

COVERING THE WORLD OF CONSTRUCTION

OCTOBER 2020

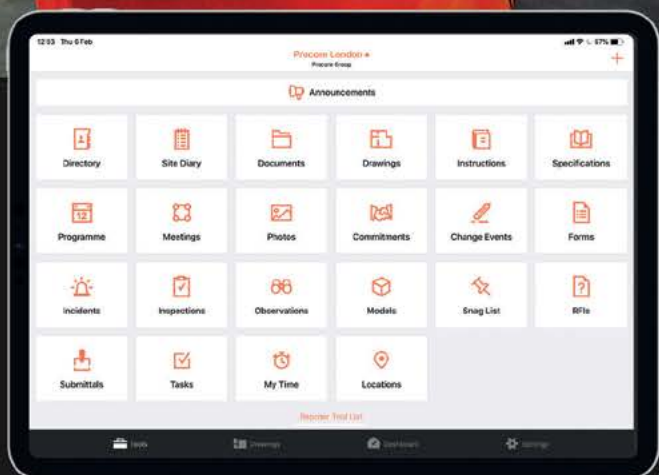
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CONTENTS

05 PPE corruption hides biggest picture

Government must caution about writing blank cheques for infrastructure projects.

06 Training: survival for contractors in post-COVID world

Training is vital in a cutthroat business where margins are paper thin.

12 Innovative technology helping to transform construction business

Construction is being driven forward by technology innovations.

20 Certified green offices held their value in tough rental market

Green-certified offices proved to be a buffer in a tough pandemic market.

22 Forward planning in cities' design

Harbour Arch will be the newest and slickest mixed-use precinct in Africa.

26 Keeping renewable energy projects in the fast lane

JG Africa provides high quality traffic and transportation engineering services.

30 A boost for SA healthcare facilities

Well-maintained and fully functioning hospitals have never been more important.

36 Celebrating completion of R377-m Pampoennek Road in Brits

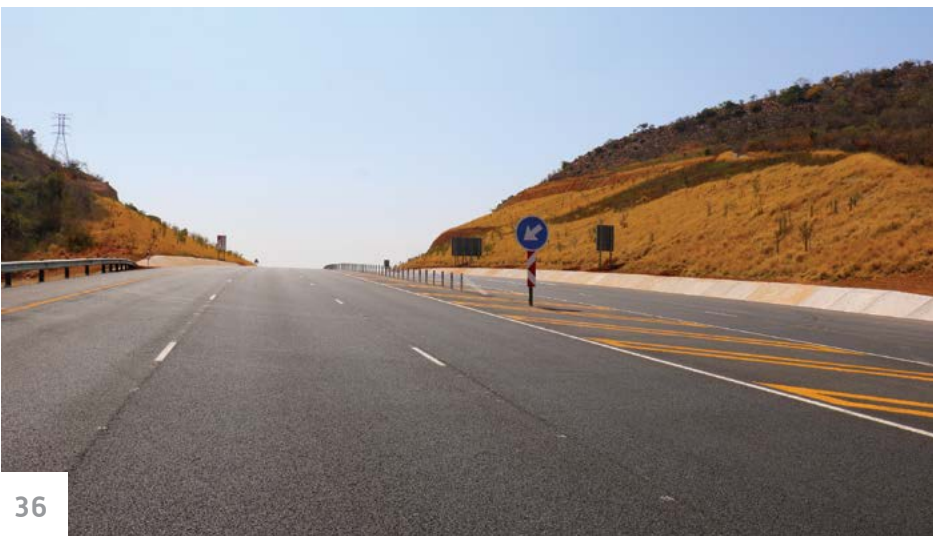
This road connect Pampoennek directly to the N4.



20



26



36

ON THE COVER

In early 2020, the world changed – and so did construction around the globe. As the industry continues to respond to the effects of the COVID-19 pandemic, it has adjusted to weekly and sometimes even daily changes. As the current situation develops, contractors are turning to digital technology to help them weather the storm and build an environment where risk is managed better, with speed, better efficiencies and with cheaper costs in the long term.

Procore Technologies, Inc., a leading provider of cloud-based construction software, has proved this and is entering the African market to replicate its success from the international markets alongside its partner Agile Business Technology. *Turn to page 24*



REGULARS

- 04 Marketplace
- 14 Environment & Sustainability
- 22 Property
- 26 Projects & Contracts
- 42 Equipment
- 46 Products & Services



COMMENT

In June, in an economically dark and uncertain time for South Africa, President Cyril Ramaphosa's inaugural Sustainable Infrastructure Development Symposium South Africa (SIDSSA) was held. At the time 276 projects were identified that will (hopefully) start transforming and resurrecting South Africa's embattled construction sector and indirectly, the South African economy.

