the stores,” says Sean Pearce, partner at MDS Architecture. “New lifts and escalators have been strategically positioned to enable shoppers direct access into the piazza and improving the flow and the experience for the customers.”

“This refurbishment could not have come at a better time. The trend towards home improvement gained traction during the COVID-19 lockdowns, providing the perfect context in which to revisit the roots of this landmark building.

The updated design and carefully curated tenants will establish Design as a retail leader,” concludes Pearce. ☉

RECORD-BREAKING

In an epic display of pursuing reinvention with its pioneering technology, Macsteel did the nation proud when the company broke a world record to become the new GUINNESS WORLD RECORDS™ title holder for the longest roof span covered by a single metal corrugated sheet. The sheet spans 280 metres, across the widest part of the roof covering the new Pick n Pay flagship distribution centre in Kempton Park.

“We are thrilled to be officially recognised as a GUINNESS WORLD RECORDS™ title holder. That said ‘Pursuing Reinvention’ is about more than setting a world record for us, it’s about taking our customers on the journey with us and finding innovative ways to grow our business while enabling our customers to keep their businesses thriving, especially in such a trying economic climate”, says Mike Benfield, Macsteel CEO.

“To ensure sustainability remains a key focus in both a global and South African context, we’ve primed innovation as one of our key strategic pillars. We’re focused on contributing to the recovery of the steel industry and but more importantly ensuring the resilience and agility of our business as we focus on pursuing more cost-effective solutions to assist our customers”, adds Benfield.

Macsteel product solutions are developed for customers with the same vigour and consideration as Macsteel adopts in ‘Pursuing Reinvention’. “It’s about understanding what the market needs, recognising and creating a fit for purpose solution that benefits our customers. This is what we did

with the development of the Macsteel roofing product NOVOTEXI 440® and the Sky Forming technology that is used to install it”, adds Benfield.

The pioneering technology, which enabled Macsteel to achieve its status of GUINNESS WORLD RECORDS™ title holder, is its revolutionary roofing product NOVOTEXI 440®, roll-formed onsite, using its industry-leading Sky Forming process. It would have been much harder to break the world record without pairing these two Macsteel innovations. NOVOTEXI 440® was developed by Macsteel to resist high winds and other engineering challenges faced on large-scale roofing projects.

Sky Forming is a unique NOVOTEXI 440® installation solution, streamlining the roofing of mega-build projects. As the name suggests, it is a ground-breaking process where the roll-forming container producing the NOVOTEXI 440® sheet, is lifted to the level of the roof so that they can seamlessly apply their product, at height and at speed. The Sky Forming process – developed to meet the rigorous safety requirements of the Department of Labour – enables Macsteel to offer a differentiated service to stakeholders in the construction sector.

“Our customers are the heart of everything we do and we understand the importance of establishing customer partnerships in the early stages of a project. This enables us to provide strategic support, from design to installation with cost-effective steel solutions for both temporary and permanent structures”, concludes Benfield. ☺

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EMBRACING THE ERA OF SMART, SUSTAINABLE, AND SLICK BUILDINGS



Globally, there is a significant drive to achieve a net zero carbon footprint and make buildings more sustainable and energy efficient. But this extends beyond the environment and must incorporate the health and wellbeing of people as well. Going the sustainable route certainly bodes significant long-term

*benefits for landlords, owners, and tenants, including but not limited to savings on building costs, increased employee productivity, and fewer people having to take sick leave. **By Faiyad Peterson, Regional Director: Structures, WSP in Africa.***

From railway stations to office blocks, a worldwide tipping point is approaching between those countries actively embracing centralised, smart cities and those who are falling behind. But more than the technology impact that smart cities will have, they are instrumental in developing the communities surrounding them. After all, it takes a broad spectrum of services to make smart cities operate. This requires a mix of health and wellbeing, ease of mobility, access to restaurants and supermarkets, and other services.

Building designs are also becoming slicker. There is a focus on using less material and going modular. Think of this as akin to building with Lego. Once it served its purpose, a building can easily be dismantled and shaped into something else. For instance, if the Cape Town Stadium was designed on this basis, the area could now have been used for other functions such as residential, shopping, or even schools.

Adding impetus to this is the need for digital adoption to happen. While South Africa is still behind in certain aspects, things must change for the country to become future-ready. Achieving net zero and embracing smart will be critical elements in this regard. Yes, budget will always be a challenge. But government and the private sector must look at the long-term potential as opposed to getting a short-term return on investment. Making things more efficient must become a priority. And being sustainable and smart become integral to enable this.

Evolving engineering practice

In the past, engineers and architects had full responsibility and control over the projects they worked on. But as these projects have become more complex and the futuristic design concepts pushed the boundaries of what is possible, engineers and architects with different expertise started collaborating across different geographic locations. This has seen the adoption of digitally driven collaborative tools.

Today, engineers and architects can work in virtual environments, reviewing and signing off designs and construction remotely. Engineering companies that have been in the forefront of adopting these new practices have seen improved results while also reducing their overhead costs, improving worker safety, and even allowing for a better work-life balance.

Design with a difference

Artificial intelligence (AI) continues to grow and become more sophisticated in all industries. AI is used in engineering software for generative design, material selection, and robotic process automation. AI generally adopts machine learning. This plays to the strengths of machines who are better and faster than humans in coming up hundreds of solutions to a problem, including informing the most efficient solution in a shorter space of time.

However, machines can only take instructions from us. Therefore, the solutions and accuracy provided by the software are only as good as the information we input.

