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ON THE COVER

AfriSam's Centre of Product Excellence aims to excel at technical customer support, product development and optimisation as well as independent laboratory services. AfriSam is the leading supplier of superior quality construction materials. Its cement, readymix, concrete and aggregate materials have contributed to key infrastructure development on the continent over the last 85 years. Its core values of 'people, planet and performance' reflect its commitment towards customers, communities and the environment. *Construction World* visited the CPE at AfriSam's Roodepoort facility and spoke to Mike McDonald, its manager.

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COMMENT

After the unprecedented decline in construction activity in 2020 brought on by the COVID-19 pandemic and its lockdown regulations, the good news is that the fourth quarter of 2020 saw an increased recovery – something that had already started in the third quarter.

This is according to the Afrimat Construction Index (ACI) for the fourth quarter of 2020. It provides evidence of a “pronounced recovery path that started in the previous quarter”. Economist Dr. Roelof Botha, on behalf of the JSE-listed Afrimat, says that after the sharp decline in the second quarter of 2020, activity in the industry has been above the base period level of 100 for two successive quarters.

According to Botha the construction industry is exhibiting a swift return to pre-pandemic levels, something that came as a surprise to many economists – including the economists in the National Treasury. Between October and December last year, the ACI indicates a change of 2,5% quarter-on-quarter. The ACI recorded an index value of 111,3 in the fourth quarter, 60% higher than the index value of the second quarter of 2020.

Botha says that the index is now almost on the same level as it was at the beginning

of 2018. It is particularly encouraging that of the ACI's constituent indicators, two thirds had positive growth when compared to the two quarters that preceded it.

He says the swift recovery of the construction sector can be referred to as a V-shape. The systematic lifting of most of the lockdown regulations resulted in such a recovery. According to Botha, most sectors in the economy, including construction, have had a marked improvement. “It seems clear that retail sales for hardware and building materials, the value of building plans passed and the number of buildings completed are fuelling the recovery phase in the construction sector,” Botha says.

Two main factors will stimulate a further recovery in 2021: inflation is likely to remain within the South African Reserve Bank's target range of between 3% and 6% which means that interest rates can remain low which has already had a positive impact on the value of new mortgage loans.

2021 TWENTIETH BEST PROJECTS

Our 20th Best Projects is now awaiting submissions. Turn to page 18 for an overview of the awards, the categories and the submission criteria. The awards will culminate in a function in early November. Details of this event will be shared closer to the time.

Enter your Best Project and be part of these Awards that has been recognising excellence in the built environment for two decades.

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Wilhelm du Plessis

Editor



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SCANIA

WHAT SAYING NO TO THE VACCINE COULD MEAN



The COVID-19 vaccine debate has raged on for almost as long as the virus itself. With fake news, the anti-vaccine movement, confusing dialogues in the media and religious reasons, people are opting out of the vaccine and potentially, could be opting out of their jobs. According to Nicol Myburgh, Head: HCM Business Unit at CRS Technologies, labour legislation specifies that employers are required to ensure their employees have access to a safe work space – a fact which indicates that vaccines should be mandatory – but there are multiple issues to be considered before they can fire anyone for not complying.

“This is not a simple issue. Is this a constitutional right that’s being infringed, or is this a labour law issue? In most situations, companies cannot fire someone for upholding their civil rights,” says Myburgh. “There are numerous boxes that have to be ticked. While employers do have a responsibility to take reasonable action to ensure employee health and safety, they also have to allow for people to uphold their constitutional rights without discrimination.”

Legally, anyone can refuse medical care. To force any kind of medical care on someone is infringing on their constitutional rights. However, if someone refuses to take the vaccine, they could be putting the entire workforce at risk of infection from the virus. They then become a risk to others and other factors come into play. For

the company, they then have to ask if there are other ways that this person can contribute to the business. Can they work from home? Are they in close contact with other people? Can they be kept separate from colleagues while still doing their jobs?

“If their role requires that they are in contact with others, or if they cannot do their jobs from home, they are a legitimate risk to others,” says Myburgh. “If the company cannot find any other avenue to resolve the issue when a person refuses to be vaccinated, they can say that further employment has become operationally intolerable and this could lead to their employment being terminated. This is not based on misconduct but on operational requirements.”

It’s a challenge. The onus is on the organisation to protect its people, equally to ensure that an employee can genuinely not complete their job if they do not take the vaccine. A fine line, and it is one that nobody has yet figured out how to cross.

“Until this is tested in labour court, we can only speculate whether or not a person can be dismissed for not being vaccinated,” concludes Myburgh. “To achieve that legitimately, there has to be a policy in place that makes it mandatory for health and safety, risks have to be assessed, and each case has to be approached on its own merit. It’s certainly added a whole new layer of complexity to the pandemic discussion in the workplace.” ■

Averda appoints new Managing Director

Averda has appointed Justice Tootla as their new Managing Director effective the 1 March 2021, marking the beginning of an exciting new chapter for Averda South Africa.

With over 20 years’ experience within various industries including telecommunications, oil & gas, and manufacturing, Tootla spent the last three years as the Chief Executive Officer at Soleil, and previously held the same position at Thales SA Systems.

“I am very excited to be joining Averda, especially at this time when environmental sustainability for future generations is our collective responsibility. I’m also positively encouraged by the leadership South Africa is taking in advancing the vision of the United Nations Agenda 2030 for a better and sustainable future for all,” says Tootla. This new appointment will see this



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Tootla ended by saying “South Africa’s Progressive Waste Management legislation in recent years, especially on hazardous waste is a step in the right direction. In joining the Averda Team, I am looking forward to making a difference by supporting the creation of a circular economy through eliminating waste and ensuring the continual use of resources.”

Over recent years Averda has invested in several facilities and technologies to manage waste more sustainably. These

include a plant at Vlakfontein which transforms hazardous liquid waste into fuel for industry and material recovery facilities in Gauteng and Cape Town where recyclables are sorted. ■



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HIGHER ROI AND LOWER RISKS

when the people side of change is managed

Companies that prioritise their employees' change journeys during digital transformation projects, such as the remote working initiatives seen in 2020, are less exposed to risk and more likely to realise the return on their investments. This is because all change initiatives are people-dependent and rely on people doing their jobs differently to be successful. Neglecting to enable them to do their work within the changed environment can contribute to project failures and, potentially, tech crashes within organisations.



processes and frameworks to help people manage change better."

"Ownership does not come from forced change (a 'you cannot' approach), but from a leadership-facilitated process (a 'you can' approach) that guides and inspires change," says Ueckermann.

Ueckermann continues by saying that change management significantly increases companies' likelihood of meeting their project objectives and achieving ROI. In fact, Prosci, an independent research company in the field of change management, gathered data over eight years and found that initiatives with

This is according to Charl Ueckermann, Group CEO at AVeS Cyber International, who says that employees' speed of adoption, usage, participation, and proficiency, influence project success rates significantly.

"Any project or initiative, regardless of whether they are there to drive productivity, improve performance, increase governance or reduce costs, have the potential to impact how the people across an organisation do their work. Likewise, how people perceive changes in their working environment will affect your projects and initiatives' success rates.

"People are affected by the changes arising from IT projects and implementations. Organisations need to manage the process of change to encourage acceptance of the new ways of working and drive adoption and competent usage in a way that your projects deliver their desired outcomes," says Ueckermann.

He continues: "As a case in point; when you consider the speed and rate at which organisations set in motion ambitious projects to enable their employees to work from home last year and the fact that not many of them, nor their employees, had ever worked that way before, it is easy to see how neglecting the people enablement aspect can lead to performance problems, employee disengagement and create predictable business risks.

"It is human nature to resist change, particularly during times of uncertainty, when people naturally seek comfort in familiarity and consistency. We live in volatile, uncertain, complex and ambiguous (VUCA) times, and change is happening all the time. Last year, people had to quickly adapt to using new processes and technologies to work from home. This year, there are likely to be more changes as organisations refine remote working models and implement new ones to accommodate hybrid approaches where employees alternate between the office and home. The overwhelming degree and pace at which our environments are evolving make it necessary for structured

excellent change management are six times more likely to meet objectives than those with poor change management.

"Change management focuses on helping people affected by a change to evolve how they do their jobs in the changing environment. It should involve leadership, project management teams and employees to ensure that a project, such as an IT investment, meets its objectives. Without everyone working together, IT investments will likely fail to meet their objectives."

The degree of change management required depends on the company and its readiness for change. Some companies have cultures that nurture adaptability and flexibility, making them more open to change. Others with less flexible and adaptable cultures require a higher, more focused degree of change management.

"Successfully implementing and adapting to a change is not a new goal, yet many companies struggle with achieving it. This has its roots in a poor understanding of the readiness of the company to tolerate change. Before implementing a change that could affect your business's people, it is advisable to complete a readiness assessment and risk analysis to determine the organisation's appetite for change.

"Analysing the outputs from such assessments will help with developing a customised strategy with the necessary sponsorship, team structure and proactive resistance management to improve the probability of projects' successes."

Ueckermann concludes by saying that effective change management helps prevent unnecessary costs and reduce the business risks that can arise if the people side of change is not managed correctly.

"Change management should be seen as a strategy for driving ROI on projects and investments, and importantly for better risk management. Ultimately, you want to ensure that change is adopted and sustained so that your people can move to a new business as usual." ■

Major risks to business LOYALTY IN 2021

With businesses under relentless pressure amid COVID-19 lockdown restrictions and battling to remain intact, the need to minimise risk and continue operating has never been more important.

To help business owners navigate through daily challenges, maintain service levels and roll out effective loyalty programmes, LoyaltyPlus has identified several key risks in 2021.

The leading independent customer relationship management company says being aware of risks is the first step in successfully avoiding them.

One of the main risks is poor use of data and non-effective communication. With most companies embracing digital infrastructure, including artificial intelligence, the cloud, machine learning and robotics, information flow is vital to all processes – including Business-to-Consumer interaction.

If communication is outdated, unclear, delayed or non-relevant, the customer will be put off and look elsewhere – quickly! If information around loyalty programmes is inaccurate or employees of a business are not informed or aware, the impact to the business would be worse than not having a loyalty programme at all.

The fact is that the customer is fickle and spoilt for choice. Customer service and experience is essential and that is why loyalty programmes have to be flexible, and must provide value upfront – before payment. The customer experience begins from the first touch-point and continues to the last, says LoyaltyPlus, so kicking the journey off on the wrong note or not quite the right approach

is most definitely a risk. ICF.com lists several criteria that brands should aspire to when engaging the customer. This criteria includes learn (expand knowledge), connect (create local connections), create (bolster creativity), build (design experiences to encourage personal growth) and pause (focus on wellness), which, together, help drive and manage professional and successful customer experiences. It is very interesting to note that KPMG International research shows that consumers' attitudes about finances are unchanged since the outbreak of the COVID-19 pandemic. The financial advisory firm says in July and August 2020, 76% of consumer and retail CEOs are more confident today about the economy than they were before the pandemic.

Another pitfall for businesses as they attempt to woo the customer, increase their customer retention rate and boost the business, is to get too hung up on finance, profit, more foot traffic and other aspects. Cost is always a factor and must always be considered, but trying to balance the books and minimise cost and sacrifice service quality is simply not a winning formula.

As LoyaltyPlus explains, businesses often trip themselves up by making their loyalty programmes mundane and one dimensional. Failure to make a programme stand out in a market awash with loyalty and reward schemes is a recipe for disaster.

Risk is part of any business in any industry, but in today's broader financial and economic environment, loyalty should be a major tool in the arsenal of any competitive venture – and not something that attracts any more challenges. ■



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NEXT STEP IN REMOTE WORKING LIKELY TO BE A NEW HYBRID WORKSPACE MODEL

The current response to COVID-19 and working from home has many unanticipated pitfalls. The dialogue around culture and new ways of working has been accelerated by COVID-19, which makes this an extremely exciting time to be an architect. **By Anthony Orelowitz, Director, Paragon Group**

We are going to have to design spaces that address the impact of remote working and entice people back into the office. These need to be spaces where culture, connections and workflows can be nurtured and enhanced – meaning we will have to reimagine what the working experience could be.

Companies that can address many of the shortcomings of remote working – and there are many – will find this an untapped market. As a direct result of COVID-19, the five areas below will continue to be of interest:

- Where people can afford it, upgrading work-from-home spaces is essential.
- Repurposing brownfield sites for use as mixed-use developments or residential space.
- Redeveloping workspaces driven by communal working and a lifestyle focusing on culture, connections and improved workflows.
- The emergence of workspace and office furniture that augments the workspace experience.
- Software to drive remote working and meetings is a new battleground.

In the long term, I expect that things will hybridise. We are going to have to work with a new blended model of work-from-home versus working-from-the-office. Important issues that I believe will have to be addressed in this hybrid model include:

- Finding ways to mentor employees working remotely.
- How to continue and rejuvenate the process of collective creativity.
- How to grow and foster organisational culture.
- Creating meaningful interaction between colleagues, as some

people will become depressed due to the lack of meaningful work/social connection.

These are just some of the challenges we will have to deal with in the future. However, the resolution of these issues is filled with the promise of a better quality of life for us all. The most significant long-term focus area is going to be issues stemming from flexible working: Finding the balance between working from home and the office.

In the short term, the effects of COVID-19 will exacerbate what is already a highly depressed market. Vacancies are going to continue for longer than originally anticipated. The commercial sector is going to experience pain for a lot longer. Work from home is going to be tested and will then have to be adapted.

Our future focus will be to find effective ways to address these issues. As an architectural practice, we are going to have to innovate, downsize and outsource. In the short to mid-term, from a work perspective, we are going to have to move our business to where the market is still active, namely student housing, industrial warehouses, logistics hubs and hospitals.

We are headed for an extremely difficult period. Unfortunately, this may be for an unforeseen and protracted period – perhaps beyond 2021 to as far as 2024-25. This relates primarily to the commercial, retail and hospitality sectors. A consequence is that developers focusing on other sectors such as affordable residential units and student accommodation will find that these sectors have a limited capacity, so in the mid-term we could find that things may become even tougher. Whatever the future holds, there will always be opportunities. Those who can see beyond the current doom and gloom will undoubtedly find ways to survive and even thrive again – soon. ■

FIVE PILLARS FOR SUCCESSFUL DIGITAL TRANSFORMATION IN THE CONSTRUCTION INDUSTRY

Whenever significant change occurs in a business, the process can seem overwhelming, and if not conducted correctly, can result in unsuccessful transformation. The need for change management is therefore essential. This is especially true in the construction industry where tried-and-tested traditional ways of working are not easily abandoned. Technology to enhance the construction business is what RIB CCS does, but CEO Andrew Skudder (pictured) explains what is needed to drive the success of any implementation and ensure the best result.

When a company embarks on the journey to transform the business by implementing new software, it is not only new technology that is being introduced, but new business processes as well. Skudder says, “Our goal is to help our clients to use the new technology skilfully so that they see a return on their investment and gain the utmost benefit from it. For this to happen, effective

management of that change is essential. “There’s a great saying: ‘Technology makes it possible, but people make it happen’, and our focus on supporting people through the transformation is what makes our approach to change management successful,” he adds.

Often companies purchase software for a specific project, job function or department. RIB CCS advocates standardising the use of

software and using one or two integrated tool sets, for example RIB CCS's Candy and BuildSmart, to manage many business processes in the company. This means consolidating the number of tools used, which requires a change in the way people work.

Skudder says, "This is why we believe that when change management is done well, a greater adoption of the new technology is achieved and, as a result, companies are able to reap the benefits of it, achieve greater efficiency and productivity, and enhance collaboration."

Senior management involvement is key

He says there are five pillars that drive the success of change management in the digital transformation process. The first pillar is the involvement of senior management's leadership in the process.