These 276 projects in the SIDSSA have a combined value of R2,3-trillion. However, identifying projects that have the potential to revitalise is one thing – getting the actual process of infrastructure projects underway has so far been South Africa's Achilles' heel.

In September Infrastructure Minister, Patricia de Lille confirmed that a single entry point will be created for this Infrastructure Investment Plan. The entity will be called Infrastructure South Africa (ISA). South Africa currently spends around 5,8% of its gross domestic product on infrastructure and the National Development Plan: Vision 2030 aims to increase this to 10%.

The 276 projects create an infrastructure pipeline that will, if it does not stay mere wishful thinking on paper, put South Africa's construction sector and the economy back on track. It is now even more important as it is predicted that the construction sector is set to contract by some 14% year-on-year. It will also account for most of the job losses caused by the COVID-19 pandemic.

The ISA will work closely with the Department of Public Works and Infrastructure and will be responsible for project preparation, packaging, finding funding pathways while it will provide strategic oversight over all gazetted projects.

The ISA is also hoping to improve the longer-term pipeline: it is in the process of conceptualising and drafting a 25-year National Infrastructure Plan to provide direction for the longer-term in the government's built environment policies.

New methodology

The Department of Public Works and Infrastructure has been on a drive to execute reforms to revive infrastructure investment. One of these is that financial institutions need to see a credible pipeline of infrastructure project that are ready to be implemented and invested in.

These reforms have now resulted in the Sustainable Infrastructure Development

System (SIDS) which will stop the practice where infrastructure development is viewed as transactional. Instead, said De Lille, there will now be a concerted effort to identify, evaluate and implement workable infrastructure so as to ensure that projects are bankable.

All this relates to the COVID-19 pandemic. Amongst the massive negative impact it had, the one positive is that it seems that Government is seeking to urgently find ways for workable and executable systems for the construction sector.

Stay safe

Wilhelm du Plessis

Editor



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SCANIA CELEBRATES 25 YEARS AT THE FOREFRONT

Sustainable business solutions have always been at the heart of Scania South Africa's offering. "We've always known that we are only successful when our customers succeed," says Fabio Souza, MD Scania Southern Africa. Since Scania's launch in South Africa 25 years ago with Scania's first dealerships opening in Johannesburg, Cape Town and Durban, Scania South Africa has been driving the shift towards sustainability in the South African transport industry."

"Our customers' operations and efficiencies are at the centre of our value chain," says Souza. "In an industry where performance and reliability make the difference our focus is on ensuring our customers can profitably run their businesses. The foundation of this is uptime and vehicles that deliver outstanding productivity."

Sustaining a transport business in these trying times requires a focus on cost-efficiencies and that's where Scania South Africa's decades' long commitment to Total Operating Economy (TOE) has ensured them market-leading status. "The transport industry demands high quality from transport operators," explains Nomonde Kweyi, General Manager, Marketing and Communications, Scania Southern Africa. "The struggle to meet those demands is in constant conflict with the small margins. A standard solution would make

those margins even smaller which is why Scania South Africa's vehicles and services are anything but standard." Scania's well-known modular system offers customers both a tailor-made vehicle and a team at Scania South Africa ready to work to find solutions to increase revenues.

Scania South Africa's highly successful 2019 launch of the next-generation truck range that earned the global title of Truck of the Year, pushed the benchmark for fuel efficiency, safety, driver comfort, higher uptime and low running costs. "The launch was a milestone for Scania South Africa," says Kweyi, "With the next generation range, sustainability and profitability go hand in hand." Sustainability is also being explored through Scania South Africa's alternative fuel projects. In the past Scania has partnered with The Greenscape Sector Development Agency in the Western Cape to assist in developing a business case for sustainable biofuels in South Africa.

The last 25 years have also seen Scania South Africa radically revolutionise offerings such as driver training, maintenance and connected services. "We offer world-class driver coaching. With a great need for experienced drivers in the South African market, our training is geared towards advanced driving techniques that save fuel, increase safety and maximise uptime," says Kweyi. Maintenance has also been optimised with real-time data allowing operators to plan downtime and avoid breakdowns. "Our Scania Connected Services allows for remote diagnostics, real-time tracking and gives operators unprecedented insight into the status and performance of their fleet," explains Kweyi. "And because our systems are so easy to use we've found they are used more often, in greater detail and to greater effect."