Generative design has also become increasingly popular. This is an iterative design process in which an engineer or designer enters certain constraints to a problem (size, weight, strength, etc.), and requests the computer to provide options. AI is then applied to materials selection, code compliance, and even any other contributing factor related to the problem. Additionally, robotic process automation software enables bots to automate administrative tasks, such as raising invoices, verifying change orders, or managing bills of quantities. For most applications, AI is already being built into the software, but engineering and architectural leaders will need to be sure they have people who can train and maintain the underlying models, so it is important to understand how specifically AI is being applied.

Codefying the process

As any engineer or architect knows, design is an iterative process despite the benefits that AI can bring. As the technology evolves, so do the core skills required and the engineering language used. Traditionally, a graduate might have needed Maths and Physics as background to complete their degree. But in a modern world, this must be enhanced by skills in computer programming and digital workflows.

Take visual programming as an example. Platforms such as Grasshopper offer a visual programming interface that allows the programming logic to be readily seen, understood, and implemented. Flowing from here is parametric design. This centres on automated through scripts that can identify the parameters within a design. By assigning those parameters, engineers can explore multiple options either by automation or manually.

Furthermore, once the parametric model is created using a visual programming platform, engineers can iterate options in seconds and the information can be shared visually with clients.

Sustainable priorities

Beyond software technology, structural engineering can utilise techniques to ensure buildings are designed and constructed efficiently and sustainably. These engineers are aggressively seeking low-carbon building materials to reduce the carbon footprint of the build environment. Advances in concrete technology are providing solutions in response to these goals helping the construction sector work towards its target of net zero carbon emissions.

In this area, embodied carbon has become a significant factor in minimising the detrimental environmental impact of structures. It can be defined as the carbon footprint of a building or infrastructure project before it becomes operational.

This is primarily associated with the different life cycle stages: material extraction, manufacturing and production, construction, damage and repair during service life, and end-of-life considerations.

Being resilient

When it comes to the sustainability of buildings, resilient and redundant systems become a massive influencing factor. Climate change makes severe weather events much more likely, which increases the risk of flooding and wind damage. It is the responsibility of engineers to design with this in mind and future proof buildings for any potential future events.

Aiding in this regard is concepts such as advanced model-based deliverables, integration of multiple services with core structural engineering, and using new materials and high-performance fabric.

Resilience also sees interest increase in how smart buildings can help in reduce the carbon footprint of people. Global energy utilisation concerns, as well as local ones given the precarious South African electricity grid, are major factors driving the need for smart building growth. ☉



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DHL STADIUM IN CAPE TOWN SHARES CRUCIAL INSIGHTS FOR THE GLOBAL INDUSTRY

Africa requires creativity and ingenuity, especially during times of crisis like the COVID-19 pandemic. Where countries in Europe and North America have plenty of reserves to draw on, Africa's economic circumstances mean that if businesses and organisations are to remain profitable, they need to come up with new ways of doing things.

Hard lockdowns in South Africa have taken a severe toll. A multitude of people have lost their jobs, with the country's already high unemployment rate being inflated further.

Yet in Cape Town, South Africa's tourism hub, two entities have bucked the trend by employing creative strategies that have not only allowed them to negotiate the Covid fallout, but enhance their future offerings.

During the period when COVID-19 was raging, Cape Town continued to rack up a host of international accolades.

At the 28th annual World Travel Awards last year, the city was named Africa's Leading City Destination, Table Mountain was honoured as Africa's Leading Tourist Attraction and, despite not being able to host many festivals or events, Cape Town also took home the award for World's Leading Festival and Event Destination.

Where others might have sat back waiting for the storm to pass, Cape Town Tourism adopted an innovative approach, focusing on domestic travellers to sustain the industry.

"Our pocket-friendly campaign aimed to inspire South Africans and locals to get out and about in Cape Town, no matter how much or how little they have to spend," explains Cape Town Tourism Head of PR and Comms Briony Brookes. "We launched our Pocket Friendly challenge aimed at our domestic travellers which saw various hidden gems in six

episodes showcasing the neighbourhoods of Langa, Athlone, Kalk Bay, Sea Point, Kirstenbosch and Blouberg."

Another standout performer has been Cape Town's DHL Stadium, one of Africa's premier sports and entertainment venues.

The 62 000-seater stadium, built for the 2010 FIFA World Cup, boasts a truly multipurpose offering that combines sport and live concerts with added-value brand experience for fans, concert-goers, corporate entities and other stakeholders.

The asset recently added 168 hospitality suites while also making alterations to its existing infrastructure.

DHL Stadium's new 2 100-seater Business Lounge is aimed at the Sports Fanatic, the Business Networker and the Family of Fans, and membership guarantees ticket holders selected same-seat location in the newly-renovated shared hospitality space spectacularly situated directly above halfway line.

With the stadium already globally recognised as part of Cape Town's breathtaking landscape, enjoying the backdrop of the iconic Table Mountain and Atlantic Ocean, it annually plays host to the Cape Town Sevens, one of the most popular events on the HSBC World Rugby Sevens Series calendar, as well as some of the world's leading music artists.

The likes of U2, Ed Sheeran, One Direction, Michael Bublé,



Foo Fighters, Red Hot Chilli Peppers and Lady Gaga have all played to capacity audiences at the stadium, while tennis star Roger Federer's Match in Africa against Rafa Nadal at DHL Stadium in 2020 set a new world record for crowd attendance at a tennis match, with 51,954 people watching the two greats battling it out on court.

A year later in 2021, the stadium also hosted a total of five matches in the British & Irish Lions rugby tour of South Africa – an incredible achievement given the lockdown still in place in the country.