"Because change management is a people issue, it needs to be a leadership-driven process. Senior management sets the tone for the process and the vision for the future, and plays a central role in driving the change. If a bottom-up approach is used, it is more difficult to achieve change across the enterprise, resulting rather in small pockets of change."

Another reason for involving senior management is that they can allocate resources – human resources as well as the time and money that is required. Investing in new technology also means investing in training and development and preferably a structured change management process.

Digital roadmap with clear milestones required

The second pillar is the establishment of a digital roadmap which clearly defines how the company will benefit from the new technology, what results are expected, and exactly how the implementation will happen. This detailed roadmap must set clear milestones and schedules of the change management process so that progress can be monitored.

User training for embedded use of technology

The third pillar is user training. "We believe in empowering super-users or key users of the software. Our consultants upskill these users, providing them with the necessary skills and understanding to be able to use the system with a high level of competence. Their job, then, is to train less-experienced personnel in a train-the-trainer type of model," notes Skudder.

"This is really beneficial, because when their own people are training them on the solution and the new business processes, employees have a greater understanding and deeper level of trust, which facilitates a more embedded use of technology. Also, clients become self-sufficient and are able to run the solution effectively themselves," he adds.

Adopting change at enterprise level

The fourth pillar is adoption of the software and change at enterprise level, not just at project or departmental level. Skudder says companies should have an enterprise view across all divisions and projects, which means implementing enterprise-wide technology platforms and strategies.

"The benefit of this is that they can standardise and centralise data in their organisation, and as a consequence, achieve greater visibility of the status of their projects, or even aspects of projects, from an enterprise perspective. "The other benefit of this is that it enhances collaboration in an organisation. It brings all stakeholders around the table, and everyone is able to interrogate and be clear about what's happening in the system, because they're all working with the same information," he adds.

Making the process inclusive

The final pillar is for the process to be as inclusive as possible. RIB CSS follows two processes to achieve this. Firstly, a detailed demonstration of the software is provided via the software consultants. They work through all of the business processes that the software enables and provides an interactive show-and-tell through which users can ask questions.

Secondly, detailed workshops are conducted. To get the best out of these workshops, clients are encouraged to provide their own data to enter into the software solutions.

Skudder says users then gain real, live examples of their data so that they can experience what it will be like to use the technology and the benefits they will experience. "We also provide support through our consultants, our helpdesk, through phone calls, and our electronic helpdesks, so our Users always have access to advice.

"Our challenge is to ensure that people feel comfortable making the transition. The technology is easy – we know what it can do and how it can help companies; but people don't always like change, which is why the change management process is essential to changing the hearts and minds of people and helping them feel comfortable," concludes Skudder. ■





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Strong call for procurement, policy alignment AMID ENCOURAGING PRESIDENTIAL ADDRESS

The South African Institution of Civil Engineering (SAICE) is encouraged by the South African government's commitment to driving infrastructure development and creating job opportunities as pillars for socio-economic growth.



Vishaal Lutchman,
SAICE CEO.

These pillars were two of the four key priorities of the Economic Reconstruction and Recovery Plan highlighted by President Cyril Ramaphosa during his State of the Nation Address on 11 February 2021.

The President pointed out an investment project pipeline worth R340-billion across the energy, water, transport, and telecommunications space, which he said is necessary to reviving the construction industry and to create job opportunities.

"Government's commitment to infrastructure development and recognizing its inherent value in developing our economy is encouraging," Vishaal Lutchman, SAICE CEO states.

The President's speech highlighted that the country appears to be on the right trajectory path towards economic growth, however, Lutchman stresses that the real ingredients underpinning success across the different sectors and projects, including infrastructure, are for policy and procurement processes to be aligned, integrated and cohesive.

"South Africa is renowned for some of the best policies and processes globally but due to various challenges, our implementation often slows progress. We need a common vision that all stakeholders can work towards, a vision that is home-grown, and one that focuses

not only on what needs to be done, but more strategically on how it should be done." SAICE, a significant role player in infrastructure development in South Africa with strategic competencies to help innovate, stresses that this common vision is necessary for addressing the current fiscal imbalance in the economy and achieving the objectives of the National Development Plan (NDP).

SAICE further welcomes the President's focus on the development of the local economy, including SMME business development, manufacturing, industrialisation, and human settlement projects.

However, they advise that government must give strategic thought to how it prioritises the development of several sectors as well as local manufacturing as an economic stimulus. "While it is encouraging that the President speaks to supporting and developing local manufacturing, the country's procurement approach does not align to this – the basic principle is to go for the cheapest price first. This again demonstrates that despite the great initiatives employed to develop South Africa, our policies and processes do not speak to each other."

"Disconnected procurement and policy processes, and a government and private sector that are not in sync will make it difficult for the country to achieve the true objectives of the NDP," explains Lutchman.

The current crisis is a "perfect opportunity" to build South Africa, says Lutchman. He adds that the momentum and synergy of dealing with the COVID-19 pandemic is also pivotal for how we deal with the country's second pandemic – the economic one.

"Despite the corruption surrounding the personal protective equipment tenders, the COVID-19 pandemic has demonstrated how the country can truly come together in a time of crisis. It has brought to the forefront the expertise of our healthcare and scientific professionals. Let us capitalize on using the expertise of both the public and private sectors and carry this momentum over to dealing with the economic pandemic – let us strategise, collaborate and innovate to navigate the country through these unprecedented economic times." ■

Unlocking the power of Intelligent Document Understanding

The year 2020, according to AWS Chief Andrew Jassy, was a wakeup call for cloud adoption and digital transformation. He advised that the businesses that delay digital transformations or that hold on to legacy technologies and processes face disruption or irrelevance. The hard truth he proposed was transform or face an eventual decline. **By Darren Bak, Synthesis Head of Intelligent Data**

But not all processes are made equal. Some are harder to transform than others. Physical documents, for example, remain an ever-present thorn in many a business's side. Many business processes still rely on paper-based workflows. These businesses are falling behind in customer experience, not to mention document processing time.

Customer onboarding, "Know Your Customer" (KYC) and insurance claims are just some examples of workflows that require

forms to be completed or certified copies of identification to be provided. Many documents, in particular the Life Insurance and Legal Industries, need to be completed by hand and digital signatures are not currently accepted. Certified copies of supporting documents will remain as physical documents for a very long time to come.

But how can a business overcome the challenge of physical documents and paper-based and email-based processes with unstructured data? At Synthesis, we have found that a combination

Intelligent automation providing fresh opportunities for customer-centricity in insurance

The global intelligent process automation (IA) market is expected to top USD14-billion by 2024. However, the insurance industry has, in some instances, been slow in reacting to the opportunities presented by the technology. This is not altogether surprising given insurers' historic slower pace in adopting new technologies when compared to the banking sector for example. **By Patrick Ashton, Managing Executive at SilverBridge Holdings**

Unlike robotic process automation (RPA), which can be considered a more mechanical process that frees up staff from repetitive job functions, IA combines RPA and artificial intelligence (AI) technologies to empower the intelligent automation of business processes. For insurers, part of IA sees intelligence injected into those business processes that focus on critical decisioning points such as underwriting and claims. So, while RPA relies on algorithms that can replicate keystrokes and greatly assist businesses with high volumes of transactions, IA includes a specific focus on automating decisioning in business processes.

Fortunately, the lockdown has contributed to a momentum shift with insurers realising they can no longer rely on traditional, paper-based processes. Instead, the focus has been on digitising as much data as possible, a critical step before any form of automation can be implemented.

A matter of IP

And yet, when it comes to the decisioning process, insurers still view it as a fundamental component of their intellectual property. One can understand the thinking behind this given the amount of time spent training individuals to become experts in their fields. After all, the potential exposure when calculating risk and performing underwriting functions can number in the millions of Rands if done incorrectly.

The reluctance to automate human expert decisioning with AI is evident. But this does not have to be the case. AI can be used to model the most highly skilled underwriters and claims experts within the insurer and has the added benefit of being available 24x7 which dramatically speeds up historically slow processes, often subject to tight SLAs. This greatly improves the customer experience as self-service solutions can be introduced where people can manage their policies at a time convenient for them.

Given their nature, insurance companies are risk averse and

generally slower to adopt new technologies. They are generally reliant on their 'human experts' and are hesitant to replace them with automated solutions. But the need to use these experts' time more efficiently will gradually see insurers embrace IA, thereby freeing up resources now capable of delivering more strategic functions inside the organisation.

Customer-driven

It could very well be the focus on customer-centricity that delivers the final push needed for insurers to fully adopt IA. By improving manual and multiple step processes through automation, employees can be repurposed for other, higher valued tasks.

Real-time decisioning through AI can, for example, reduce the number of fraudulent claims. This, in conjunction with other more efficient administrative processes, will bring about a reduction in product pricing that will lead to happier customers and ultimately an increase in profitability and improved market competitiveness. ■



of email routing and document understanding will significantly solve this challenge of managing large amounts of physical documents, tapping into the opportunity offered by unstructured data to increase operational efficiency, improve customer experience, and inform decision-making.

Imagine a world where physical documents are processed in real time through automation and machine learning, with:

- An understanding of what the document is;
- An understanding of its content that is immediately searchable; and
- An understanding of its entities which are linked across documents, processes and divisions.

This goes beyond mere automation. It unlocks rich insights from the documents as client requests are processed. Employees are saved time that can better be used elsewhere.

The Document Understanding Solution brings Intelligent OCR coupled with natural language processing, machine reading

comprehension and document/entity recognition.

The Magic is not only the real-time extraction of data from your documents, but a way to visualise how data in different documents is connected and interacts with each other.

Synthesis and AWS are hosting a webinar on the 15th of February to demonstrate how businesses can tap into this technology. We will showcase how the Intelligent Document solution linked data across two separate divisions of an enterprise and its data siloes, allowing the enterprise to assess and manage risk before criminals could take advantage and commit fraud.

We will also showcase how Nedbank Insurance and Synthesis used machine learning and design thinking to solve the complex challenge of email routing. A robot now does this 24/7 to ensure clients get a quick response up to 11 times faster to respond to emails with five attachments. That is just the start. Synthesis is providing a limited amount of free sessions to showcase how quickly they can process your documents and provide actionable



DRAWING INTEREST FROM PROPERTY-SAVVY MILLENNIALS

Evo Properties, the highly successful, Cape Town-based, sales and leasing property and development management agency have another exciting development on offer, this time on the Atlantic Seaboard.

The seaside suburb of Sea Point is home to a variety of people of all ages and from all walks of life, and with the convenience and close vicinity to beaches, cafes, restaurants, bars, and the hub of the city centre, it is the ideal location for Millennials to rent and buy property.

Evo Properties have been increasing their portfolio for the past seven years. Brothers Emanuel and Stephan Germanis, as well as their friend and business partner Matthew McWilliams have had resounding success in the property market, specialising in sales and letting property-brokering and property-development consulting. In particular, they have cornered the Millennial buyer market by educating their tenants and property buyers on just how easy it is to buy property and also how lucrative.

Their latest project is in partnership with Basil Logan, Managing Director of Tyris Realty. Established in 2000, the company is well-known for its involvement with commercial projects and has established a solid reputation for delivering architectural craftsmanship, engineering, integrity, honesty, and customer satisfaction. In the last decade the company has been instrumental in the development of almost 4 000 residential units, as well as multiple commercial, industrial, leisure and retirement development projects all over South Africa.

The new development venture is East of Main, situated in Oldfield Road in Sea Point. As Emanuel Germanis explains: "This part of Sea Point is in a heritage protection overlay zone and the site is next door to a large park. It's also a one-way street system, so it is a quiet and surprisingly open location."

In staying with the Victorian row-house theme, East of Main is specifically designed as a contemporary extension of the heritage buildings on the street; a bit of a departure from what Evo Properties have done in the past: "Often architects design to 'stand out' from the context; in this case our developer client opted to use the architectural

design to further strengthen the existing heritage context," Germanis said. The area's Victorian style and charm inspired a 'contemporary Victorian' design, to add its own unique character: "The developer has taken the contemporary Victorian theme through to the details of the building. The presence the building has on the street and park is carried through into the features like bay windows, and more classical finishes." Germanis said.

The building embraces the hypermodern concept of compact living with ingeniously-reimagined studio apartments, incorporating sleek and spatial design, high-quality finishes, natural daylight, clean lines and refreshing palettes for a simpler, safer, more sustainable way to live.

There are 22 units altogether in this boutique block, spread uniquely in the contemporary Victorian row-house design. Features include: High-speed fibre connectivity, energy-efficient and water-wise fittings, back-up inverter for common property and essential services, and bicycle parking. There is also secure parking available, security fencing and access control, CCTV and 24-hour surveillance.

There are balconies on the 1st and 2nd floors and patios for the ground floor units to enjoy the views of Signal Hill and endless sunsets over the sea.

Each unit boasts cleverly-crafted space and storage, elegant bathrooms with subway tiles and high-quality fittings. They will also have contemporary-designed kitchens, with built-in kitchen hob, under-counter oven and extractor appliances as well as fully-fitted cupboards.

East of Main will be a haven for young and up-and-coming Millennials, looking to live, rent or buy property in the most perfect location in town. It ticks all the boxes for lucrative short-term rental potential as well. The new venture, project managed by Tyris Realty, is set to be complete by July 2022. ■

MAINTAINING A ROBUST PERFORMANCE

Fairvest recently announced results for the six months to December 2020 that portrayed strong improvements in property fundamentals and a pleasing 7,2% increase in distribution against the most recent six months to 30 June 2020, which were at the height of the COVID-19 lockdown. When compared against the pre-COVID corresponding period of 31 December 2019, however, the distribution decreased by 5,1%.

Fairvest maintains a unique focus on retail assets weighted toward non-metropolitan and rural shopping centres, as well as convenience and community shopping centres servicing the lower-income market in high growth nodes, close to commuter networks. The Fairvest property portfolio consists of 43 properties with 250 911 m² of lettable area, valued at R3 425-billion.

Chief Executive Officer, Darren Wilder (pictured) said that Fairvest's specialist, niche positioning of smaller neighbourhood centres with grocery-anchored assets, and an emphasis on essential shopping, with a focused, hands-on management team has been more resilient during the COVID-19 pandemic with the recovery being quicker than anticipated, and without significant increases in vacancies. Countrywide, food retailers demonstrated the most resilient trading densities of all merchandise categories, and smaller format retail outlets outperformed as consumers redirected their spending power toward convenience shopping closer to home.

Resilient distributions

Total property revenue increased by 2,3% to R274,2-million, as a result of income growth in the historic portfolio and acquisitions in the latter half of the previous financial year, offset by the disposal of Tokai Junction. Net profit from property operations increased by 4,6% to R176,5-million.

Expenses were well contained, assisted by significant solar savings at properties, but countered by the effect of rental concessions provided to tenants, as well as the substantial increase in the provision for expected credit losses on rental billed during the COVID-19 lockdown period.

COVID-19 impact contained

Most rent relief negotiations with tenants have been concluded during the reporting period. Additional rental remissions of R9,7-million were conceded for the six months to 31 December 2020. During the period net arrears decreased by 26,7% to R16,7-million. Collection of deferrals have been better than anticipated and we expect arrears to decrease further by the end of the financial year.

Disciplined, conservative financial management

Wilder said that Fairvest's balance sheet remains strong, with a conservative loan to value ("LTV") ratio and a comfortable interest cover ratio. The LTV ratio decreased to 32,2% (June 2020: 36,3%) mainly due to the disposal of Tokai Junction during the period, offset by further investments in solar projects. Of the debt, 72,3% was fixed through interest rate swaps as at 31 December 2020, with a weighted average expiry for the fixed debt of 34 months.

Prospects

Fairvest said that the lasting impact of the

COVID-19 pandemic on the local economy remains uncertain, given the pace of the vaccine rollout and potential further infection waves which may impact tenants.