Scania's commitment to sustainably giving back to the communities in which it operates has also been a core focus over the last decades. Scania South Africa has partnered with local communities to create new opportunities in BEE ownership, education and skills training. "A sustainable society is built when we care about everyone in it," says Kweyi.

To sustain a business for a quarter of a century is no mean feat. To sustain a business that commands a leadership position in the South African transport industry is testament to the quality of the people at Scania South Africa. "Our customers have allowed us to be a part of their businesses and our 25th Anniversary is made possible by their support," explains Souza. "Our proudest achievement is recognising that Scania South Africa is truly a local company with a proudly South African spirit." ■

"In an industry where performance and reliability make the difference our focus is on ensuring our customers can profitably run their businesses."



PPE CORRUPTION focus hides bigger picture

The list of companies that were awarded contracts by government for the supply of goods and services related to the COVID-19 pandemic include details on personal protective equipment (PPE) contracts. Provincial expenditure disclosure reports, however, indicate that as much as – or even more – has been spent on infrastructure projects but very little detail is provided to compare these costs to industry norms.

From April to July 2020 Gauteng spent R2 112-bn on PPE and R2 977-bn on infrastructure. As at 27 July 2020, the reported expenditure for KwaZulu Natal amounts to R800-mil on PPE and R1 139-bn on infrastructure. The Western Cape report provides information on PPE expenditure only and not on infrastructure projects. These projects included upgrades and alterations to health facilities and education facilities as well as the establishment of field hospitals, quarantine and isolation facilities.

The expenditure reports provide detailed information on the unit of measure, the price per unit and quantity required on the procurement of PPE for contracts from as little as R1000. The reports, however, include very little detail on the specifications for the infrastructure projects and how they were procured.

These details are used by those that assign tenders to benchmark quoted costs against prevailing market prices and Treasury norms. This comparison helps to identify inflated prices and related irregularities.

However, on the infrastructure projects, only a single amount together with a very brief description of the work is provided. This lack of detail does not allow for a basis to benchmark these costs against market norms. It is therefore extremely difficult to determine whether government obtained the expected value from the infrastructure expenditure.

Lack of understanding causes lack of outrage

The skewed focus on the reported irregular expenditure on PPE is most likely due



to a general lack of understanding of how detailed infrastructure procurement management and project delivery really is. It is for this reason that the Quantity Surveying profession is seeking responses to key questions that will expose any irregularities if applicable.

According to the Association of South African Quantity Surveyors (ASAQS), a Quantity Surveyor is the member of the professional consultant team responsible for managing all financial aspects on construction projects from start to finish. In the public sector, they are also responsible for preparing procurement documentation on behalf of organs of state.

Quantity Surveyors ensure that tenders are awarded to building contractors at market-related prices which are benchmarked against industry rates. They also verify that the work done by the contractors is based on actual performance before payment is released to the contractor.

Government must caution against writing blank cheques for infrastructure projects

In the Gauteng expenditure report 15 health infrastructure projects are listed without any names of contractors or of the core professional consultant team consisting of quantity surveyors, architects, engineers and project managers. In the KwaZulu-Natal Report, infrastructure expenditure refers to contractors only.

With no indication of the involvement of professionals in the documents available in the public domain, it could easily be assumed that none were appointed. If this is indeed the case, then it is highly possible that the procurement and management of these projects lacked the required independent and professional oversight.

This is especially concerning when expenditure on COVID-19 infrastructure exceeds that of total PPE procurement – without the same amount of public outrage.

It is of utmost importance to the South African economy to ensure that COVID-19 infrastructure projects were awarded and completed in a fair, equitable, transparent, competitive and cost-effective manner even though emergency procurement was necessary at the time.

Departments responsible for infrastructure projects should ask several questions to establish whether due process was followed in awarding COVID-19 infrastructure tenders.

The answers provided to these questions should be reviewed by competent, registered built-environment professionals in order to determine “fit for purpose” decision-making and to identify any irregularities or non-compliance.

The ASAQS, through its members and provincial chapters, is ready to assist investigative agencies to identify and quantify any fraud and corruption on COVID-19 infrastructure projects. ■

Training: survival for CONTRACTORS IN POST-COVID WORLD

Training is vital in a cutthroat business in which margins are paper thin and work is scarce, writes Bradley Boertje, Risk Management Consultant and adjudicator for Master Builders Association (MBA) North.



MBA North offers initial contractual and commercial advice for free to its members. This will provide a quick review of the contractor's circumstances, and an executive summary of its position and a suggested strategy.