With Cape Town being a favoured location for international film shoots, the stadium has become sought after for its interesting angles, sets and backdrops. From the Stadium Bowl, pitch, tunnels and podium to the parking lot, forecourt and passages, it is cinematically versatile, and has already appeared in many commercial and full-length feature films.

Where DHL Stadium has truly stood out, however, is in the areas of innovation and sustainability.

"DHL Stadium is a world-leading multi-purpose facility with a technologically advanced intelligent and sophisticated Building Management System–Human Machine Interface (BMS-HMI)," explains DHL Stadium Chief Executive Officer, Lesley de Reuck.

"The operating system ensures that all facility operations are centrally controlled and operated with automated monitoring and control to stadium systems. These include fire, CCTV, access control, air-conditioning, ventilation, plumbing and drainage, electrical, lifts and sprinklers."

The operating system accesses its own servers and incorporates graphical representation on a virtual platform, indicating respective stadium levels as per its built design. The systems consist of a wide range of network control units, data analytics and safety and security features.

Africa is a highly complex environment where maintaining stadiums sometimes presents a major challenge given limits on funding and resources. Stadiums on the continent also struggle to implement the use of renewable energy as a

result of high global costs and countries' dependence on fossil fuels.

Yet DHL Stadium is meeting these challenges by developing a comprehensive maintenance programme that protects the value of stadium assets through corrective and preventative maintenance while ensuring financial prudence, operational efficacy and environmental sustainability.

These programmes have given rise to a state-of-the-art intelligent building that is able to host a multitude of world-class events, whether they are sport, concert or corporate-based. Each aspect of the stadium meets the highest international standards, while the asset also recently finalised its Environmental and Event Sustainability Policy directive and strategy, which aims to substantially reduce its carbon footprint and energy consumption in the next three years.

The COVID-compliant venue has also developed operational models that have allowed it to remain event-ready.

During the pandemic, it rolled out the use of a QR health ID code for stadium staff and specific events, while encouraging event organisers to ensure online ticketing solutions.

To this end, DHL stadium boasts outstanding access capabilities thanks to its partnership with SKIDATA South Africa.

In 2020, the company introduced a host of new technologies, including 'Touchless' with a 'Wave' to obtain a parking ticket, a ticketless" Licence Plate Recognition (LPR) solution for access and egress to parking garages, and 'Cashless' Ingenico Tap & Go and Chip & Pin devices installed on automatic payment machines that accept credit and debit card payments.

It also developed its 'Scan to Pay' via a Mobile Smart Phone and the Masterpass App. These technologies have propelled DHL Stadium into the future, further confirming its status as one of the world's great stadiums.

Now that the worst of COVID-19 has passed, DHL Stadium is looking forward to hosting a number of marquee events later this year.

In September, pop superstar Justin Bieber will take to the stage, the first big name international performer to do so since the start of the pandemic in March 2020.

Promoter Big Concerts says COVID-19 took an enormous toll on the live music industry, with artists having no opportunities to perform. However, with the South African government relaxing COVID regulations and ending the national state of disaster, Cape Town is looking forward to once again hosting the world's biggest names.

"Event operational plans are essential to making an event successful and memorable. The venue needs to be well maintained, service providers need to be experienced, and everyone needs to be focused on the fan experience," says Big Concerts CEO, Justin Van Wyk.

"DHL Stadium is perfect in this regard. It is a world-class venue in the most beautiful location with its breathtaking views, architecture, culture, amazing restaurants and first-class hospitality. DHL Stadium is also easily accessible to all attending an event.

"It offers wide-ranging facilities and services, and the core management team has remained with the venue since its inception," Big Concerts says.

Van Wyk adds that pent-up demand is strong and several markets are reporting they have even improved on pre-pandemic levels. "The future is bright," he says. ☺

CONTRACTOR TO BUILD KEY POLLUTION CONTROL DAM FOR VENETIA

Leading black-owned contractor Concor is engaging on a 17-month project to construct a new pollution control dam at De Beers' Venetia diamond mine, South Africa's largest diamond producer.

Known for its depth of experience from a long legacy of infrastructural developments, Concor has built a reputation for safety and excellence. The well-advanced Venetia Underground Project (VUP) will extend the mine's life span to at least 2045, and the new dam – Pollution Control Dam 3 (PCD3) – is the main containment facility in its Storm Water Management Project (SWMP). The SWMP is a key part of the mine expansion; it will ensure compliance with the Government Notice R704 on the protection of water resources, and prevent the possibility of flooding and ensure the safety of people working in the new underground mine.

Concor operations executive, Christo Schoeman explains that PCD3 will cover some 27 hectares to the west of the mine, and will be constructed to a maximum height of 13 metres. This will equip the facility to hold over a million cubic metres of water. The water will emanate from upstream catchments including runoff from the adjacent coarse residue deposit and fine residue deposit, as well as potential overflow from the other upstream water containment facility. It will also contain water that has been pumped out of the mine's opencast pits and the VUP underground workings.

“Zero harm to our employees and the environment whilst executing our projects remains our principle objective”, says Schoeman. “In order to prioritise these endeavours and ensure that construction work does not impinge on the mining operation itself, among the first tasks required will be to secure the works by installing a new security fence, and upgrading the existing access road to our temporary site facilities which will ensure optimised access to our site and help streamline our workflow.” As part of the bulk

earthworks operations, the topsoil over the dam area will be stockpiled during the excavation operations, to be used later for slope protection and to ensure the regrowth of flora once construction is completed.

“In line with environmental requirements and legislation, the excavated structure will be lined with an HDPE geomembrane to prevent any seepage into the groundwater system,” he says. “A specialised service provider will supply and install the lining.”