Fairvest remains well-positioned with a defensive portfolio of grocery-anchored assets in smaller, more convenient centres, a conservative balance sheet with modest gearing levels, and more than R220-million of undrawn debt facilities. The focus areas remain to maintain viable tenancies and letting of vacancies, with a strong focus to reduce arrears even further.

After taking into consideration the uncertain environment described above, as well the performance of the past six months, the Fairvest board expects the distribution per share for the full 2021 financial year to be between 0% and 2% higher than the previous year. The board has also again resolved to maintain the current dividend pay-out ratio of 100% of distributable earnings. Any changes to this policy will be communicated to shareholders at least 12 months before any changes are implemented.

Wilder said that Fairvest's philosophy has always been to maintain a simple property business and to focus on the basics. "We are determined to continue to keep an uncomplicated traditional property business with a conservative balance sheet and income statement, devoid of complex financial structures. We continue to maintain and grow a portfolio of quality assets with strong property fundamentals and to provide hands-on property management, as we strive to continue to add value for our shareholders." ■



Tax incentive opens up property-buying OPTIONS IN CAPE TOWN'S INNER CITY

Cape Town's new apartment and mixed-use property development The Harri is selling off the last of its 48 studios and lofts to South Africans wanting to put their tax liability to good use by investing in a Section 12J tax investment scheme.

Partnered with Anuva Investments Limited, a registered venture-capital company and financial-services provider, The Harri's Section 12J Flyt Select Fund allows local buyers at the highest marginal tax rate of 45% to deduct from their tax liability the full amount of a new unit in the Harrington Street development in Cape Town's East City Precinct.

"Government's intention of stimulating economic activity and creating jobs by designing the Section 12J mechanism has been a win-win not only for local buyers, but also for us as developers," says Jeffrey Kleu of property-development company Sepia and Silk. "We've been able to keep a workforce of 250 people and 10 local businesses employed and contracted, while still offering a prime opportunity for

buyers in an expensive area." Despite a hard national lockdown at the end of March last year, The Harri continued to sell units off-plan. "We sold to investors wanting to buy to rent, parents buying an apartment for their student kids, or just a holiday flat," says Kleu.

The development, which is optimally located in the heart of Cape Town's design district, offers a blend of apartment living with open-plan, tastefully furnished co-living and co-working space, and includes fireplace lounges, a TV room with a large smart TV and access to Netflix, three dedicated Zoom video-chat rooms, a rooftop terrace with a gas braai and mini-bar area, and hotel-grade amenities like wifi, a concierge, a housekeeping service and 24-hour security.

Section 12J investments were first introduced in 2009 by the South

African Revenue Service (SARS) on instruction from National Treasury. Further amendments to Section 12J of the Income Tax Act 1962 were made in 2015, sparking increased interest. The tax incentive allows property buyers to write off their investment amount against their tax liabilities in the year in which they buy, provided that the investment is with a qualifying small-to-medium sized enterprise (SMME). SMMEs are considered crucial for economic growth and job creation. Qualifying SMME sectors include hospitality, renewable energy and manufacturing.

"We've set aside a pool of units at The Harri to form a part of our new aparthotel offering which will start operating from the moment we launch in May this year," says Kleu. An aparthotel combines the best of five-star hotel amenities with luxurious self-contained apartment living. An aparthotel qualifies as a 12J investment as it meets three criteria: it's furnished, it has a food offering (in its restaurant), and it's let out to short-term renting guests.

A buyer's apartment is rented out to short-term staying guests, and the income generated is put towards servicing the buyer's bond. The buyer covers any shortfalls or retains any surplus.

And right now it's a buyers' market, Kleu notes. "Since we launched, interest rates have dropped from 10,25% to 7%," he says. "This plays directly into the hands of the buyer because they'll be paying substantially less on bond instalments, or it enables them to buy a much better apartment at a higher price point."

Harrington Street has been at the heart of much of the recent revival of the East City, which was previously a gritty industrial-commercial area. Major developments here include the upgrading of the Cape Town City Hall at a cost of R27-million and The Old Granary at R31-million, the purchase of the Nicro head office on Harrington Street by a European company, Groupe SOS, for R30 million, and the opening of a R75-million five-star boutique hotel on Church Square. ■



DANFOSS CONTINUES TO INVEST IN SUSTAINABLE TRANSFORMATION



There has been growing momentum in the energy sector which appears to give credence to governments across the world's commitment to transition to low-carbon economies. The promise to expand the existing network of Renewable Energy Development (RED) Zones and power corridors incentivizing cleaner energy and including such placement within mining areas, not only to promote self-generation by mines, but also sustainable rehabilitation.

H.E. president Cyril Ramaphosa said at the opening of the Investing in Africa Mining Indaba recently, that he implores mining

entities to invest in sustainable energy resources. This sentiment has been echoed by minister Gwede Mantashe and his Department of Mineral Resources and Energy (DMRE), the past couple of months.

Securing the various environmental benefits associated with mining and energy developments remains challenging and at times it restricts innovation within these sectors.

The industrial sector is responsible for 20% of total greenhouse gas emissions. The current context creates the opportunity to rethink our industries; to build resilience and increase competitiveness, while reducing emissions and paving the way towards a carbon-neutral future. The smart solutions that reduce energy consumption, improve productivity, and help integrate renewable energy sources are available today.

The World Bank estimates that production of minerals like graphite, lithium and cobalt will grow by 500% in the next three decades to meet demand for clean energy technologies.

It is with this in mind, that the Danfoss Drives office in South Africa, has rolled-out a series of thought leadership webinars on the topic of Energy Efficiency in 2020. With the campaign's overwhelming success with international audiences, the webinar campaign was extended into 2021. This year the webinars will focus on technologies that optimize energy consumption & longevity of drive components in the mining industry. ■

Celebrating 100 years of Engineering Excellence

This year marks a historic milestone for Knight Piésold, a consulting engineering firm whose roots go back 100 years in South Africa. The company was founded in Johannesburg in 1921 and has grown from small beginnings into a global consulting firm operating in 15 countries worldwide. With a staff complement of 850 people, the firm aims to create value for clients at every stage of a project.

Regional Manager: KP Africa, Vishal Haripersad (pictured) comments, "We are so proud of this landmark achievement, which showcases the ability of local talent to meet global needs and create a reliable and sustainable business." With the company's roots firmly anchored in South Africa, and with a history dating back to include clients such as South African Railways and Harbours, the Victoria Falls Transvaal Power Company, the Anglo-American Corporation, and the Electric Supply Commission; the firm now caters to clients across the world in the mining, power, water resources, infrastructure, and oil and gas industries.

"We would not be where we are today without a strong strategic focus on sustainable development, innovation, and technical excellence," comments Haripersad. "Thinking about the past 100 years in South Africa - it's incredible that this business has navigated through decades of change and transformation. Our team, and all the individuals who have been part of this journey since 1921, can be proud as this celebration is an achievement that belongs to everyone."

Knight Piésold began operations on 1 April 1921, when founder Dr F.E. Kanthack started a private practice as a consulting engineer. A pioneering water engineer, he explored rivers in Northern Rhodesia (now Zambia) during the 1920s to assess their hydroelectric potential for lead-zinc and copper mines. He created the company, F.E. Kanthack and Partners. Over the last 100 years,

the company has expanded geographically beyond Southern Africa, and branched out to other industries and service areas. Its mining and infrastructure expertise has been applied to hundreds of surface and underground mining projects in every major mining district in the world and has pioneered and advanced the development of alternative tailings management technologies.

The company has also identified and developed renewable energy projects since it started working on its first hydropower project in 1925 and continues to assess the hydroelectric potential of rivers around the world, together with solar, wind, and hybrid clean energy solutions.

"In the coming years, we look forward to building on our strong track record. We are excited by the new challenges and opportunities before us – not just in South Africa but on the African continent as a whole," says Haripersad.

"Africa's growing population and rapid urbanisation requires innovative solutions, but these need not come only from abroad. We have the talent and drive locally to create uniquely African solutions which cater to our specific requirements." Knight Piésold is dedicated to creating thriving energy, infrastructure, and natural resources industries throughout the continent. These sectors are set to create ever more economic opportunities and aid the development of the region in the coming years.

"While we are backed by a global workforce, we are immensely proud of the Africa-centric talent we hold within Knight Piésold. We have remained true to our roots and have ensured that our offices throughout Africa are staffed by local professionals who understand the intricacies of those operating environments. Backed by this strong workforce, we look forward to growing our business further over the next 100 years as we collaborate with stakeholders to solve today's challenges." ■

Technical consultants visit customers to provide technical support to the more technically astute customers, such as concrete product manufactures.

A CENTRE WITH THE CUSTOMER'S INTEREST AT HEART

AfriSam is the leading supplier of superior quality construction materials. Its cement, readymix, concrete and aggregate materials have contributed to key infrastructure development on the continent over the last 85 years. Its core values of 'people, planet and performance' reflect its commitment towards customers, communities and the environment. AfriSam's Centre for Product Excellence (CPE) plays an integral part in how it achieves these values, specifically for customers. *Construction World* visited the CPE at AfriSam's Roodepoort facility and spoke to Mike McDonald, its manager.

AfriSam has had a philosophy of offering customer support through a skilled team for many years," says McDonald. "The centre morphed through times and have had different names, but in the last 10 years it has become known as the AfriSam Centre of Product Excellence. Our sole purpose, and the reason for being, is to excel at customers support, product development and to monitor at the performance of our products in the marketplace."

The CPE plays an independent role for customers. "We are the body within AfriSam that has the customer's interest at heart, and we are mandated to do this," says McDonald.

Customer support

McDonald says that the CPE's main aim of customer support centres around the customer's productivity, the proper use of AfriSam's cement and the prevention of failures. "We have technical consultants visiting customer to provide technical support to (especially) the

more technically-astute customers that include concrete product manufacturers, construction and readymix businesses and third party blenders. Our focus is less retail focused as generally we find that for those customers the mix designs and specifications printed on the cement bags, are sufficient," says McDonald. "However, if there are any product issues, we will offer support."

The CPE aims to optimise the application process for the customer. "There is a need for true and accurate information, specifically technical information," says McDonald. "Customers can always be assured that when they contact us, the information we give them is beyond reproach and if we do not know an answer, we will do research until we know."

The support includes the recommendation of which of the existing products will suit a customer's needs. These are chosen specifically from AfriSam's engineering range of products such as High Strength Cement, Rapid Hard Cement and its Roadstab Cement.



The AfriSam Centre of Product Excellence laboratory carries the coveted SANAS 17025 accreditation.

Combined experience of 202 years

The CPE is manned by a small, but highly experienced team of 11 who between them have 202 years of experience in the manufacturing of cement and concrete, application of various products, and the associated niche applications.

The team is managed by McDonald, who has been with AfriSam for 26 years. He started off at AfriSam's Dudfield plant as a quality manager, became quarry manager and then operations manager before being promoted to head office.

The team boasts two specialists: Grizelda du Toit (Product Professional: Cement) who holds a PhD in cement chemistry from the University of Pretoria with a thesis on *the activation of fly ash in a cement matrix*, while Rajen Naidoo (Concrete application

specialist), who has been in the technical side of the AfriSam readymix business for more than 30 years, has been invaluable when experienced contractors faced problems on their sites. "We also perform investigations when material failures such as cracks in concrete are reported and Rajen is invaluable in this aspect as he developed a keen eye for troubleshooting," says McDonald.

"In addition, Grizelda du Toit, is closely involved with various universities (UJ, UCT, UP and SU) through a programme where AfriSam assist academic institutions with cement and aggregates for student and research activities. The collaborative effort includes the sharing of research results. It is important to AfriSam that there is continued academic research performed on issues that are relevant to the industry," McDonald explains. To this extent AfriSam supports funding of academic institutions through an industry-pooled fund administered by Cement and Concrete South Africa (CCSA).

Bheki Makhathini, with his 14 years of experience and Brendan Croney who is based at AfriSam's East London offices with 24 years' experience behind him, are the knowledgeable technical consultants available from the CPE.

"We serve our customers throughout the entire South Africa as well as Botswana, Lesotho and Eswatini. The wide geographical area that we cover brings along its own challenges, but we are able to cope with it," McDonald explains.

Koos Suping and his team operate the SANAS 17025 accredited laboratory and focus on customer concrete mix designs, concrete property testing, aggregate testing and overall material quality evaluation. "They mix and test scaled down concrete mixes for customers, to reach robust designs which will stand customers in good stead," explains McDonald.

Leslie Mchunu is the CPE's technical trainer. He coordinates internal and external product training. Cement and concrete product training is often scheduled to happen at the customer's site and often takes place over weekends so as not to interfere with customer processes.

The matrix of materials

Cement is just one material in the whole matrix of materials that is called concrete. "Concrete is a complex system and plastic and hardened properties thereof is affected by how components relate to one another," McDonald explains.

The CPE's customer support is a combination of reactive and proactive. "With some of our key customers we built a proactive relationship where we have regular product and process discussions in monthly and quarterly meetings. We spend time with them to get to know their processes, assist to ensure that these processes are making optimal use of the cement and then together we endeavour to identify problems before things go awry," says McDonald.

"The CPE team's promise is that a customer will be contacted within 24 hours to offer support, after such a request has been lodged. This is often followed up by an on-site visit, depending on the circumstance," says McDonald.

A past, but continued focus

McDonald says that the low carbon footprint cement that AfriSam developed and introduced to the market is still a core focus.

"AfriSam took the lead in manufacturing low carbon footprint cement products, something we continue to focus on. Cement worldwide is acknowledged as one of the biggest greenhouse gas contributors and in South Africa, it also collects a carbon tax component. But, the carbon footprint of the final product can be reduced significantly if you go about it smartly. It is not only about the cement, but about how to use less cement to achieve the same results. AfriSam produces cements with less than 50% of the carbon footprint of a CEM1 (a cement clinker only product) by using mineral components such as limestone, ash and granulated slag – products that would otherwise be discarded or even landfilled. We are focusing on manufacturing a consistent product that behaves predictably. Users are looking for quality products, not only in strength gain, but also for consistency in setting." The AfriSam aim has always been to produce cements with a lower carbon footprint while not sacrificing on performance. "In that sense we are looking at our customers, and manufacture products that will help them to be more environmentally responsible – often they not realising that they are exercising a responsible choice by buying the AfriSam products. This is especially the case with general building applications where cement is used by the DIY-enthusiasts and residential building contractors. Our technically-astute clients are acutely aware of the need to be environmentally conscious."

McDonald says that they know the possibilities within the AfriSam manufacturing plants and they know their customer needs, and therefore can marry these to the benefit of both. "The CPE is uniquely positioned. Our work leads to increased AfriSam brand value and customer loyalty. AfriSam is in it for the long run – we want the customer to be profitable while we also want to be profitable. This is the value realm that directs our work."

The CPE's USP

"The people at the CPE and their can-do attitude give AfriSam's CPE a competitive edge. In addition to the vast experience of the team, the laboratory carries the coveted SANAS 17025 accreditation and carries a range of sophisticated equipment that give us the ability to accurately test and predict product behaviour. Putting all of the above together and you can see that the AfriSam CPE plays an integral part in achieving AfriSam's brand promise of people, planet and performance." ■



Left: The AfriSam Centre of Product Excellence is manned by a small, but highly experienced team of 11 who between them have 202 years of experience. Right: Mike McDonald, AfriSam Centre of Product Excellence Manager.

2021 T W E N T I E T H BEST PROJECTS CALL FOR ENTRIES

Construction World's Best Projects showcases excellence in the South African building, civil engineering, supply and project management sectors. In its 20th year, the aim of *Construction World's Best Projects* is to recognise projects across the entire construction industry: from civil and building projects to professional services to specialist suppliers and contractors.