If they do find themselves in a contract which looks like it is going sour, MBA North offers initial contractual and commercial advice for free to its members. This will provide a quick review of the contractor's circumstances, and an executive summary of its position and a suggested strategy.

As the name suggests, contractors work under the terms of the contract they have signed with the client or, more usually, with the principal contractor. One of the key reasons that contractors find themselves in difficulties is that they simply do not understand the implications of the contracts that they have signed, and the risks to which it exposes them.

Contractors face a multitude of issues, some of which (like a shortage of work, delay in awarding public works tenders, and a restless and aggressive labour force) are beyond their control. Others, though, stem from poor understanding of how contracts work and a tendency just to sign any document simply in order to get work.

This kind of short-term thinking ultimately sees so many contractors finding themselves in a lengthy and expensive dispute and often not getting the payments they expect.

Building contracts are highly specialised documents and one needs specialised knowledge to understand what they entail. I am involved in a lot of dispute work, either as an adjudicator or helping contractors to prepare claims going to adjudication, and I can testify to the fact that claimants who have made sure they understand the contract and have all the details at their fingertips get quick – and often favourable – results.

All too often, though, I find that contractors have entered into contracts that they don't fully understand, with the result that they miss out on lucrative opportunities and miss crucial deadlines, in turn making them liable for penalties.

It's absolutely vital that contractors understand the contracts they sign, what their entitlements are and what risks they face. My best advice would be for contractors to consult a reputable risk consultant before they enter into a contract, just to make sure they are doing the right thing.

Knowledge is crucial

While specialist advice is critical at certain stages, it cannot substitute for a solid understanding of contractual issues and strategies on the part of the contractor. Nobody is a better steward of your wellbeing, commercial and otherwise, than you are!

To equip contractors with the information they need, MBA North will offer a three-part series of three-hour webinars designed to provide contractors with the basics they need to keep their contractual affairs in order. Any contractors working under JBCC and MBSA contracts should attend.

What contractors can expect

- An introduction to law in South Africa and what options are available to contractors in respect of securities, guarantees and so on. We will cover the important topic of retention and the importance of insurance.
- An overview of how to manage time and time extensions. Most contracts experience delays, and it is vital that contractors understand exactly how to keep on the right side of time clauses.
- All aspects of payment, including loss and expense claims. It also looks at the contractor's exposure to penalties and damages, and what the difference is between the two.
- All the various dispute resolution processes that can be used – and how to choose the one that best suits each case. Too often, contractors' claims do not succeed because they opted for the wrong process.

These training sessions offer an affordable way to acquire important information and skills – especially when compared to the costs of litigation when a contract goes wrong. ■

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40 YEARS OF EXCELLENCE

Den Braven Sealants SA is celebrating 40 years of business in South Africa. The company has been through many turbulent periods in the country's history – the current COVID-pandemic perhaps the worst of these. *Construction World* spoke to Michael Berg – Business Manager about the company's offering, how it is weathering the current storm and its quest for excellence.

Den Braven is celebrating its 40th year of business in South Africa. What have been some of the turbulent times it has weathered?

The onslaught of low cost and inferior products causes concern. We see failures and encounter non-conformance daily. Den Braven SA has built a successful customer base with strong relations over the years. There is no quality compromise and the products are all fit for purpose.

How is it weathering the current COVID-19 pandemic?

It is tough but we are not unique being in the construction industry at this turbulent time. It is our commitment to our country and customers that remain top of mind. Planning and adapting to new ways of business have been key for us.

What is Den Braven's unique selling point?

Strong, durable, proven and reliable products, supported and backed by training, customer support and service by our sales consultants and staff.

What sets Den Braven apart from competitors?

We are a professional sealants company. It is important to us that we supply specific sealants or adhesives for the project

at hand. This is achieved through our dedicated sales team who are extremely hands on, and knows their product capabilities, while offering advice on best solutions to our clients and the industries that we supply and serve.

What services do you offer?

Den Braven SA offers a range of products that not only covers the construction industry, but industrial and the DIY consumer as well. We link this with personal interaction (where possible) with clients, product support and training, both in-house and on site.

How many people do you employ?
30

What is your geographical footprint?

Den Braven SA has offices and distribution warehouses in Johannesburg, Cape Town, and Durban. From these premises we service customers nationally as well as the sub-Saharan African countries.

How do you ensure certainty of supply in times of high demand?

We are proactive in accessing the markets and plan accordingly, taking manufacturing and lead times into consideration. Our dedicated warehouse teams and well kept stock records enable us to plan accordingly.



Michael Berg – Business Manager Den Braven Sealants South Africa.