Concor's scope of work includes the construction of a pump station and dam spillways, as well as the installation of a 2,5 km return water pipeline to the mine's processing plant. This will allow significant volumes of water to be efficiently recycled and re-used in processing.

Schoeman highlights that the project contains a strong local procurement, employment and skills development component. He notes that Concor has always been committed to local enterprise and skills development initiatives in the areas where it undertakes projects.

“We are working closely with our client to source general workers and suppliers locally, who we will, where necessary, upskill with training, supervision and mentoring,” he says. “Certain aspects of the project can be subcontracted to these local enterprises, following the systematic process of identification and engagement.”

Concor supervises the work of subcontractors closely as part of its enterprise development commitments, he notes. Combined with dedicated mentoring, this ensures not only a quality outcome in each deliverable, but also higher levels of sustainability amongst subcontractors once the project is complete. ☺

A VISION BECOMES REALITY – CONSTRUCTION TO BEGIN AT SAXON SQUARE

Tri-Star Construction and Profica broke ground at new Rosebank development Saxon Square on June 20. “We’re excited that the vision we had for this unique development is becoming a reality as we reach the next milestone,” says Malose Kekana, Chairman of Tri-Star Construction. “Investors can now look forward to the efficient construction and completion of the development over an anticipated 16-month period as every detail comes together.”

Saxon Square is delivered by Tri-Star Construction, while construction solutions company Profica is both project manager and development manager. The development offers one phase of 138 luxury studio, one and two bedroom apartments in the sought-after suburb at very accessible price points. “We’ve reached our pre-sales targets in record time, even needing to redesign to make more of the popular one-bedroom units

available as they sold out so fast,” says Kekana. “Many of our buyers are property investors, particularly those in financial and property circles, who have recognised a good opportunity. We expect this to include more first-time and buy-to-live buyers as soon as we start construction and people see the development coming to life.”

A comprehensive rental management solution delivered by Flyt Property Investment and managed on-site by Wink Aparthotels has further enhanced the appeal of Saxon Square as a truly hassle-free property investment. “Having just one phase is another clear advantage for both investors and prospective tenants,” says Profica CEO Tim White. Saxon Square buyers will be able to settle in or start letting out quickly, without being on a partial construction site while other phases are completed.”

Located close to the Rosebank Gautrain on Oxford Road, Saxon



From left: Tim White, CEO of Profica; Malose Kekana, Chairman of Tri-Star Construction and Derek Wheals, CEO of Tri-Star Construction broke ground at new Rosebank development Saxon Square.

Saxon Square offers that unique blend of modern detail, upmarket suburbia and everyday city access. In addition to the sophisticated unit designs featuring high-end finishes and floor-to-ceiling glass windows, the development’s amenities include a 24-hour concierge, biometric access control, a resident’s café, a pool, a large rooftop garden as well as a garden courtyard, a yoga lawn, an outdoor cinema and a co-working lounge. ☺



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PHOENECIAN GROUP COMPLETES EARTHWORKS, LATERAL SUPPORT FOR TREVENNA SUPER BASEMENT IN TSHWANE

The bulk earthworks and lateral support work for the five level, 68 000 m² super basement for the new Trevenna A-grade office complex in Tshwane have been completed successfully by Phoenecian Group. The Public Investment Corporation (PIC) is developing the project.

Extending 20 m below ground level, the main construction material is post-tensioned concrete slabs. Extensive underground services include sewer and stormwater infrastructure, electrical reticulation, lifts to the ground floor, and access control. The super basement required 193 000 m³ of excavation and 80 000 m³ of drilling and blasting.

“It highlights our capability to undertake the largest super basement projects in South Africa. Building on our expertise as a demolition company, we have the flexibility to undertake any earthworks or lateral support requirements,” says Grant Luck, Contract Manager: Demolition and Earthworks Division.

Two 30 t excavators were deployed, feeding ten cube trucks each that loaded, hauled, and tipped material at a military base about 10 km away. Here the excavated soil and rock was used to build up berms at a shooting range, contributing to the environmental rating for the project. Additional equipment used for the earthworks included a bulldozer.

In terms of the lateral support, Phoenecian drilled holes at a predetermined depth to install anchors that were then grouted into position. The anchors supported a mesh wall sprayed with layers of gunite, a mixture of cement, sand,

and water applied by a high-pressure hose. The guniting could not exceed 100 mm a day, with the thin layers applied to the mesh wall ultimately hardening into a concrete wall providing the necessary lateral support for the super basement.

A major challenge was relocating an existing stormwater pipe, which required laying a new 1-km-long pipeline. Another challenge was the rock formations encountered. “We had a lot of overbreak that required engineering input as to the designability of the rock face,” reports Luck. The fracture plane was also bigger than anticipated.

However, support from a strong professional team, combined with Phoenecian’s multidisciplinary approach, resulted in the successful completion of the project in mid-July. The company specialises in demolition, bulk earthworks, geotechnical services, bulk services, roadworks, civil and construction works and contract mining. It is the only company of its kind in South Africa to have three Grade 9 CIDB ratings, namely for SE (Special Engineering), CE (Civil Engineering), and GB (General Building). ©



Grant Luck, Contract Manager, Demolition and Earthworks Division, Phoenecian Group.



BOSCH EAST AFRICA PROVIDES CONSULTING SERVICES FOR NEW COMMERCIAL WAREHOUSES IN NAIROBI

Bosch East Africa - a member of the Bosch Holdings group of multi-disciplinary consulting engineering companies – provided consulting engineering services to Improvon, for the new mini units commercial warehouses at the Nairobi Gate Industrial Park (NGIP) in Kiambu, Kenya.