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

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

Judging

A panel of independent judges from the construction industry has been appointed. These judges represent ECSA, SAICE, MBA and CIOB. They are Trueman Goba, chairman of Hatch Africa and former ECSA and SAICE president; Nico Maas, chairman of Gauteng Piling and former president of the Master Builders Association; and Rob Newberry, managing director of Newberry Development and founding president of the Chartered Institute of Building Africa.

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 .jpgs and the copy in Word (not PDF format).
- The submission must also contain a **summary of important project information** such as the client, main contract etc. – i.e. the professional team involved in the project.
- **Electronic submissions only.**

Prerequisites for entry

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

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

Awards evening

Information about the 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

Entry Deadline

**Friday, 3 September
at 17:00**

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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POLOKWANE WASTEWATER TREATMENT PLANT SUPPLIED WITH HDPE PIPES

Waste water treatment plants play a crucial role in the removal of contaminants from wastewater and sewage in order for its conversion into an effluent that can be returned to the water cycle in an environmentally friendly way or to be reclaimed for other purposes. It is a critical process in the supply of safe water to local communities.

Rocla's HDPE vertical cast pipes were specified for two phases of the Polokwane Waste Water Treatment Project due to the quality of the pipes and the technical support Rocla provides. The project commenced in 2018 and was completed at the end of December 2020.

The project, which was subdivided into three phases, is based in the Seshego area in Polokwane. It was initiated to upgrade existing sewerage system, to meet the increased requirements of the Seshego local communities. Each phase of the project had a separate starting point with a common joining at a single point.

Rocla, Regional Sales Manager, Andrew Kruger said, "The project was commissioned by the Polokwane Municipality to upgrade a now outdated sewerage system which no longer met the local community's requirements in the Seshego area of Polokwane. We worked closely with site contractor Safcrete Construction so that the quality of the pipes would be to the standard required and delivery scheduling would be as seamless as possible".

"The pipes were 2,5 m Silica Rolling Joint Pipe, comprising a 3 mm sacrificial layer. Five sizes of pipe were required, namely 900 mm, 1 000 mm, 1 200 mm, 1 400 mm and 1 500 mm, which if placed end-to-end, the HDPE piping would be over 19 kms in length. The placement of each pipe required the insertion of a rubber ring and the welding of a 'capping strip' on the inside of each individual joint to ensure proper sealant," said Kruger.

Rocla's HDPE lining offers water and sewer projects advantages such as a surface smoother than concrete, enabling smaller internal

diameter piping to be utilised. The long-term pullout strength of the lining anchors is able to cope with a ground water pressure in excess of 10 m.

Safcrete Construction commented that it had worked with Rocla and their engineers on many projects over the years and had always been impressed with the quality of the end product supplied. "The Rocla HDPE pipes were specified for this project because they offer the best solution to waste and stormwater plant and projects of this nature. Their attention to customer requirements, in this case, an exceptionally challenging delivery schedule, is also a feather in their cap".

Kruger added: "In order for our Polokwane factory to manufacture the various sizes of pipes and the required quantities, Rocla Polokwane underwent an overhaul in terms of the manufacturing sections needed to accommodate the upgraded equipment. We also made use of special Vertical Cast (VC) moulds which were required for use with the insertion of the sacrificial layer within the pipes. It was these changes that enabled us to meet the quantities of HDPE pipes required for the Polokwane Waste Water Treatment Plant projects as they enabled us to increase our production schedules and deliver to site timeously". Concrete pipe with a cast in HDPE lining has all the advantages of a strong rigid pipe that keeps its shape as well as those of a plastic pipe that is inert to acid attack. It is the best pipe for large diameter gravity pipelines in almost any condition. Standard HDPE lining is light green and 3 mm thick. Different colours and thicknesses can be supplied. ■

Greening hard wearing driveways with Armorflex HLP

Don't you just wish, when driving along a bumpy sand road, that there could be some form of tracking to make the journey easier? Or even when driving up your own driveway, that there is an attractive greened track that blends in with your already established landscaping? A simple yet highly engineered hardlawn paving from Technicrete, Amorflex HLP, is probably the best solution for a stable grounding.

Easy to maintain by using traditional lawn maintenance techniques, Amorflex HLP paving blocks allow the natural greening of paved surfaces to form hard wearing grassed driveways, roadways, parking areas and embankments. They can also be used on embankments for light duty erosion protection as well as a light stormwater run-off.

Once earthworks have been designed to suit the application

loading, the preparation for the laying of the Amorflex HLP blocks includes creating a surface of layer works to standard specifications 1200 MJ (max 10 mm in 3 m), and putting down a river sand bedding (with a recommended thickness of between 10 mm and 15 mm).

The blocks are then hand-compacted into the bedding sand using a rubber mallet.

The top openings in the Amorflex HLP blocks are filled with topsoil and grassed prior to trafficking. The blocks allow natural or planted vegetation to grow through their openings providing the natural aesthetically pleasing finish once installed. Keeping the soil intact is helped by the roots of the plant growth.

The Amorflex HLP blocks are available in 340 mm x 294 mm with a 90 mm thickness, primarily in grey but other colours are available upon request. ■

Enabling surface stabilisation between rock bolts

Rock bolts are used to stabilise rock excavations in mining, tunneling and civil engineering operations such as concrete dam reinforcements, road cuts and bridge abutments. A critical element to excavations of this kind is the surface stabilisation between rock bolts to hold unstable or fractured rock masses together. It is this required stability that is achieved by using Technicrete TSL (Thin Skin Liner), a modified polymer based fibre reinforced thin sprayed liner.



Technicrete TSL is supplied in easy-to-use kits consisting of a special liquid, which is a blend of powder chemicals and graded silica sand with polypropylene fibres.

The contents of the kit are simply emptied into a suitable mixer or pump which have a positive displacement type pump arrangement, then sprayed on to the cleaned rock face and into open joints and fissures covering all surfaces needing to be supported. Maximum penetration is obtained by spraying directly into any open joints. Compressed air is added at the nozzle to spray the fresh mix, whilst a seven metre delivery hose will deliver the best effect.

The bonding properties of Technicrete TSL bind the rock faces inside the fissures to provide a more stabilised rock surface and minimises the unravelling of rock mass. The tensile properties of Technicrete TSL spanning across joints and cracks resist shear and direct tensile movement adding to back pressure in the rock mass for added stabilisation.

In low stress environments the bonding and tensile strengths assist in preventing block movements, whilst keeping the rock 'beam' intact.

Benefits

Technicrete TSL can be:

- Rapidly deployed in underground environments as equipment is easy to handle in confined areas
- The sprayed-on support is quick to mix and hardens quickly
- Used as rock support for areal stabilisation of rock surfaces
- Stabilises friable ground
- Seals sensitive rock type such as smectite, shale, soft shales against water and humidity
- Prevents unravelling of fractured ground by holding key blocks in place
- Seals dams, sumps and drains
- A temporary areal support – prior to overcoating with shotcrete, which has a strong adhesion to Technicrete TSL
- Safely applied to damp substrates (but not onto surfaces covered in running water)

TSL EFNARC specifications

Technicrete TSL has a shear strength of >0,25 MPa after 24 hours, a tensile strength of >2 MPa after seven days, an ultimate bond of shear 1 MPa and a bond strength of 1Mpa.

After the completed application simply flush the equipment thoroughly with water for cleaning. This process minimises pump and hose blockages. ■

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FLOOR COATING HAS COVERED VAST AREAS IN SA



When it comes to flooring, the range of products supplied by a.b.e. Construction Chemicals has virtually become household names. The company – part of the Chryso Southern Africa Group - has in its more than eight decades of operation formulated products that are trusted and applied by major flooring contractors and also by the home-owner/DIY enthusiast.

Among a.b.e.'s most respected floor coatings – with a track record of over 30 years - is abecote WD 337, a two part, water-dispersed tough epoxy paint that produces a durable floor coating with a smooth finish. a.b.e. recently calculated that this immensely popular product has, over the past five years, been applied to floor surfaces in total of:

- Five times the size of The Pentagon which, with a total floor area of 620 000 m², is the massive headquarters of the US Department of Defence;
- Almost eight times the ground area of the Boeing Aircraft Factory which, also in Washington, covers some 40 hectares and is said to be the largest building in the world; and
- Eighty times the floor surface area of the 55-storey The Leonardo skyscraper in Sandton – the tallest building in Africa.

abecote 337 tough epoxy paint is not only decorative – and ideal for DIY home applications - but also robust enough to protect factory and warehouse floors, such as those found at chicken farms, dairies, motor workshops, shopping centres, and even battery plants with their acidic environment. abecote WD 337 tough epoxy paint is now also approved for use at wineries by the SA wine industry.

Some noteworthy flooring projects for which the product was specified include Havanna Hills Wine Estate in Durbanville, Douglas Green Winery in Wellington, SA Breweries in East London, ABI Coca-Cola in Durban, Reebok Pump Station in George, Base 4 Aviation hangar in Western Cape, and the NEU Pack Industries plastics extrusion factory floor in Jacobs, KZN.

Peter Jones, a.b.e.'s National Sales Manager: Flooring, says: "This is an economical product that can be applied over damp surfaces, and can easily be overcoated at any time for maintenance. It is exceptionally popular as a protective and decorative coating for masonry and cementitious surfaces and can be used for industrial, commercial and residential applications."

Jones says abecote WD 337 is both oil- and petrol-resistant and has strong impact-resistance as well. It is suitable for cold rooms and ramps as it can be mixed with fine aggregates to provide non-skid surfaces.

The product is available in six colours: ivory silk, lime stone, sea grey, soft grey, sahara beige and havanna beige. ■

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The 10 Commandments FOR PROPER CONCRETE CONSTRUCTION

With the pandemic having created a survival mode for many smaller and emerging building contractors, it is now more important than ever for site staff to have at least a basic knowledge of concrete behaviour and performance in construction, says John Roxburgh, senior lecturer at the School of Concrete Technology.



Here Roxburgh deals with the importance of 10 topics covered in the School's popular online training course, SCT10 "Introduction to Concrete".

The properties of concrete

For any successful concrete project, understanding both the plastic and hardened properties of concrete is essential. With the correct plastic properties, staff will be able to transport, place, compact and finish off the concrete correctly so that it can then have the correct hardened properties, which includes strength, and durability with minimum shrinkage.

Materials for concrete

Knowing the function of each material in the concrete mix – and the consequence these materials have on both the plastic and hardened properties of concrete – are essential in obtaining concrete that will perform well over its design life.

Receiving and storing materials

The overall quality of concrete depends on many factors. Often, the receiving, storage and handling of the original materials are overlooked. Contracting staff must know how to prevent contamination of stored materials and have methods in place to ensure that they are receiving and using the correct materials.

Batching, mixing and testing concrete

There are specific requirements for accurately batching and mixing concrete. Control of water content is probably the most important because the strength of concrete is strongly related to the water content. Concrete quality must be assured throughout and this

requires a good working knowledge of the various tests that need to be performed on both the plastic and hardened concrete.

Transporting, placing and compacting

There is only a limited amount of time to transport, place and compact plastic concrete and contractors' staff inevitably have to work against time to ensure that the full potential of the concrete is reached. Staff need to know how to achieve a dense non-segregated concrete – and to do it timeously.

Finishing and surface preparation

Finishing and surface preparation require a unique set of skills, coupled with practical experience. Here also timing is of utmost importance and, for proper finishing, staff must have a detailed knowledge of concrete technology to apply their skills on the surface of the concrete in good time.

Protection and curing

So often all other aspects of the concrete works are completed acceptably - and then curing is botched up. For good durable concrete, proper curing is essential. It cannot, for example, just be interrupted and then resumed many hours later.

Formwork and reinforcement

Formwork is crucial for moulding the concrete to the correct shape but is also very influential in the final off-shutter finish. Knowledge of shutter materials and the types of release agents allows contractors' staff to make the correct decision when it comes to achieving the desired off-shutter finish.

Sand-cement mixes

Sand-cement mixes are typically problematic. When there is an excessively high water content, the concrete tends to shrink substantially and is very weak. So, it is important to know how and where sand-cement mixes should be applied. Often the mixes are used inappropriately and a contractor should be able to advise a client before this happens.

Durability

Sustainability is an important consideration in the world today with materials having a low carbon footprint given preference. Cost-effective concrete is sustainable and has a low carbon footprint as it does not need excessive maintenance or repair over its service life. It is therefore essential for small and medium, as well as micro enterprises, and junior technical and sales staff in the building and construction industry, to receive training on matters such as listed above, as all these topics are intrinsically linked to concrete durability. ■

CHRYSO reduces CO₂
for the cement industry.

BUILDING A SUSTAINABLE INDUSTRY

Globally CHRYSO's sustainability aim is twofold: it wants to create wealth while encouraging social progress and minimising its ecological footprint. This is done through its offering of admixture solutions for the green revolution, specifically the aim of reducing the construction industry's impact on the environment with focus on CO₂ reduction. *Construction World* spoke to Hannes Engelbrecht, Concrete Unit Business Director for CHRYSO South Africa about how it is contributing to this drive in the Southern African construction context, especially its aim to provide products to allow interaction between cement and concrete to reduce its overall CO₂ footprint.

Vertical integration of new technology

"CHRYSO has two legs: the first is its focus on the cement producers where strategies for the optimal performance of clinker optimisation and increased use of SCMs (supplementary cementitious materials), while the second in its focus on the concrete manufacturers. Our sustainability focus starts with the producers of cement whom we aim to assist with CO₂ reduction so as to minimise the CO₂ tax that will be implemented locally," Engelbrecht explains.

He says that one of the ways it aims to reduce CO₂ for the cement industry is by integrating several technologies into the cement plant and the cement manufacturing process to reduce the clinker ratio. "Local players are increasingly being forced to start blending their cement with SCM (supplementary cementitious materials). If they do not, they will have to contend with huge taxes." SCMs are industrial

by-products which, when used as a partial replacement for Portland cements, reduce the amount of cement that is required for producing quality concrete. Because of these new cements that will be available on the market are borne out of the CO₂ reduction, Engelbrecht says the concrete aspect of CHRYSO's focus is similarly aimed at further CO₂ reduction. "Typically end users of the new cements include readymix and precast concrete product producers, as well as mining and construction companies. Therefore, our construction chemical solutions vertically integrate the new technology from a cement producer down to the concrete producer – enabling them to use the new cements to produce cost effective concrete with improved durability and quality aspects. We need to enable them to improve their concrete performance and adapt to the new cements available in the market," Engelbrecht says.



Hannes Engelbrecht, CHRYSO SAF Concrete Unit Business Director.

CHRYSO's offering to end-users

"We need to provide technology that enables concrete producers early acceleration of concrete. CHRYSO has launched a new accelerator package for these highly extended cements," says Engelbrecht. This is underpinned by what we call Enviromix technology in our CHRYSO® XEL range. These products are specifically designed for increased SCMs in cement. "The bottom line is that CHRYSO has an extensive range of admixtures suitable for all types of cementitious materials and concrete production requirements," adds Engelbrecht.

He says that CHRYSO has also launched its CHRYSO® Alpha range, an end-to-end range of concrete admixtures specifically for dry and semi-dry precast applications. "Each product in this range meets high performance levels in terms of concrete compaction, mechanical strength and aesthetic quality," says Engelbrecht. This will satisfy the increased demand for bricks and blocks that developed during 2020 and is driven by private spend. "It is a two-part-technology: this range will assist dry precast manufacturers with their early production while

simultaneously reducing their cementitious footprint.”

Engelbrecht says there has not yet been an increased demand for heavy or wet precast products due to the general lack of infrastructure projects. “We have, however, launched several new product and technologies for wet precast producers in order for them to produce cost effective concrete with the new cementitious materials available.”

It is evident that CHRYSO can assist the end-user to enable them to practise sustainable construction.