The EPCM contract for the mechanical, electrical and plumbing and drainage installations was awarded to Bosch East Africa for the two-year project, which was completed at the end of 2021.

“Following the construction in 2019 of Grade A warehouses, our client recognised an urgent demand in the area for small to medium warehouse leasing facilities. In order to offer a premium product at a competitive price, the solution was the establishment at NGIP Mini units of 19 smaller warehouses - ranging in size between 300 and 700 m²,” explains Dereck Mutungi, Mechanical Engineer, Bosch East Africa Consulting Engineers Ltd. “This facility was established as a demonstration facility that is in line with the Government’s drive for industrialisation.

“The new warehouses are strategically located on the Eastern bypass, enhancing the efficiencies of supply chain logistics to Nairobi and Mombasa.”

Bosch East Africa’s services comprised conceptual design, engineering and design, contract management of services vendors, construction supervision, testing and commissioning.

Bosch East Africa Ltd was responsible for services that included pre-contract budget preparation for MEP scope, electrical reticulation design and layouts, small power and lighting design and layouts, telephony, access control and fire detection design. The team also consulted on water supply reticulation design and layouts, firefighting reticulation design and layouts and internal plumbing, drainage.

The project also involved document and contract management of the MEP scope, construction supervision and progress monitoring of MEP works and testing and commissioning of MEP systems.

Bosch East Africa offers multi-disciplinary consulting to hospitals, multi-storey buildings, community centres, schools, as well as eco-friendly industrial, residential and mixed-use developments. Specialist services are enhanced by a maintenance and support programme, to ensure all contractors comply with contractual and regulatory requirements.©

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East View - site overview.

THE SWIFT RISE OF A LANDMARK

Apex Studios is a 13-storey building that is rapidly rising right next to the busy M1 highway in Braamfontein, Johannesburg. Concor, known for its stellar track record in the construction industry, is building this 13-storey building that will house 899 students upon completion. It is located opposite the University of the Witwatersrand's South Gate and Concor is working with developer Growthpoint Properties. Construction World visited the site in June and spoke to MacDonald Ngobese, Concor's Site Agent about the challenges on this landmark project, the importance of sequencing and why this project is the perfect example of how a fast track project should be run.

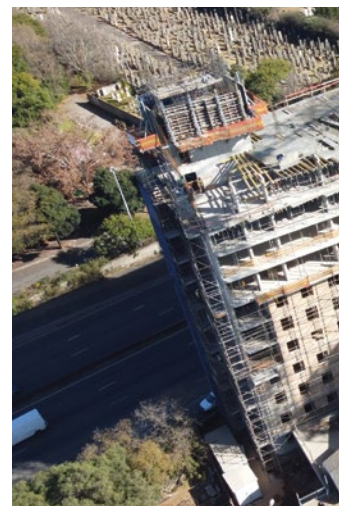
Scope

The project commenced on 15 November 2021 and has a practical completion date of end November this year – a mere 11 months later. “The scope is for 13 floors of student accommodation. The building has a brick façade with aluminium windows and each floor has four, three

and two bedroom units. “There are 312 of these units (27 per floor) that will house 899 students. It is a conventional concrete structure with a basement for our plant area. Each floor comprises exposed columns, sheer and brick walls for the finishes,” Ngobese explains. The units have its own shared kitchen as well as a shower and toilet. The



Concrete structure in progress.



scope of the work includes full fit-out, right through to joinery.

The project is on the site where the old Doves funeral parlour used to be. It is bordered on the west by the M1, the north by Enoch Sontonga Avenue and the east by De Korte Street. “Concor is repurposing the former east and west chapels of the funeral parlour into the new building as a cafeteria and student study area,” says Ngobese. These were classified as heritage buildings and had to be retained.

There are various contractual milestones and the first was, despite scope changes, met by the end of July 2022. The milestone dates do not mean commissioning or services must be completed, but that everything must be ready for final coat paint,” says Ngobese.

“We commenced with foundations in December 2021. The duration for the structure is eight months – from basement to the 13th floor. Our first slab was poured on 11 February and we aim to complete the structure four weeks ahead of schedule. This allows us to start with the finishes earlier. It is a fast track programme where all the time we win will be used,” Ngobese explains.

Vital sequencing

On a fast track project such as this, the sequence in which the project progresses is vital. “Once we have done the concrete works, it is followed by the brickwork, then the services and finally this is followed by the finishes. We started this from the first floor, steadily going up a floor at a time. When the structure is completed, the structural team will assist with the finishing,” says Ngobese.

Challenges

“The biggest challenge at the beginning of the project,” says Ngobese, “was coming out of the ground.” He says that Concor did not get a full handover of the site from the bulk earthworks contractor as it had to contend with unusually high rainfall. “Portions of the site were handed over to us. This was challenging on an already confined space and made it difficult to establish the site appropriately from the beginning and changed the sequence of our work.”

Concor mitigated the delays caused by the heavy seasonal rains by electing to work into the traditional builder’s shutdown so that they could make up lost time. “We worked until 22 December and commenced again on 3 January,” says Ngobese. “We were supposed to

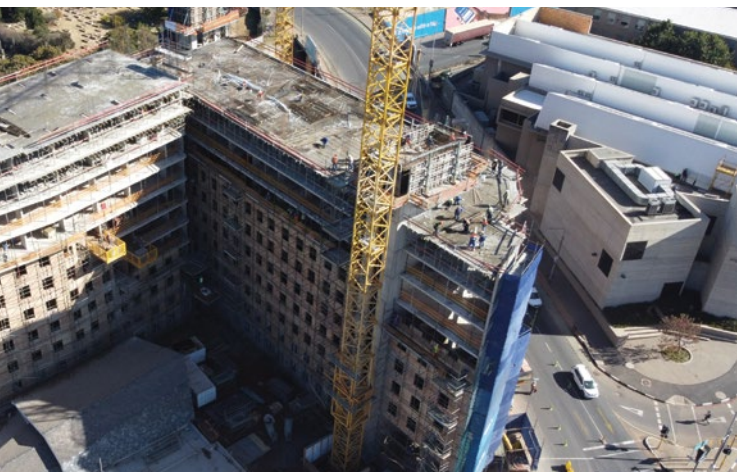


Foundation work in progress.

start work from the basement. The below ground work was broken into four portions but we had to adapt our sequencing because of conditions that arose on site,” Ngobese explains.

“Flexibility has been vital for this project. When a section was open, the team started there. We managed to mitigate many of the delays and the structure has caught up to the baseline programme,” says Ngobese.

In addition, ground conditions necessitated changes in



View from the courtyard - south and east elevations.



MacDonald Ngobese, Concor's Site Agent.

the scope for the foundations. “The pile caps had to be bigger than what we had tendered for and the piles had to reach depths of between 3 and 5 metres (as opposed to the expected 1,5 m) which caused delays.” To mitigate this delay Ngobese says that Concor doubled its resources on site for the foundations.

Overcoming the location challenges

The project borders the M1 highway to the west. “This is a high risk area and the site is in close proximity to it. As a result, all our work started from the western façade. We installed our brickwork scaffolding early, something we do at a later stage on less risky projects. It offers protection between the perimeter of the building and the M1 highway,” Ngobese elaborates.

Shade netting covers the entire western façade as a safety precaution to prevent matter from falling onto this M1. “Shade netting comes in 3 m sections and these were stitched together. The practice was used to great effect on some of Concor’s other projects.”

In addition, the heavily trafficked Enoch Sontonga Avenue and De Korte Streets border the site to the north and east. “This necessitated extra flagmen to assist with deliveries and traffic control. We have wayleaves on De Korte Street and on Enoch Sontonga Avenue.”

The importance of sequencing

Ngobese explains that concrete is poured daily for columns and sheer walls. “At least two floor slabs are poured per week. Our turnaround time for these pours was 11 days, but it has been brought down to eight days.”

Lafarge is supplying the 6 200 m³ of concrete that is required by the project. The columns have a strength of

60 MPa and require a special concrete mix to reach full strength after seven days. “The sheer walls are 40 MPa and the slabs 25 MPa,” says Ngobese.

Part of the project specifications was the removal of back propping on the slabs. “It works on a 100, 75 and 25% back propping ratio. When we are busy with a live deck, 100% of back propping remains on that floor for four days after casting or until it reaches 60% of the required 25 MPa as specified by the structural engineer. We can then reduce the slab back propping to the two floors below to 75% and 25% respectively and only then can we commence with brickwork.” Some 1,5 million bricks (including face bricks) will be required by the project.

Steel fixing has to be done in the small the lay down area on Enoch Sontonga Avenue. “The project requires 960 tons of steel. Normally we pour our columns from floor to floor, but on this project it was an engineering specification that all our columns had to be double lift – two floors. This saves us a day on steel fixing and also reduces the slab pouring time. It is also cost saving as it reduces the amount of splicing on the columns,” Ngobese explains.

Two of Concor’s tower cranes have been erected on site to help deal with space constraints and to expedite the movement of materials in the interests of the fast pace of construction. The bigger of the two has a 60 m jib and can reach right around the site.

The smaller crane has a 40 m jib and is used predominantly to lift material onto floors. Both these cranes can only move materials within the constraint of the footprint of the site.

Since March these cranes are operated 24/7. “The nightshift team loads the materials that will be needed



North view – façade brickwork in progress.

by subcontractors onto the floors. Between 6:00 and 7:00 the crane is allocated to the plastering subcontractor and during the day the crane is used exclusively for the concrete works,” says Ngobese. There are currently 300 people on site and at peak times it will be 400 to 500. The 40 subcontractors working on this bustling site will increase as finishing gains momentum.

Ngobese says that time is the biggest risk-factor on this project. “Resources are key. It is a fast track project. We have to ensure that all subcontractors have the resources that they agreed to provide in order for them to work on multiple floors at the same time.”