Securing projects with its sustainability focus

Engelbrecht says that 5% of CHRYSO’s global revenue is used for product development and innovation. “Our brand promise and slogan, ‘Innovation is our chemistry’ necessitates us to constantly innovate and as such we try to develop new technologies and products so that ranges are re-engineered and renewed every five years. This and the focus on sustainability have allowed us to secure a few projects locally,” says Engelbrecht.

One is CHRYSO’s involvement in the recent construction of the 210 Mega litre concrete reservoir at Vlakfontein. The size of the reservoir is such that it has been classified as a dam with a significant hazard rating, which requires stringent monitoring during the construction phase. “We supply PPC’s readymix division with five new product solutions that all, in different ways, make the production process easier, assist with the cohesion of aggregates in the mix and improves the overall concrete quality. Two key product solutions that are being supplied are CHRYSO®Serenis, specifically designed to reduce concrete and mortar shrinkage at early and long-term ages; as well as 70 tons of CHRYSO® CWA10 a crystalline waterproofing admixture for durable, water tight concrete. This is vital for water retaining structures,” says Engelbrecht. “All the products are designed

to interact and ensure the best result for not only the concrete supplier, but the client. He has peace of mind and only needs to deal with a single supplier.”

Raubex Construction is currently busy with the Musina Ring Road project that diverts the N1 around the town of Musina in Limpopo for client South African National Roads Agency SOC Ltd (SANRAL). CHRYSO is supplying its CHRYSO®Omega range of products and polypropylene fibres to this project, illustrating its fibre range as a solution to reduce the use of steel mesh in projects, at the same time reducing CO₂ emissions, cost and time. “These are all examples of our sustainable drive,” says Engelbrecht.

With a focus on sustainable construction and new and innovative products, Engelbrecht says that its research facilities had to be improved. At head office, the Centre of Excellence performs testing and offers an advisory service to customers, engineers and architects in the South African sustainable construction industry.

“An integral part of sustainable construction is end of life management – and for this we have various technologies and products that enable the effective recycling of aggregates. ■

CHRYSO South Africa has the necessary certifications to support its drive in sustainable construction:

- The ISO 14001 standard defines the standards of an efficient and environmentally friendly management system for the company.
- The ISO 9001 standard establishes the requirements necessary for the setting up of a quality management system.
- The ISO 45001 standard for Health & Safety.

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BREAKTHROUGH IN CONCRETE RECYCLING

Sika has developed a new, ground-breaking recycling process for old concrete. The old concrete is broken down into the individual parts gravel, sand and limestone in a simple and efficient process, which also binds about 60 kg of CO₂ per ton of crushed concrete demolition waste. This innovation – with the brand name «reCO₂ver» – will make a significant contribution to reduce the ecological footprint of the construction industry.

According to the European Commission, 25–30% of all waste generated in the EU consists of construction demolition waste materials, many of which could be recycled. Recycling these materials is particularly crucial in dense urban areas, as this is where most old concrete accumulates. Sika has succeeded in developing a highly efficient process that will allow to separate and reuse the components of old concrete as well as increase the recycled aggregates' quality.

Additives for high-performance concrete

Comparative testing of the Sika «reCO₂ver» process has demonstrated that new concrete containing recycled content performs similarly to an all-new product. Thanks to additionally developed chemical additives, further process optimizations can be achieved, such as the flexibility to tailor specific concrete functionalities.

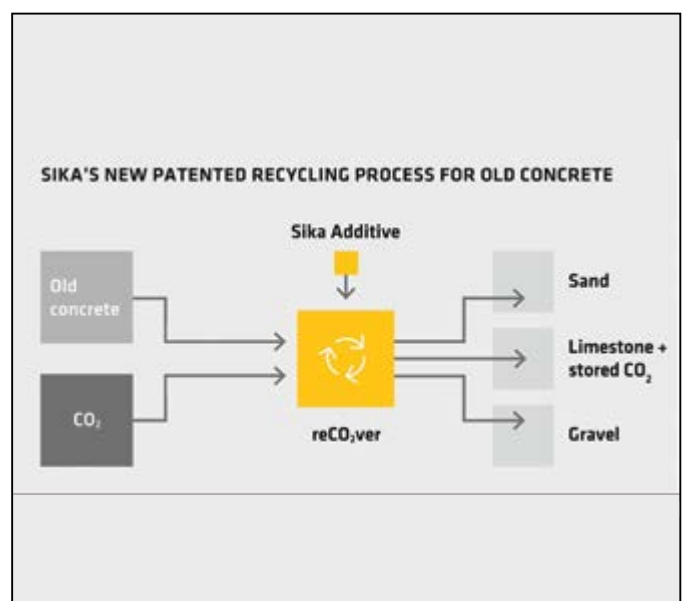
Paul Schuler, CEO: "In the five largest EU countries alone, roughly 300 million tons of old concrete are generated every year. With complete recycling of these materials, up to 15 million tons of CO₂ emissions can be captured. We are convinced that our new process has the potential to benefit both our customers and the environment."

Frank Hoefflin, Chief Technology Officer, states: "With our strong expertise in concrete technology, we were able to develop a completely new recycling process that can be considered a game changer in the concrete industry. We are already developing complementary chemical additives and quality enhancers

and are pushing the industrialization of our new technology."

Milestone in concrete recycling

With the new process, old concrete can be completely recycled and saved from landfill. So far, attempts to recycle old concrete have led to rather low recycling rates, and only 30% of primary material can be substituted by these recycled materials in structural concrete. The Sika innovation will produce high-performance concrete while sequestering a significant amount of CO₂. ■





Readymix Concrete Batch-Plant now open in Port Elizabeth

Afrimat expands its construction materials footprint with opening of Denver Readymix Concrete Batch-Plant in Port Elizabeth

We opened for business in March 2021.

Whether you are a small or medium sized business or working on large-scale civil engineering and infrastructure projects in Port Elizabeth and surrounds, we are ready to supply you with quality readymix concrete.

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UNSCRUPULOUS QUARRYING DECIMATES COMMUNITIES' LIVELIHOODS

The recent deaths of two young boys who drowned in a quarry in Mamelodi attributed to poorly monitored excavation of sand underpins the importance of clamping-down on non-compliant mining activities.



Director of surface mining industry association, Nico Pienaar says: "These were two young boys who had their whole lives in front of them and should not have died in this way. Unfortunately, the blame must be laid squarely at the door of law enforcement who have been complacent in dealing with legal issues of quarrying for sand and aggregates for building purposes throughout South Africa.

"Not only do these kinds of excavations pose a danger to humans and animals, but they can also render the landscape unusable for future generations and pollute the waterways and environment. These acts should be seen as sabotage because the actions of the perpetrators can have devastating effects on surrounding communities and unfair competition can also lead to the collapse of formal operations with a devastating loss of employment for people in the area."

Standing up

He adds that it is time the users of the materials including the contractors and end-users begin to take a stand and stop supporting unregistered, illegal operations. All tiers of Government should also be aware that the country needs a coordinated effort of South Africa's legal quarrying in order to build future infrastructure.

The quarrying industry in South Africa is technically advanced and able to supply materials for modern construction techniques. However, many of the country's quarries are under threat due to illegal operations and ill-considered borrow pits, which are undercutting the prices of formal quarries and bringing many to their knees.

Nico warns that without professionally managed quarries

operating in our towns and cities and the cost of construction will become unaffordable for Government, developers and even for homeowners. If allowed to disappear we will see similar problems arise as with the Eskom energy and water crisis, where too little is done too late and the citizens will bear the brunt.

No future

"If municipalities, roads agencies and construction companies need specialised materials to build infrastructure or high strength concrete for mine shafts, high rise buildings or advanced new construction techniques we need to know that there is a professional industry to back up these plans. Imagine we can't supply them because our formal quarrying industry – with its mining experts, blasting professionals, mineral processing engineers and skilled workers – have left the industry due to the quarries closing. Illegal miners and small-scale borrow pits don't have the skills nor the expensive capital equipment to produce such materials.

"At what cost should we accept short term gains for cheaper prices. Should it be at the cost of our children and land usage, should it be at the cost of the environment or the safety of all people in the vicinity. How much longer do we allow the scourge of illegal mining to affect our lives and undermine the livelihoods of thousands of workers who are gainfully employed in the formal quarrying sector.

"Members of ASPASA and legal quarries cannot compete with prices of illegal operations and will always cost a small percentage extra. Users should however bear in mind that they must obtain mining, water usage and environmental permits and must abide by the strictest regulations possible just in order to begin quarrying operations."

Costly affair

Once in operation they are heavily regulated (in terms of the impact on surrounding communities) and have to comply with the strictest possible regulations relating to noise, dust and water pollution among others. An additional benefit is the creation of direct and indirect jobs that are sustainable over a long period of time.

In fact, the quarry industry has never been more responsible and committed to the communities they operate in. With the Government's commitment to building new homes and the rising population growth, a strong demand for infrastructure development is required and this needs to be supported by legal quarry operations in every town and city.

"We are calling for Government, contractors, developers and the formal construction industry to recognize the important roles played by well resourced, well equipped, formal quarries and to completely eliminate all illegal digging operations," concludes Pienaar. ■

CEMENT & CONCRETE SA ESTABLISHED TO DRIVE the industry to new heights

Cement & Concrete SA (CCSA) has announced that the new consolidated industry body is open for business and is set to take the lead on all matters relating to cement and concrete in South Africa.

The single non-profit entity, CCSA, was established through an extensive and thorough process of engagement with various stakeholders to consolidate The Concrete Institute (TCI), Concrete Society of Southern Africa (CSSA) and the Association of Cementitious Material Producers (ACMP).

The body will create long-term shared value and industry growth in South Africa through driving collaboration, skills development, innovation, and the highest standards in sustainable cement and concrete materials and products.

Bryan Perrie, CEO of Cement & Concrete SA, states that CCSA has been mandated to promote and support the industry, to drive growth and deliver shared value through a unified platform for cement and concrete.

"At a time where many conflicting and ambiguous messages are shared readily on various platforms, and with the proliferation of substandard products and services, the need for authoritative engagement with all stakeholders is critical," Perrie adds.

A new and inclusive membership model will make the portfolio of services offered by CCSA available to individuals or corporates, either for free or at members' discounted rates. These services include courses presented by the School of Concrete Technology, access to the Information Centre, attendance at technical events and webinars, publications, and hyperlinked listings on various electronic sources, to name a few.

CCSA, through its members, will create the opportunity to build a healthier future through a network of influencers. Working with industry role players to develop the value propositions of cement and concrete is one of the identified objectives of CCSA. Other goals include: to promote the value creation story of the cement and concrete industry in South Africa, supporting research as a means of increasing the ongoing expertise base, and the promotion of industry standards and audit compliance amongst members and industry role players.

On a more practical level, CCSA will grow industry expertise and build capacity by developing and offering courses, seminars, and training materials. The provision of information, research, advisory and on-site technical consulting services will be another service offering available to members.

CCSA's dedicated focus on committees will ensure that all relevant areas are addressed with expertise through consultation. The committee structures will empower members to guide and shape many of the services. The branch committees of the erstwhile Concrete Society of SA will be retained to ensure that CCSA will have concrete ambassadors in various regions.

"We are excited about the future of the cement and concrete industry in SA. The staff of CCSA are ready to discuss membership options and benefits. We are poised to add value and unlock opportunities for all members, and the industry at large," Perrie concludes. ■



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EXPANDING CONSTRUCTION MATERIALS FOOTPRINT

Afrimat's Denver Readymix Concrete Batch-Plant officially opened for business on 10 March 2021, and the company is extremely excited about this new chapter –

not just for Afrimat in the Eastern Cape – but also for the community of Port Elizabeth.

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MEMBER ORGANISATION



experience, AfriMat is trusted for consistently delivering exceptional products and service and it cannot wait to expand on this legacy and deliver top-quality readymix concrete solutions to the community of Port Elizabeth and surrounds. "Our brand-new readymix

concrete plant can batch 70 m³ per hour and our equipment will ensure that we are able to meet the minimum industry specifications and requirements. This, along with our technical expertise, allows AfriMat to deliver quality readymix concrete within the specified timeframes," says Lloyd Minter, AfriMat Sales & Logistics Manager – Eastern Cape Aggregates.

"Our expert technical team, based in Cape Town, is also on hand to assist us with developing specialised products as and when requested by customers. In addition to our newly established readymix concrete plant in Port Elizabeth, AfriMat has 25 fixed readymix operations across South Africa, located in the Western Cape, KwaZulu-Natal, Free State and Limpopo, complemented by our mobile readymix plants which can be set up anywhere across the country on a per-project basis."

AfriMat's Concrete Based Products Division supplies concrete primarily to large-scale civil engineering and infrastructure projects through its fixed and mobile readymix plants where concrete is batched on demand and then transported to site by concrete mixer

trucks. "While this is certainly within the scope of the Denver plant, we will also deliver this service to smaller businesses and operations in Port Elizabeth and surrounding areas within a 100 km radius of our plant, such as Kirkwood, Hankey, Patensie, and Jeffreys Bay," says Minter.

AfriMat's proprietary commercial quarries – located in eight of South Africa's provinces and in Mozambique – also supply most of the raw materials for our Concrete Products and Readymix divisions.

"Our Aggregates Division produces aggregates of a wide variety of sizes and technical specifications, primarily with products including stone, gravel, and sand. Our Concrete Based Products and Aggregates Divisions falls under one of AfriMat's four key divisions: Construction Materials. The group also supplies products and services through our Industrial Minerals Division, Bulk Commodities Division and Contracting Services Division," he says.

With 50 years' expertise, AfriMat's products are all built on the foundation of quality and durability. "Our excited team at Denver is ready to deliver excellent service and products," Minter concludes. ■

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HOW TO TROUBLESHOOT CONVEYOR BELT CHALLENGES

Some of the toughest maintenance challenges at manufacturing facilities are presented by large belt-driven conveyor systems. These critical assets require gear oil for their gearboxes, electric motor grease for the motors, and grease for multiple lubrication points – particularly bearings. Improper lubrication and contamination can cause premature wear, or even worse, create unplanned downtime.

Recurring challenges include dirt, water, heavy loads, vibration and extreme temperatures – and these are even more severe when the system is located outside. Some of the common lubrication challenges that maintenance teams face in trying to keep conveyors properly lubricated are multiple lubrication points, long walking distances, and difficulties accessing some key machinery points. All of which means that compliance with manufacturer-recommended relubrication intervals can be difficult to achieve.

To combat these challenges, Lubrication Engineers (LE) South Africa has developed a comprehensive lubrication strategy to help its customers manage the risks of conveyor belt wear through correct gear oil selection, grease selection, grease application, contamination exclusion, and visual monitoring and contamination removal.

LETS strategy

The strategy is called LETS (for load, environment, temperature and speed) and includes a set of questions to help maintenance teams identify what lubrication solutions from within the original equipment manufacturer's recommended range will best suit their particular operating conditions.

LE National Marketing Manager Callum Ford says, "We work through these questions with our clients, and help them identify the right lubricant and reliability solutions to properly care for their equipment."

While implementing the LETS approach with its clients, LE has seen a number of common problems emerging across conveyor belt applications, including incorrect gear oil and greases selection, and problems with grease application.

Gear oil

Inferior or incorrect gear oil can lead to equipment problems and unplanned downtime. For example, some gear oils become foamy and lose performance in the presence of moisture. Another problem

occurs when extreme pressure gear oil is used in gearboxes with internal backstops. Extreme pressure prevents the clutch or sprag mechanisms from properly engage, resulting in the mechanism slipping.

A helpful solution can be to use the answers from the LETS process to select the gear oil best suited to an application – ideally one designed to combat the effects of high temperatures, water, contaminants and heavy loads. A long-lasting, nonfoaming, turbine-quality oil with anti-wear additives will ensure that the conveyor belt equipment works without interruption.