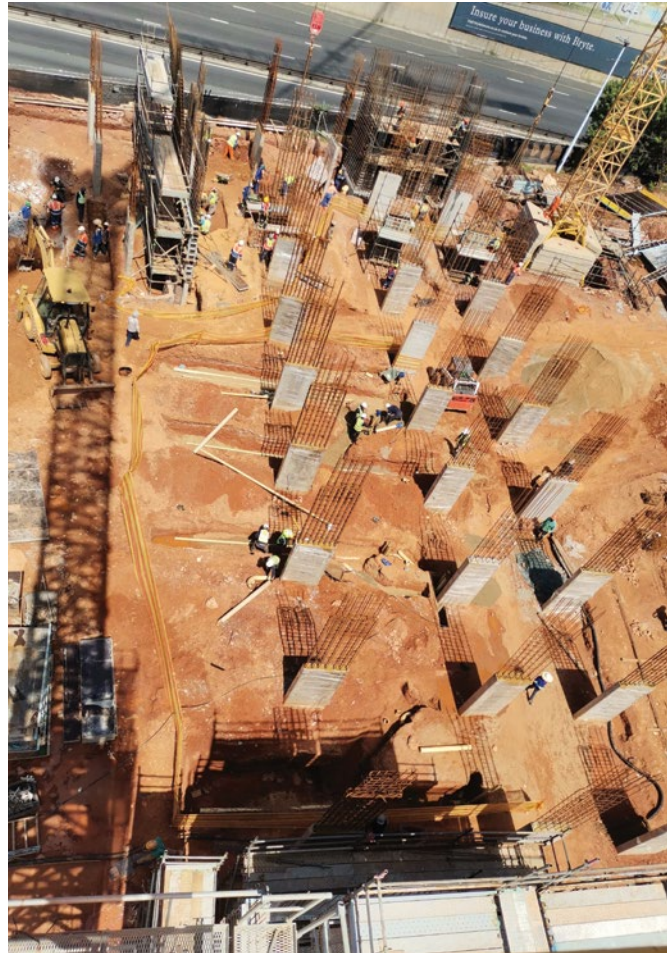
The successful completion of fast track projects relies on having a highly skilled and experienced core team on site that closely manages subcontractors to keep to the construction programme. “In addition, quality is everyone’s responsibility. It may affect our timing if work has to be rectified after it was done,” he says.

“These kinds of projects also require constant and in-depth communication with all stakeholders, from the client, professional team to the local authorities,” says Ngobese.

Environment and safety

Whilst the building is not going to become a green star rated building, Concor, as an environmentally conscious contractor, takes great care to dispose of rubble through one of its subcontractors.

“In addition,” says Ngobese, “dust suppression and noise reduction are important.” For such a fast paced site, the safety record of no LTIs is no mean feat. “Safety is paramount for Concor,” Ngobese concludes. ©



Ground floor concrete work in progress.



Concrete structure in progress.



Sibusiso Hlatshwayo, Managing Director of CHRYSO Southern Africa.

GREEN SOLUTIONS IN A GREEN WAY

Sibusiso Hlatshwayo started his journey as MD of CHRYSO Southern Africa on 1 July. He took over the reins from Norman Seymore who retired at the end of June. Construction World spoke to him about how CHRYSO Southern Africa is working towards using admixtures to promote green building and the post-pandemic challenges the admixture industry is facing in its quest to do so.

Hlatshwayo regards the current global supply chain dynamics as the biggest challenge most businesses are faced with. “COVID-19 caused a supply chain squeeze.

The industry thought that it had reached the height of that kind of squeeze during the pandemic, but the current supply chain challenges are worse than at the height of COVID,” he says. “The cost of sea freight has ballooned and there is a massive backlog which means that supply and demand are out of kilt.” Just like many competitors, CHRYSO is looking for alternatives as raw materials cannot easily be imported. “This creates incredibly difficult inflationary pressures – way beyond CPI,” | Hlatshwayo says.

It is Hlatshwayo’s challenge to help the team navigate the current environment. “We do not only want to survive, but continue to grow while navigating this environment,” he says.

Agility, responsiveness and innovation

For him CHRYSO Southern Africa’s unique selling point is its flexibility. “The company has an ability to respond to changing customer needs. It is part of our DNA. We do not just have the speed to innovate, but also the precision to pinpoint what the customers’ needs are and respond..”

CHRYSO Southern Africa’s headquarter in Johannesburg has one of the most advanced research and development (R&D) centres in Africa. “Here the advanced polycarboxylate polymers (PCPs) are produced for our admixtures,” says Hlatshwayo. He explains that there are five of these centres in the CHRYSO group. “We’re one of the pioneers. We have the advantage of designing and manufacturing these polymers locally, instead of importing them wholly.” In addition to the R&D facility, the headquarter also houses concrete, cement, product application and quality control labs.

“We’re fortunate because we not only have the



The solar installation at CHRYSO Southern Africa's Jet Park facility adds to CHRYSO's internal sustainability efforts.

equipment but the people skills and talent needed to create the chemistry to assist the customer," says Hlatshwayo.

"One of the things I'm most proud of is that while we transfer innovations and technology from the rest of the Group, we are able to contribute back our developed solutions so that other countries can benefit from our local R&D."

The changing face of admixtures

In the past admixtures derived from various naturally occurring materials (e.g. sugar and salt) as well as by-products from other industries (e.g. lignosulfonates from the paper industry) were used. "Even though these are functional, the chemistries presented adverse side effects," Hlatshwayo says.

"Today," he says, "we can design intelligent chemistry. We can manipulate the structural design of the various polymers that we use. We can change the shape, weight and size to achieve congruence with complex concrete application and performance. In short: admixtures have changed from incidentally natural occurring raw materials to by-products to intentionally designed chemistries which are now matching the different solutions," says Hlatshwayo.

Beyond performance and cost to greening the industry

The main benefit of admixtures is increased performance, speed and cost. "Lately the focus of admixtures for concrete further allows for aesthetic and sustainable benefits," says Hlatshwayo.

"A key question for CHRYSO is how our innovations can contribute to making buildings greener," he says. "This produces new technical challenges for us to overcome."

"Today it is all about creating the technology that allows the increased use of fly ash, limestone or slag in cement as extenders to minimise the clinker content

and so reduce CO₂ emissions. Cost-effective solutions have been developed to increase process efficiency (a reduction in energy and production costs) and an improvement in the cement quality.

"It is not just about producing more, it's about creating the technology that allows you to increase extenders. We launched our CHRYSO® ICARE range just before the pandemic. This range boosts cement compressive strengths to significantly reduce the clinker factor and therefore the cement CO₂ footprint. It is specifically designed to enable the additional performance on top of our conventional ranges."