Grease

If the wrong grease is used, the reliability and lifespan of equipment may suffer. In most cases, to solve this requires an extreme pressure grease that can withstand heavy loads, maintain performance in a broad range of operating temperatures, seal out water, protect from corrosion and wear, and will not emulsify when water is present.

Incorrect grease application can be a problem, even if the correct grease for the application has been selected. Over greasing, under greasing or not greasing can all cause problems. Many operators have to manually grease lubrication points in hard-to-reach or unsafe areas and end up neglecting to grease those spots.

An experienced lubrication consultant can help determine correct lubrication amounts and intervals, and then help with choosing which single- or multi-point lubrication system will work best in a particular application. Automatic systems are precision lubrication tools that can also be used to improve the accuracy of greasing application, as well as reducing labour time, enhancing safety, reducing equipment failures, and keeping out contaminants.

The essential nature of conveyor belt operations means that their effective functioning needs to be a key focus for plant management, and using the correct lubrication solutions with the right application can have far-reaching benefits for maintenance and productivity. ■



SCANIA'S ZERO COST OF MAINTENANCE BOOSTS PROFITABILITY

South Africa's construction industry is adjusting to a new normal as the effects of the COVID-19 restrictions have changed traditional supply chain models, customer behaviour, government infrastructure funding and long-established business models.

As the economy contracts the construction industry faces multiple business challenges, including rising operating costs, increased fuel prices, decreasing revenues and tighter margins.

"Scania has always been at the forefront of setting new standards in sustainable logistics solutions," says Nomonde Kweyi, General Manager, Marketing & Communications, Scania Southern Africa.

"Improving the quality of our products while continuously improving the flows across every part of our supply chain eliminates waste and allows us to challenge operating costs." Scania's New Truck Generation is setting new benchmarks in the total cost of ownership, providing customers with sustainable cost-efficiencies, and securing them a competitive advantage in their industries.

A 10% fuel saving

State-of-the-art technological leadership is behind Scania's latest sustainable operating breakthrough. Vehicle data recorded from multiple Scania trucks, in daily operation, using multiple drivers, yielded an average 10% fuel saving across the New Generation truck range. "Every Scania we make is equipped with smart technology, advanced sensors and wireless connectivity. We have thousands of constantly connected vehicles providing the data needed to make informed cost savings decisions," explains Mark Erasmus, General Manager Sales, Scania Southern Africa.

This proven 10% fuel saving, compared to the Scania PGR range, makes the Scania New Generation the most fuel-

efficient truck in South Africa. "Fuel costs can equate to over a third of operators' total operating costs," says Erasmus, "Any improvement in fuel efficiency can provide drastic savings."

Scania isn't resting on their laurels though. "The highest recorded fuel savings in the market provides our customers with the cost-savings needed to offset maintenance costs. By using the fuel savings, our customers can pay zero maintenance costs," explains Erasmus.

Maintaining a truck at zero cost, especially when calculated across a fleet, has the potential to remove significant expenditure from operators' total running costs, boosting profitability and significantly improving their ability to compete in a highly competitive market.

"In the construction industry we know that maintenance costs absorb much-needed revenue and profit. The New Truck Generation has the potential to pay for its own maintenance," says Erasmus.

It's total cost of ownership redefined, and Scania South Africa sees it as a game-changer that will help their customers find a sustainable revenue increase while their competitors continue to struggle with high operating costs. "As challenging economic realities bite, Scania's sustainable cost-efficiencies are driving our customers business ambitions and delivering increased profitability, that is helping them achieve otherwise elusive business growth," says Erasmus.

"Scania Zero Cost of Maintenance is driven by our 10% Proven Fuel Efficiency. This equates to cost-savings that promise to redefine what is possible in South Africa's construction industry," Erasmus concludes. ■



Mark Erasmus, General Manager Sales, Scania Southern Africa.

PRECISE, COST-EFFECTIVE WATERPROOFING

Spraylock Africa helped provide a more precise and cost-effective, as well as faster means of waterproofing a total of 18 828 m² of concrete slabs for new Deloitte head office in Waterfall City in Midrand. The area covered on this new development included the ground and first floor, as well as the roof.



Located right on the Allandale interchange of the N1 highway, at the eastern side of this latest growth node in Gauteng, the new premises consolidates Deloitte's Woodmead and Tshwane offices in a single central location.

Consisting of 42 500 m² of workspace to accommodate close to 5 000 employees, the building comprises a ground floor with six storeys of offices and four basement parking levels, including nearly 2 000 parking bays.

The more than R1-billion building is co-owned by Johannesburg Stock Exchange-listed Attacq and Atterbury, which was also the project developer.

Storm Waterproofing Systems, a leading South African water-proofing contractor, was contracted by the principal building contractor, WBHO, to provide the cutting-edge waterproofing services.

The company was awarded the contract based on the high-quality service it supplied to the leading building contractor on previous projects as a specialist waterproofing subcontractor.

This is in addition to its longstanding working relationship with other representatives of the professional team, namely Norval Wentzel Steinberg quantity surveyors and Empowered Spaces Architects. Both companies could also attest to the high-quality service that Storm Waterproofing Systems offers.

The professional team was introduced to SCP 327 by Carl White, Managing Director of SprayLock Africa, the African representative of the United States-based Spray-lock Concrete Protection (SCP) products.

Design innovation

SCP products penetrate into the concrete capillary and pore structure after bleed water exits, reacting with free alkali to primarily form additional Calcium Silicate Hydrate (C-S-H) within the concrete. This reaction stops harmful moisture migration within the concrete matrix to acceptable levels for coatings, coverings and flooring. It enhances resistance to chemical and environmental attack; provides permanent protection; increases durability.

Notably, the technology also ensures a superior concrete cure as strong as and if not better than 28-day moist curing without delays – another significant benefit on this fast-track project.

It eliminates the need for curing membranes, densifiers, floor hardeners and moisture barriers while slabs treated with SCP products can be accessed in as little as an hour and installed with flooring and coating within 14 days. The ability to significantly accelerate the waterproofing process also provides construction cost-savings for the client.

Construction innovation technology

SCP 327 is applied within 24 hours of placement of the concrete and once the substrate is hard enough to accommodate the application team. Generally, SCP 327 is applied once the power floaters have finished floating the concrete.

Working to a strict programme that was determined by the principal contractor, Stormwater Waterproofing Systems' team treated between 300 m² and 400 m² of surface in a day. This impressive production rate included preparing the surface ahead of application.

The task at hand was an extensive undertaking, starting with 2 817 m² of ground floor, followed by the 2 423 m² first floor and 8 348 m² roof structure.

Waterproofing commenced at the end of 2018 and was completed on time and according to quality in mid-2019.

Impressively, the same team, which was also trained by SprayLock Africa ahead of the application and received additional support on-site by Sheldon White and a representative of the company's principal, also treated 17 500 m² of concrete slabs at the Illovo Central development in Sandton with SCP products during this period. Illovo Central is another of FWJK's attractive residential high-rises to grace the Sandton skyline. This exclusive selection of sophisticated residences offers 16 storeys of elevated luxury living.

Certainly, coordinating operations between the two project sites was a complex undertaking – a challenge that was exacerbated by many rainy days during the summer season.

Time, cost and quality

1. Waterproofing

Topical sealers, which include acrylics, epoxies and polyurethanes, form protective barriers on top of the concrete surface. Some of the common issues when applying protective film sealers are surface traffic and proper application. Acrylic and epoxy sealers require



regular maintenance as they both have a high wear potential. While polyurethane sealers are thicker, with a durable abrasion-resistant finish, there cannot be any water on the surface during application. All topical sealers also need to be reapplied when flooring is removed over a sealed surface.

Meanwhile, penetrating sealers, which include silanes, silicates, siliconates and siloxanes, penetrate the top surface of the concrete and react within the bleed water capillaries of the concrete to stop the migration of moisture and deicing chemicals.

However, ASTM F710 requires them to be removed from the surface prior to the installation of floor-covering systems.

While SCP products also penetrate the surface, they work differently than other sealers. The C-S-H that is created when the colloidal silica chemically reacts with the available alkali in concrete blocks capillaries and pores and chemically stabilises the pH within. SCP technology is a one-time treatment that penetrates the concrete matrix, reducing water migration levels to an acceptable range for most coatings, adhesives and floor coverings.

Within the SCP product interaction zone, the concrete becomes permanently dampproofed for the life of the concrete. Unlike topical treatments, SCP technology does not wear away or need to be reapplied. SCP treatment also provides many additional benefits. Testing has demonstrated a typical decrease of 40% to 60% of drying shrinkage at 28 days and a typical decrease of 70% to 80% of water vapour transmission of SCP-treated concrete compared to controls.

2. Concrete durability

SCP products react with available alkalis to close bleed water channels and capillaries with reaction products. This action holds moisture in the concrete to facilitate curing. The surface of the concrete is able to achieve a "dry" condition and able to receive adhesives and flooring while the concrete's internal structure is kept at a high level of moisture conducive to continued curing. A description of the entire system based on a total percent moisture or relative humidity is no longer appropriate when using SCP products because the water and water vapour transport mechanisms are significantly affected, allowing the surface of the concrete to act independently of the total slab moisture content.

The mechanics of how concrete shrinks when drying has been studied extensively. According to ACI 231R-10 Report on Early Age Cracking: Causes, Measurement, and Mitigation, the loss of pore water results in the development of a meniscus and capillary pressure in pores. The radius of the meniscus may be directly related to the extent of capillary pressure that is formed using the Young-Laplace equation:

$$\sigma_{cap} = \frac{2\gamma \cdot \cos\theta}{r}$$

Where σ_{cap} is pore pressure, γ is the surface tension of the pore fluid in lb/in. (N/m), θ (rad) is the contact angle between pore fluid and solids, and r is the radius of the menisci in metres. From the equation, it can be observed that the pore pressure increases as pore diameter (meniscus radius) decreases. This pore pressure is identified as the prevailing force by which drying shrinkage occurs – the pressure pulls on the pore walls. By reducing the surface tension of the pore fluid (γ) and the corresponding reductions that occur in the contact angle (θ), it is possible to reduce the pressure that is generated.

SCP products reduce drying shrinkage in two main ways.

First, the SCP product is applied to the surface of the concrete shortly after finishing operations are completed. Its colloidal silica enters the concrete through bleed water channels and capillaries, penetrating deeply and combining with some of the existing pore solution. Introducing a solute or suspension to water is the most straightforward way of changing the water's surface tension. By introducing suspended silica particles into the pore solution, treatment with SCP products should change the pore solution's surface tension and contact angle, thus reducing the pore pressure.

Secondly, the SCP particles then react with alkalis in the concrete to close pores off by primarily forming C-S-H. This pozzolanic reaction makes the pore structure less continuous and significantly reduces the transport of water through the concrete. This action holds in water that normally would be allowed to evaporate without SCP treatment, slowing the rate of drying significantly. A combination of changing the chemistry of the pore solution and then closing off liquid transport combines to significantly reduce drying shrinkage of concrete. Testing has demonstrated a typical decrease of 40% to 60% of drying shrinkage at 28 days of SCP-treated concrete compared to controls.

Health and safety

Non-flammable and containing no volatile organic compounds, SCP technology is safe and easy to apply. ■



The Pilot Crushtec TwisterTrac VS350E is a fully mobile, diesel hydraulic driven, remote controlled, tracked VSI crusher.



THE IMPORTANCE OF SAND IN CONSTRUCTION

Construction sand is used in various construction activities including the built environment, roads and bridges and other civil infrastructure that includes dams, railways, ports and harbours. The role of sand in these projects is vital as substandard sand can severely compromise the integrity of the final product. Pilot Crushtec International (Pilot Crushtec) has been a leading supplier of mobile and semi-mobile crushing, screening and washing solutions to the construction industry for three decades. *Construction World* asked Francois Marais (Director: Sales and Marketing) and Fernando Abelho (Africa Sales Manager) about sand's vital role, how the company assists customers with assessing specific conditions and how its product offering enables the delivery of optimal quality sand product to the required spec.

Different sand requirements

"Different types of construction work requires different types of sand," explains Abelho. "The shape of the sand particles will influence the integrity of the final product. For example: a plaster sand requires a slightly angular shape as it will provide more surface area and surface tension to provide more binding. A cubicle or rounded shape of sand will compact further – this is normally used as base filler for G1 materials while high strength concrete or mortar bricks require an angular stone which has more friction in the particles as this allows higher compressive strength than a rounded rock." He explains that in cases where high rise buildings are constructed and concrete needs to be pumped, a cubicle material is optimal as it has better pump-ability than angular shapes.

"The final use of the material also plays an integral role – in a stadium, for instance, an angular shape of sand will not be used as this will be too rough on the athlete's feet," he says.

Sand quality is vital

Abelho says that the quality of sand has a direct effect on the final product. "Where poor quality materials are used it can have a detrimental effect on the final product or structure. If, for instance a contractor does plastering and the sand contains too much fine material (75 to 150 micron size), more water will be required and the plaster will eventually crack. Conversely, if too little of the 75 micron material is used, the plaster will not bind together," says Abelho.

"There are quite strict product 'curves' depending on the materials. A mortar, for instance, has more fine material than a plaster sand as it requires strength and a plaster flowability. This is one example of a 'curve'.

Manufactured vs natural sand

Historically, most sand was mined out of rivers or old river beds. "One of South Africa's major challenges is the illegal mining of sand in especially KwaZulu-Natal and the Eastern Cape. These practises have a knock-on effect: it is not an unlimited resource and there is no rehabilitation of natural vegetation after such illegal mining has taken place. This often leads to extreme flooding due to the destabilisation caused," Abelho says.

The quality of such natural sands varies greatly. This, combined with the increased limitation on natural mining of sand and availability of natural resources have made most contractors reliant on aggregate and sand producers to provide them with the required sand product to the required spec.

"As technology advances the requirements and specifications for sand are getting more stringent," says Marais.

"The idea behind manufactured sand is that it is more reliable, consistent and sustainable than mining natural sand," he adds. "You use a natural stone from a quarry which is then crushed down to a sand. It is not a case of all sands being the same as 'sand' is used broadly. Its composition may not be that technical for general construction, but the nature of sand makes a difference in high value projects. The construction of dams or retaining walls, for instance, require specific curves of materials that will allow optimal filtration, etc."

"South Africa," says Abelho, "is far behind in the manufacturing of sand from recycled glass. Pilot Crushtec is supplying equipment to especially Australia where glass is being recycled for road and sand aggregate, filtering sands and for water recycling. Locally there is no legislation pushing for the recycling of any specific material," he adds.

How Pilot Crushtec can assist aggregate and sand producers

"Different crushers have different results. We do not just want to sell equipment, but provide solutions by understanding holistically what the project is about. If a customer wants to provide aggregate for general construction, then the machine used does not have to be as large or complex as machines that supply aggregate and sand to major projects that require high specification and requirements," says Marais.

"Our sales engineers, who spend as much time on site to get to know the local conditions, client requirements and regulations, assess what clients are doing, how they are doing it and what the end requirement will be. They then find a solution for this," Marais says.

"Traditionally for sand, we use a VSI (vertical shaft impact) crusher. Clients buy it because their client, quality of the material and the end product demands it," Abelho explains. "It is more expensive to operate when compared to other crushers, but when used within parameters, it provides optimal results."

Pilot Crushtec has been building, repairing, refining and developing some of the world's best VSIs for over 30 years. "These crushers are ideal to use as third or fourth stage crushers for, amongst others, infrastructure and construction applications," says Marais.

Pilot Crushtec was appointed as the Southern Africa distributor for Metso's aggregates products and services in 2015. "Metso has a range of Jaws, Cones and HRC crushers – they reflect the evolution from compression crushers to what it is now. When mining was on the decline in the seventies, the focus of crushing moved to construction and as such away from particle crushers (where metal was used for crushing rock) to inter-particle crushing (where materials crush against itself, giving a cubicle product). Elongated crushed rock will break, allow water to seep in and a road (for instance) will deteriorate. A cubicle product uses less material, fits closer together and will result in less concrete and tar being used," explains Abelho.

Metso's generation of crushers have taken this design change to a different level. "The force of the crushing in the chambers is 30 to 40% more intense, which means that one can crush a lot finer. When one crushes finer, concrete gets harder and more competent. The VSI crusher still gives one control over the final product though – by changing the speed, the product curve can be changed."

Pilot Crushtec's heritage

"I liken crushing to driving," says Abelho. "You do not get to top speed in one gear. Most sand manufacturing is about three stages: in the primary stage 600 mm feed sizes is minimised to a nominal 100 mm,

and in secondary stage this is taken down to a nominal 25 mm. In the tertiary stage the 25 mm is taken down to what the specs are for the sand. This is where the various technologies come into play, Pilot Crushtec's primary technology being Vertical Shaft Impact crushing.

"Our heritage is based on manufactured sand," says Marais. "VSI & HSI is our heritage technology and we have improved our products over the last 30 years into something that we export extensively," he adds. "We have launched the VS100 and 200 which is the third generation of VSI technology. We have increased safety on the machines and added what is called the cascade system – where you can stop material from passing through the rotor so production can be increased. These machines are particularly popular in Australia, Scotland and Switzerland where they are used by especially recyclers where the smaller size of the machine is more financially accessible compared to cone crushers," he concludes. ■



The Pilot Crushtec Static Twister VS350 VSI crusher mounted on a skid frame producing shaped aggregates.



Left: Francois Marais, Director Sales and Marketing at Pilot Crushtec. Right: Fernando Abelho, Africa Sales Manager at Pilot Crushtec.





With an output of up to 750 tons an hour, the mobile screening plants MS 1202 and MS 1203 are highly productive.

KLEEMANN UPGRADES ITS SCREEN PROGRAMME

In order to also guarantee effective screen of large volumes, Kleemann offers two new mobile classifying screens with a feed capacity of up to 750 t/h.

The MOBISCREEN MS 1202 and MS 1203 are available with two or three screen decks and have screening surface areas of 12 m² in the upper and middle deck and 11 m² in the lower deck. They thus make hourly outputs of up to 750 tons possible. But what does else it come down to with such screening plants apart from a high maximum output? Aiko Fischer, Product Manager for screening plants at Kleemann, answers this: "To achieve these high outputs, the material flow must be well designed. Kleemann has thus generously dimensioned the feed hopper with a holding volume of 10 m³. This makes feeding both with a crushing plant as well as with a large wheel loader possible. Despite discontinuous feeding by the wheel loader, the large hopper volume ensures continuous material supply to the screen. Correspondingly wide feeding and discharge conveyors guarantee an unobstructed

material flow over the screen. The high-torque diesel engine also ensures that the plant does not 'run out of steam'."

Setting options for top product quality

"Apart from the pure performance data, we should not forget the most important thing: the adjustability of screening angle and amplitude to the different feed materials and their properties. Besides the selection of the suitable screen surface, the correct selection of these parameters ultimately decides the screening performance and product quality", continues Fischer.

Both screens can be combined very well both with the crushing plants from the Kleemann EVO series as well as the PRO series. Fischer: "The smaller the separating cut and the higher the required final product amount, the larger the screening surface must be. It's really quite simple."

Efficient drives

As with other screening plants in the

MOBISCREEN series, the MS 1202/MS 1203 are driven by efficient and powerful hydraulic power units.

The Dual Power option also allows the screens to be driven by electric power only, which further increases the efficiency and reduces the load on the environment by decreased noise and exhaust emissions.

Flexible in application

For flexible application, Kleemann offers a large selection of screen surfaces with different mesh shapes – square, rectangular or harp-shaped – as well as the correct characteristic, for example steel or plastic.

To ensure that this flexibility relates not only to the screen applications but also to the different job sites, good transport properties and fast set-up and dismantling times are very important.

This is also an advantage of the MS 1202/MS 1203 as one of the largest mobile screening plants in the world that can be transported in one piece. ■

New training methods rising from the COVID-19 ashes

While COVID-19 has laid waste to its training courses and workshops, surface mining industry association, ASPASA, has ushered in a new electronic era that allows wider access from across the country.

Top among these is the association's latest YouTube channel that is steadily growing a repertoire of videos that are both informative and have value as tools to train and educate members in their own time when convenient. The YouTube videos that have been uploaded thus far include one-on-one interviews with industry experts and other role-players, as well as providing full, unedited coverage of seminars and committee meetings that have taken place in recent months.

Viewers can have access to the channel by visiting YouTube/ASPASA or simply by using the search facility to find videos relating

to the association. In a short space of time ASPASA has built up an index of about 20 videos that are proving to be a treasure chest for members who would usually not be able to attend all the committee meetings, technical briefs, environmental, health and safety workshops.

ASPASA director, Nico Pienaar, explains that the medium provides a lively and engaging platform for training purposes, while simultaneously providing a chance to view unscripted interviews with people who are at ease and filming themselves in their own environments. The relaxed conversational style of interviews and talks is therefore said to be more entertaining and more likely to be watched than formal-style interviews done at studios or staged onsite.

"Even despite COVID-19 the wheels of business keep turning and it is incumbent

on us that we continue driving strategies and keep informing and training our people to meet our industry objectives. It is a sign of our industry's adaptability that within the space of just a few months we have built up a valuable resource for all to use.

"Now, we plan to keep expanding our video libraries and disseminating more information and workshops via YouTube. Although it is still new and growing we want to invite industry role-players from all areas of the industry to view the videos, participate and subscribe to the channel. We also encourage suggestions and feedback from our audience," says Pienaar. Some of the latest topics covered include discussions on new requirements for environmental audits, global trends, and laboratory testing, as well as committee meetings of the technical and blasting committees. ■

An unlikely big splash **IN SA'S URBAN LANDSCAPE**

In his State of the Nation Address on 13 February, President Cyril Ramaphosa revealed that the proposed Lanseria Smart City “is now a reality in the making”, with the draft masterplan completed in November 2020 out for public comment. With South African cities and towns fast deteriorating at an infrastructure and service delivery level, the new Smart City is just ‘papering over the cracks’, according to Paragon Group Director Henning Rasmuss.

More important work needs to be done, across the country. In this regard, a positive outcome of the Covid-19 pandemic has been business and government having “to learn to work together, to build trust, and to get things done in a hurry. The common enemy in the form of the pandemic has brought an urgency to co-operation and co-existence,” notes Rasmuss.

“All our cities and towns need to be smart cities. We suffer the effects of a lack of systems thinking. President Ramaphosa should encourage and build a culture of smart decision-making in all our towns and cities. That would change South Africa. All our cities should be less discriminatory, more equitable and safer. One smart city in Lanseria or elsewhere is going to do very little to change anything about how South Africa functions. We need a shiny new city less than ever. Perhaps there happens to be growth in Lanseria. Then let’s manage that growth in a better way. Let’s be ‘smart’ about it,” urges Rasmuss.

The urgent problems faced by South African cities, from deteriorating infrastructure to rapid urbanisation, are primarily social and economic in nature. “We need to create work for people, so that we have citizens who have the ability to build a life.” Architects can generate local work opportunities by critically interrogating how things are made and constructed, and where the materials come from that go into building elements. “To counteract the job-destroying effects of our recent period of de-industrialisation, we need to deploy South African-made products where we can.”

Despite President Ramaphosa stating that the mooted R100-billion Infrastructure Fund is fully operational, with a 2021 project pipeline in place, Rasmuss reflects that “very little is filtering down. It does put more focus on the question of whether we are spending well, and whether we are doing so in a ‘smart’ way.” Do we need new buildings and new cities after the pandemic? Perhaps less so than ever. One obvious solution to South Africa’s housing crisis, for example, is to repurpose existing buildings. Paragon Group company Paragon Architects South Africa, under Director Thulani Sibande, has achieved great success with projects such as the recent Shell House conversion in central Johannesburg.

Rasmuss adds that there has been a huge sell-off of properties, as listed and unlisted funds under cash-flow pressure liquidate parts of their portfolios in order to raise cash. This has resulted in a large number of property transactions, with noticeable changes in ownership groupings, and a trend towards conversions. Indeed, the Paragon Group originally built its business on refurbishments. “We are well positioned to help new owners rethink the end use of a building, while making best use of the DNA that’s there on-site in concrete and steel and glass,” stresses Rasmuss.

Indeed, the group has been converting office stock into residential projects for the past seven years. “We have completed a few thousand units in Johannesburg in that particular market. Linked to that are student housing projects, which are related but have their own risk and funding structures.” This has been a large part of Paragon’s built work, as it diversifies from being perceived as



Paragon Architects converted Shell House in Johannesburg into housing.

‘office building architects’. In Eswatini, Paragon has been involved at Malkerns Estate, a Greenfield middle-class housing project where unit sales have far outstripped the most bullish demand projection. Meanwhile, Paragon has also been working on low-rise and mid-rise apartment towers as far afield as Accra, Cape Town, Dakar, Johannesburg and Nairobi.

Looking at the broader affordable housing shortage, Rasmuss points out that this is much more an affordability issue than it is a design issue, due to the limited range of routes to property ownership and a limited range of financing models. While the Sectional Titles Act protects end-user clients from fly-by-night developers, it excludes small and emerging developer players from the sectional title market, creating a high entry barrier for potential developers.

“Much of what prevents access to housing lies not in the design of the units or in the technology of construction, but in the entire delivery chain. We need better systems thinking across the board. South Africa is good at crisis management, but systems thinking is not one of our national strengths. This is a large part of all of our current crises,” asserts Rasmuss.

One of these crises is a perceived failure in urban planning to rectify the current problems of our cities. While critically-thinking architects can instinctively tell what is wrong with our cities, Rasmuss reframes the question: Where are the visionary clients, those who think outside of the site boundary of their allotted land parcel? Perhaps the Lanseria Smart City is an example of such a visionary project, but Rasmuss remains unconvinced.

“The draft masterplan for the Lanseria Smart City seems pretty sensible; nothing that hasn’t been done before. Interestingly, it aims to dissuade the production of ‘high-rise glass towers’. That’s an interesting debate. Perhaps we should not talk ambition down. Let the architecture arise from the individual business cases. That’s what Johannesburg has always been good at: value engineering the best out of what is available. And that is what the Paragon Group does best as a Johannesburg-inspired practice,” concludes Rasmuss. ■

KEY QS ROLE AT EXXARO BUILDING

Sustainable buildings not only benefit the occupants, but also achieve a lower cost of occupancy for clients, while at the same time having a positive impact on the environment. Tenants are now much more aware of the benefits of occupying green buildings, which in turn makes leases more attractive. A healthy lifestyle is not only a priority for modern society, but has become a norm rather than a 'nice to have' for medium to large corporates in the wake of the COVID-19 pandemic.



The Exxaro head office at Lakeside in Centurion, developed by Growthpoint Properties.

An example of this trend is the new Exxaro head office in Centurion by leading developer Growthpoint Properties. "The development manager on the Lakeside project took a very personal approach to achieving Green Star accreditation and wanted the Exxaro building to be a first of its kind. Growthpoint has a strong focus on building sustainable green-rated buildings, with a large emphasis on the health and well-being of its tenants," explains Kristina Moodley, Associate Quantity Surveyor, Cost Management, Buildings + Places at AECOM.

AECOM was responsible for the structural, civil, geotechnical and quantity surveying (QS) aspects. The iconic project is one of only a handful of buildings in South Africa to boast an As-Built 6 Star Green Star rating from the Green Building Council of South Africa (GBCSA), the highest level of sustainability accreditation in the country. It is also the first building in South Africa to achieve Silver Level WELL certification for Core and Shell by the International WELL Building Institute (IWBI). The Exxaro head office won the AfriSam Innovation Award for Sustainable Construction at the Construction World Best Projects Awards 2019 and was Highly Commended in the Consulting Engineering Category. It also won in the Projects Greater Than R250 million category at the 2012 CESA Aon Engineering Excellence Awards. AECOM was actively involved in assisting the green consultant with its budget calculations on the different points strategies required to result in achieving 4, 5 and 6 Star Green Star and WELL ratings respectively. "We are hands-on, constantly managing, monitoring and aligning the construction costs against the budget when implementing Green Star specific initiatives via the

main contract and report to the client on a monthly basis," elaborates Moodley. The premier consulting firm was also part of the Green Star submission process and had to provide QS reports that evaluated and quantified the data used by the GBCSA to ultimately assess the building's compliance against Green Star point targets.

"From a QS perspective, our experience with green buildings positioned us well in bid submissions, which now expressly call for previous Green Star project exposure as a prequalification criterion. We have successfully built up a substantial portfolio, having had the opportunity to execute projects for esteemed clients such as Growthpoint, Abland and Eris Properties, to name but a few. This has strengthened our already prominent footprint in the QS field. The exposure has given us undeniable and invaluable knowledge to financially manage the most complex of projects successfully," comments Moodley. The AECOM team was pivotal in unlocking the project, providing a financial blueprint which balanced the Class 8 dolomitic ground conditions together with various site constraints, market rentals and client aspirations in terms of 'green' accreditations and return on investment, enabling the team to deliver a cost-effective, world-class project. Sustainable practices that were incorporated included stormwater attenuation and filtration.

A rainwater system collects water and feeds it into the stormwater filtration system. This water is recycled and re-used by the building for irrigation and sanitary flushing. Leak detection is incorporated in all systems involving the flow of water, such as soil drainage, water supply and stormwater attenuation. These detection methods link back to the Building Management System (BMS), which alerts facilities management of any leaks that may occur, thereby saving on water consumption while complying with dolomitic restrictions.

Looking at the impact of COVID-19 on the property development sector, Moodley points out that large corporates still require expansive office space. However, those who have adapted to working remotely will follow the trend of smaller hot desk workspace setups. AECOM's QS offering, in particular, specialises in commercial fit-outs.

"AECOM quantity surveyors have the expertise, knowledge and proven track record in unlocking developments for clients across the various commercial, residential, industrial and infrastructure sectors. We pride ourselves in working closely with our clients in making their vision a reality," concludes Moodley. ■

HELPING MUNICIPALITY DELIVER WATER TO PARCHED AREAS OF MPUMALANGA

Ceenex, a leading South African engineering consultancy, is assisting Thembisile Hani Local Municipality provide a reliable and secure supply of water to parched areas of Mpumalanga, including Boekenhouthoek, Mathysenloop, Machipe and Bundu.

Ceenex, a leading South African engineering consultancy, is assisting Thembisile Hani Local Municipality provide a reliable and secure supply of water to parched areas of Mpumalanga,

including Boekenhouthoek, Mathysenloop, Machipe and Bundu. The company was appointed as the specialist sub-consultant for the water-treatment works (WTW) and pump system design and is



working alongside Monde Consulting Engineers, the lead engineer on this project. This is the largest service-delivery infrastructure project to have ever been undertaken by the municipality. The water-augmentation scheme is being funded by the Municipal Infrastructure Grant and implemented in phases.

This is also Thembisile Hani Local Municipality's first WTW, which is already supplying over half of the total demand of the planned supply zone at 3-million ℓ (Mℓ) of water a day. The tender for the construction of the final units for the plant in Bundu is expected to be awarded in the first quarter of 2021 as the project starts drawing to a close.

Initially, Ceenex was involved in the resource study for the availability of surface water sources within the area. Upon conclusion, the findings of the study were incorporated into the water scheme's masterplan.

Post the resource study, Ceenex was also appointed by the municipality for the design and supervision of the various construction components of the scheme.