Changing the cement landscape around the world

Not all countries have the abundance of fly ash and slag that South Africa can use in green cement though. In this regard Hlatshwayo says that one of the most interesting developments in cement is LC3. This is a new type of cement that is based on a blend of limestone and calcined clay – elements that occur more widely. "We are developing technologies to overcome the technical difficulties this cement has as it will change the cement landscape in many countries. When LC3 cements take off and we solve these technical challenges, this cement will make a huge advance in making cement greener around the world."

The increasing importance of recycling

Today concrete producers are challenged by the scarcity of good quality aggregates. The development of admixtures that enable concrete to be formulated with a reduced environmental impact is also vital. Our CHRYSO® Quad range is the first comprehensive range of admixtures for use with challenging sands (lack and excess of fines and excess of clay)," he says. "In addition, our CHRYSO® Convert range allows for the re-use of returned concrete and concrete plant waste materials."

Looking inward

"We are not just looking outward for ways to assist customers deliver green solutions, but also inward. "We have installed solar panels to run our production facility to rely less on coal fire power stations and have instituted various measures to reduce water usage. We have to be able to provide green solutions in a green way," Hlatshwayo concludes. ☺



CHRYSO's innovations are focusing on its contributions to making construction sustainable.



SAVE FUEL WITH **CTRACK CRYSTAL**

The ever-increasing fuel price continues to put pressure on motorists and businesses. Unfortunately, as consumers, we are at the mercy of government and global oil prices.

For many businesses that operate fleets, driving less is not an option. The most apparent solution is finding ways to use vehicles more efficiently.

Ctrack recently launched Crystal, a fully customisable platform that combines all the existing functionality and a variety of new features into a new cloud-based platform that is easy to use, and allows fleet managers to react more effectively.

A new driver app launched alongside Ctrack Crystal features a comprehensive host of intuitive functionality, including the ability to monitor fuel usage and efficient driving easily.

“The way vehicles are used can have a significant impact on the running costs of a business, and Ctrack is able to equip customers with the tools to easily and efficiently monitor a variety of factors that have a direct impact on fuel consumption,” says Hein Jordt, Chief Executive Officer of Ctrack Africa.

The most significant contributor to inflated fuel usage is excessive speed. With Ctrack hardware and the Crystal platform, managers and business owners can monitor speed and reduce speed violations, positively impacting fleet and driver safety and reducing fuel consumption significantly. Further measures can be implemented by adding speed limiters that can prevent drivers from speeding entirely or according to pre-determined Geo Zones.

Adopting a smooth driving technique is the most economical way to drive, as is maintaining a constant speed on the open road and sticking to the speed limit.

Through monitoring and reporting, drivers can be coached on factors such as avoiding speeding up between intersections and excessively revving a vehicle.

Underinflated tyres are a huge contributor to unnecessary fuel consumption. Tyres should be checked regularly and inflated according to the manufacturer's

specifications for the load being carried. This practice can be included in the pre-trip inspection functionality that forms part of the new Ctrack Crystal driver app.

One of the best ways to save fuel is to drive less, and this can be done by better route planning.

The driver app includes a built-in navigation system that will ensure that vehicles are always travelling on the optimal route while incorporating multiple stops in the most efficient manner.

While the time of day that vehicles travel might be unavoidable in many cases, planning routes around peak hours will mean spending less time in traffic, shorter travelling time and less fuel used.

Ctrack Crystal allows fleet managers to easily populate reports on various parameters according to their needs. This reporting can be used to up-skill drivers by highlighting where they need to improve.

Fleet managers can support positive driving behaviour by monitoring driver skills, driver training and scoring models that result in a reduction of CPK cost. This all-new app gives fleet managers enhanced communication features such as voice commands, two-way messaging, job-listing, navigation and post-trip coaching, which can be shared with drivers to encourage efficient driving.

The app also allows drivers to manage themselves and see their own scores. Drivers who continually achieve good scores can be incentivised and rewarded, and a culture of good, efficient driving fostered.

Vehicle maintenance can also have a substantial effect on fuel consumption. Crystal's improved asset control allows fleet managers to stay ahead of service and maintenance schedules, licensing, and vehicle usage.

“Cost and inflationary pressure remains top of mind for any business, and at Ctrack we create solutions for fleet managers and business owners to be more productive, efficient, and ultimately to save cost,” concludes Jordt. ©

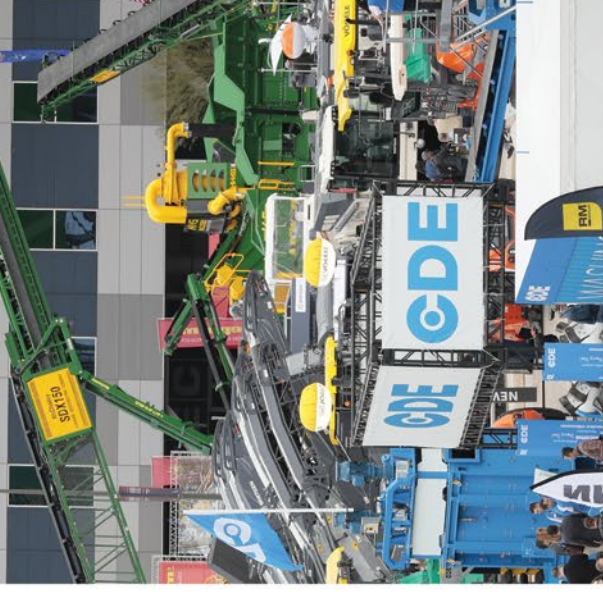
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