These components included the WTW and the new weir and abstraction point on the Moses River. The new weir and abstraction point, with a capacity of 5 Mℓ a day, were completed during the first phase of the project. The new infrastructure replaces an existing weir that was initially used for agricultural operations in the area before it was damaged by floods.

Ceenex also supervised the building of a new 10 Mℓ command reservoir in Bundu and the construction of sections of the 8 km bulk pipeline associated with the scheme.

Water is pumped from the WTW via a rising main into the two Boekenhouthoek B reservoirs. They are connected to the existing pipeline and the new Boekenhouthoek B pipeline that feeds the two Boekenhouthoek A reservoirs. From there, the pipeline feeds the new 10 Mℓ command reservoir and two reservoirs in Matheysenloop.

Sarel Holtzhausen, Executive Director of Ceenex, says that, prior to this project, Thembisile Hani Local Municipality did not have its own source of water.

"Our client mainly depended upon other Water Service Authorities for the supply of bulk water. About 55 Mℓ of water a day was being sourced from various water suppliers. This included about 15 Mℓ a day from the City of Tshwane Metropolitan Municipality; 5 Mℓ a day from Dr JS Moroka Local Municipality and 35 Mℓ a day from Rand Water Board. Considering operational issues, such as pump failures, the supply was very inconsistent, leaving communities without water for extended periods, especially during the warm summer periods. The situation has also been severely exacerbated by the drought, with water having to sometimes be transported by road tankers to severely affected areas," Holtzhausen says.

Ensuring a regular supply of water for its constituents has remained a key priority for the municipality and steady progress has been made on the project, since construction commenced in April 2016. This is despite an array of challenges, some of which relate to financing in the municipal environment and the impact of restrictions implemented by national government to contain the spread of the COVID-19 pandemic on most construction projects in the country.

Importantly, Thembisile Hani Local Municipality also wanted the project to create employment and skills development opportunities for members of communities located within the project area. Many

emerging, small, medium and micro enterprises have had the opportunity to participate in this project since construction started.

Almost 40 small back-owned contractors with a Construction Industry Development Board (cidb) 1 and 2 grading worked on the construction of the WTW, alone. They were selected under a transparent tender process and mentored by the principal contractor.

Mbako Group, a black-owned contractor, has since taken over the finalisation of the construction of the plant and the training of the many SMMEs appointed to work on this aspect of the water-augmentation project. The contractor's appointment was based on its stellar performance building the command reservoir.

Holtzhausen says that this project has again provided Ceenex ample opportunity to innovate and to demonstrate its leadership in the design of water infrastructure, especially in rural areas.

"Ceenex has more than 15 years design experience in WTWs and water-augmentation projects in outlying areas of the country. We have completed many of these projects in rural areas of the Eastern Cape and our capabilities allow us to optimise our clients' infrastructure whilst taking into consideration a host of constraints. Our experience has afforded us the opportunity to fully understand the costs required to maintain and operate such infrastructure in these municipal jurisdictions," he says.

The WTW incorporates a conventional treatment process to simplify operation.

It uses a high-pressure pumping system that comprises top-of-the-range variable-speed pumps that have been sourced from a local manufacturer, Curo Pumps.

The human-machine interface system was also designed to provide central access to the control system and is easy to operate.

In addition, a novel mechanical rapid gravity sand filter was selected by the team of engineers for the removal of fine suspended solids from the water. The polishing filter does not require an external control system or electrical supply, with the backwash cycle initiated autonomously and driven entirely by built-in hydraulics. This limits operator intervention to periodic maintenance inspections.

Powdered Activated Carbon (PAC) was also incorporated into the treatment process to remove colouring from the water that is being extracted from the Moses River.

The command reservoir also stands out as another sound example of the extent of innovation deployed by the engineering team on this project. Its wall and roof were built from precast-concrete elements to significantly accelerate the delivery of the structure. This unique system was designed in collaboration with Corestruc, a South African precast-concrete specialist. Manufactured at the company's factory during the earthworks phases, the system was transported to site and installed by Corestruc while working alongside the principal contractor.

Holtzhausen attributes the success of another Ceenex project to excellent dynamics between the engineering teams, contractors, sub-contractors and suppliers, in addition to the many members of the community who have worked on the project since construction started.

"However, much of the credit also needs to go to Thembisile Hani Local Municipality. This is considering the municipality's willingness to work closely with the professional team to find innovative solutions to unique challenges and its hands-on approach, including acting as an intermediary between the professional team and the many SMMEs on this project to mitigate delays," he concludes. ■

REFLECTIONS ON A QUARTER OF A CENTURY OF PILING

Gauteng Piling is this year celebrating 25 years of service to the construction and civil engineering sectors. Founded in 1996 by building industry doyen, Nico Maas, the company may have a relatively low profile, but its loyal customer base is envied by many competitors. *Construction World* met up with the man who laid the firm foundation for Gauteng Piling.



the lockdown and were also blessed to win several projects right after the lockdown was eased. We are in a good space now – not a lot of confirmed orders, but the prospects are certainly promising.

You believe in limited expenditure on new capital equipment. But how have you managed to keep older rigs still active and effective?

New generation rigs are expensive, especially with the weakness of the Rand. What's more, although the latest rigs may work faster, they also break down faster. Spares are very expensive for these new machines whereas spares for our machines are all available locally or can be manufactured at short notice. Most of our machines have been upgraded and modernised over the years and their reliability is now very high. All servicing is done by our own mechanical staff.

In a beleaguered industry, is it sometimes difficult to be paid on time – or at all?

When did your interest in the building industry start, and what inspired it?

I grew up on a farm – there you learn from a young age how to do building and fixing. Studying Civil Engineering took me to a more elevated level of construction expertise. I joined SA Piled Foundations in 1975 and have been involved in piling ever since. The experience I gained working for Grinaker provided the confidence to start my own company in 1996. Barrow Construction assisted at the start by acquiring a shareholding and Gauteng Piling's growth would not have been possible without their help. Barrow recently decided that piling was not its core business and we bought their shares back. But it has been a fantastic relationship and we have and will be doing piling for Barrow in future.

How many piling rigs did you start off with in 1996? How many now?

We bought three rigs in the USA in 1996 and now have 15.

Did you initially harbour thoughts of becoming a major national operation?

Being lean and mean has always been our motto and we are reaping the benefits now, particularly in view of the pandemic's effect on profitability. We have only 12 permanent employees and some contractual associates. Extra staff are hired when required. At Gauteng Piling's peak in 2008, we employed 128 permanent staff.

How did you manage to survive last year's devastating lockdown?

We were fortunate to have completed most of our projects just prior to

Gauteng Piling has lost millions of Rands in unpaid accounts. As subcontractor, we have no direct access to the client and the professional team and have to rely on the main contractor who could withhold payment for years, or sometimes even fail to pay at all.

Approximately how many projects has GP handled so far?

We have successfully completed more than 1 800 contracts. But, sadly, we also did not get paid for some.

Which projects had particularly high profiles?

There were many but ones that come to my immediately include Mall of Africa, Greenstone Mall, Clearwater Mall, The Grove and Alex Junction. There was also a major project at the PPC plant in Hercules where we had to overcome exceptionally difficult challenges.

What types of piling can you handle?

Gauteng Piling concentrates on straight-shafted auger piles, with all its variations such as working under bentonite, or using temporary casings, etc. We also do forum bored piles, lateral support and pipe piles. It is important to be versatile – but piling operators should never venture into specialised projects they are not equipped for. Working on river bridges, for instance, is not for us. The risks are too high and the stringent requirements simply do not warrant the effort.

What have you learnt about accepting new work?

Often the state of the underground conditions is unexpected, especially when a geotechnical investigation has not been done. We are then required to tender – totally at risk. When we then find

conditions are different from expectations, we end up losing money. For a recent project in Rosebank, for example, we planned for piles of a certain depth – but ended up needing to drill 17 m deep. We hesitate to tender for work for which there is no geotechnical information and often do our own investigation.

How competitive is the piling industry now compared to when you started?

Back in 1996, there were only five or six piling companies in Gauteng. At the industry's peak, there were 14 and now there are about 10 still operating.

How important is training of staff to GP?

All our staff are well trained. Over the years, we have employed a lot of students – many from previously disadvantaged backgrounds – even subsidising tertiary education for a few. Some have become Gauteng Piling “stars” and have stuck with us and now run the company on the ground. Without our loyal staff, this company would not be where it is today.

Your own involvement in many years of the building industry – has your personal high profile inspired confidence from the market? In which of these roles are you still active?

When I started Gauteng Piling in 1996, I had already served on the committee of the Witwatersrand MBA, as it was called then, since 1986. I later was elected president of MBA North and of BIFSA (now MBSA). I have also served two terms on the cidb Board and am still chairman of Federated Employers' Mutual Assurance (FEM) and serve on the executive committee of MBA North, of which I am an honorary life member.

I certainly think that many clients trusted Gauteng Piling, knowing my reputation and status in the industry. They knew that ethics would play a major role in all dealings with Gauteng Piling. But perhaps above all, my success is due to my family who have supported me through thick and thin, and to the Creator who gave me the skills and perseverance to steer Gauteng Piling to where it is today.

What do you see as the main challenges facing the building industry now?

There are three: shortage of work, getting paid for work done, as well as dealing with corruption. ■



‘Beautiful Living’ meets AI in Sandton’s Sky

Without a doubt South Africa’s most future-forward hotel, the already iconic new Hotel Sky at 153 West Street, Sandton, shifts the paradigms of luxury stays, high end service and the ultimate guest experience. Hotel Sky’s signature ‘unforgettable experience’ is created through various levels of beauty, luxury, indulgence, extraordinary technology and magnificent design, all curated to delight and charm hotel guests and visitors. (Hotel Sky’s next level experiences include a self-playing piano and three remarkable service assistants called Lexi, Micha and Ariel: robo-concierges)

To underscore and add dimension to this design frame of top class, futuristic indulgence, Italtile Commercial’s JV Partner in Gauteng, Dale Hermanson, was invited to collaborate with Richland Properties, Paragon Architects and Archstone Construction and select appropriately luxurious, contemporary tiles for installation across 453 rooms and a spectacular floorspace.

Dale chose Marvel Pro XL Calacatta Lappato porcelain tiles by Italian tile masters Atlas Concorde because the range not only answers the need for ultimate opulence and contemporary luxury; it

also carries through the hotel’s concept of future-forward technology.

These 1 200 x 2 400 mm porcelain tiles offer luxury on an unprecedented scale, and are an Italtile Commercial exclusive import. The range was designed and manufactured to create outstanding visual impact with a phenomenally authentic marbled finish. The size, texture, full bodied print and flawless finish of Marvel Pro are testament to Atlas Concorde’s sustainable, cutting edge technology. These full bodied giants are rectified to create near seamless floorscapes and walls on a spectacular scale, with fewer, thinner grout lines.

Marvel Pro XL Calacatta Lappato tiles are a massive investment in contemporary luxury and require adhesives developed specifically for these monumental slabs, as well as specialist installation by trained professional teams.

Collaboration on commercial projects of this calibre push us to go beyond our best and we greatly value the partnerships that extend our abilities and experience. Please contact (name) on (contact details) to learn more about the Hotel Sky project or for a speculative chat about how we can help you finesse your next commercial build.



CAPE TOWN STADIUM LAUNCHES BUSINESS LOUNGE MEMBERSHIP

The new home of Western Province Rugby (WP Rugby), the iconic Cape Town Stadium, with its 62 000 capacity, has launched its Business Lounge membership, a top-notch hospitality offering.

This is part of the commercialisation drive of Cape Town Stadium. Following global trends, this shared-space hospitality experience is tailored to be flexible to suit the individual's needs. Aimed at the Sports Fanatic, the Business Networker and the Family of Fans, membership guarantees ticket holders the selected same-seat location in the newly renovated Business Lounge spectacularly situated directly above halfway line.

"We're certainly open for business," says Lesley de Reuck, CEO of Cape Town Stadium. "Despite how COVID-19 has limited us, the stadium team has been focused on readying itself for Western Province Rugby's arrival, and in turn an extended calendar of events, including WP Rugby senior professional home matches, soccer matches and concerts. We're looking forward to the post-COVID-19 era when we can bring spectators and concertgoers back into the stadium to enjoy a host of exciting events we're eagerly waiting to roll out. With this latest offering, we've refined our spectator experience to offer something far more spectator focused in nature; it's fresh, modern and appealing at the same time."

With 2 100 seats, the Business Lounge membership will offer not only a prime viewing position, but also refined catering options and ample space for socialising. 'Sports Fanatics' can enjoy a hospitality offering including delicious gourmet burgers, boerewors baguettes, snacks and a well-stocked bar. For 'Business Networkers', there's a fully catered offering that's suitable for client entertaining and networking. The 'Family of Fans' membership will be tailored towards a child-friendly option, with suitable catering and beverage options to match. All members will have preferential access to parking in-stadium or close by, as well as exclusive ablution facilities. Aside from being able to attend WP Rugby senior professional rugby matches, all members will enjoy various options of purchasing tickets and hospitality packages for other selected stadium events, including sporting events and concerts.

The Business Lounge has been fully renovated and lends itself to creative and unique experiences, both for bowl events and for private functions. Business Lounge members will also receive a 20% discount on any booking done when hiring the Business Lounge for private functions such as weddings and conferences.

While the date on which spectators will be able to return to the stadium remains unclear due to COVID-19, interested parties can either come and view the facility or participate in a virtual tour. They can also complete an "expression of interest" which will ensure they're able to select their preferred seats and secure them. As soon as legislation allows the stadium to host spectators again, the organisation will conclude the sales process with prospective members. The stadium anticipates this will be around June 2021.

Completed 11 years ago to host some of the first 2010 FIFA World Cup matches, Cape Town Stadium has built up a legacy of hosting world-class sports events, including the World Rugby Sevens Series, Roger Federer and Rafael Nadal's Match in Africa, and Premier Soccer League fixtures, playing home to Cape Town City FC and the former Ajax Cape Town FC. However, over the last year, frequently adjusted and differing lockdown restrictions have mostly prevented large-scale public events from taking place, not only in South Africa but also worldwide, forcing stadiums to re-evaluate and adjust what they offer and how they remain viable. "We watch as progress is being made opening stadiums in various countries around the world," explains De Reuck. "The governments of the USA and China have started allowing smaller numbers of fans back into stadiums, a sign of hope and also the start of a blueprint for how it can be done. Last month's Super Bowl, which hosted 25 000 fans in Tampa's 60 000+-seater Raymond James Stadium, is a case in point, and we're following them closely, along with China and its football-league matches."

De Reuck believes that if stadiums operate responsibly on a limited-capacity basis, and uphold COVID-19 health and safety protocols, then the re-entry of spectators is possible. "But this takes working with national government and the industry, and ensuring at the same time that spectators return to stadiums in a responsible and safe manner."

With pandemic-linked restrictions now eased to Level 1 as per the guidelines set down by the Disaster Management Act, the stadium hopes that the reopening of stadiums and events will become an element for consideration by government.

Until then, the management of Cape Town Stadium will continue to play a meaningful role in society. Just last year, the stadium became the province's main repatriation centre for over 10 000 foreign nationals needing to get home as strict COVID-19 lockdown restrictions came into effect.

This multidimensional aspect of the stadium, together with its prime position and lavish views of Table Mountain, Lion's Head, Signal Hill, the Atlantic Seaboard and the V&A Waterfront, is key to maintaining its position as the Western Cape's number-one destination for large-scale entertainment. "I think it would be true to say that we've demonstrated our ability to run, manage and uphold COVID-19 health and safety protocols, and we will absolutely continue to do so with the hosting of football and rugby matches under current COVID-19 guidelines," notes De Reuck. "We take our prescriptions from national government on a daily basis, and we are hopeful that spectators will be allowed back into stadiums in some shape or form from the second half of this year." ■

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