How important is innovation for Den Braven and how do you innovate?

Innovation is key to us. Our Research & Development Department remains at the forefront of product developments for sealing and bonding products and their technologies. All our products are backed with technical data and safety sheets and our range of products are formulated bearing in mind Southern African weather conditions.

How do you regard your customers – just a once off buyer of a product or more long-term and strategic?

We partner with our customers to ensure successful projects and business for the long term. Their success is our success – and with success we build relationships and long-term association and loyalty.

Sustainability in building is increasingly important. How do you ensure that your products are sustainable?

It is extremely important to us. We have a strong range of products that comply with SAGBC standards (and REACH). Our products are manufactured under strict international norms. Our cartridges are recyclable, and we advocate responsible waste management.

What is the function of your Centre for Excellence?

The CoE supplies global product support, training and advice to both our organisation and customers.

The diversity of your product range is one of the aspects that sets Den Braven apart. How do you determine this product range?

Good knowledge of the South African market and business landscape linked with international best practices give us the insights to have suitable products with durability available that conform and work in our South African and African environment. ■



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TOP 7 LEGAL CONSIDERATIONS for new construction companies

As an entrepreneur in construction, starting your own business is an exciting prospect. However, construction is a complex industry and there's a lot you need to understand in order for your business to succeed. **By Adine Abro, a Director of Adine Abro Attorneys.**



Adine Abro, a Director of Adine Abro Attorneys.

While dozens of experts out there could write books on everything you need to know about product market fit, finances, insurance, permits – and the list goes on – we'd like to focus on what you need to know legally about starting a new construction business. The following are the top seven legal issues to be aware of, and some tips on how to navigate them.

Selecting a business entity

When you start a business, you need to decide what type of business it'll be. This will inform how the business is structured, how you run it and who you answer to.

There are three 'types' of business entities that exist:

- Sole proprietorship: Where one founder owns and runs the business. This is the simplest form of business entity because the business is not separate from the owner.
- Partnership: Where two or more co-owners run the business together. Partners pool their money to contribute towards a common goal and share specialised skills and resources. They weather the storms of the business together.
- Pty Ltd – Proprietary Limited company: Where the business is treated as a separate entity – in other words, it is separate from the owner and registered as a separate legal entity.

If you're considering launching your company as a partnership, it's useful to bear in mind that each individual partner is personally liable

for all debts and judgments against the partnership as a whole, regardless of whether the debt was incurred by the organisation or one of the individual partners.

On the other hand, if you opt to take the Pty Ltd route, the business will stand separate to you, and you, as a shareholder, will have limited liability. However, according to SARS, should tax payment deadlines not be met, you, as a shareholder or director who controls or is regularly involved in managing the company's financial affairs, will be personally liable for employees' tax, value-added tax, additional tax, penalty or interest.

Financing a new business venture

Figuring out how to finance a new construction company can be hard considering the large sums of money that are required to rent or buy equipment, maintain tools, and keep a fleet of vehicles running – amongst other things.

Not many people have massive reserves of cash at their disposal, so it's common practice to take out a loan. Luckily, there are several business construction loans out there that cater for different needs. For example, a business line of credit (LOC) loan offers great flexibility, while small business loans are designed to provide bigger sums of cash upfront.

Taking out a loan is a big responsibility and you must never over-extend yourself because, at the end of the day, you will be liable to pay it back.

The interest that is attached to loans can quickly cause your repayments to spiral out of control if you're not careful. You never want your loan to count against you, so, to avoid having to pour all your capital into monthly repayments, take out the smallest loan that you can comfortably afford to pay back, while still having some spending money left over.

Deferring business risks

Being prepared for the unexpected when starting a new business is vital.

Construction is a particularly risky industry to be in, so it is crucial to insure against risks that could impair or even bankrupt your company. These could include things like safety hazards that lead to worker accidents and injuries, managing change orders and the availability of building materials.

Luckily, there are many different policy types that you can take out to insure you against different risks. In the construction industry, these are useful ones to look into:



- Comprehensive liability insurance will cover a vast range of risks.
- Commercial auto insurance is helpful for avoiding high vehicle repair costs, medical expenses, or lawsuits resulting from auto accidents.
- Workers' compensation insurance is also useful to have as it is designed to protect businesses and contractors when their employees are injured while on the job.

If you don't take out insurance, you will likely be liable to pay out for any accidents out of your own pocket, so rather be safe than sorry and take out a policy as early on as you can.

Contracting from beginning to end

Because of the nature of construction, it can be hard to have every detail finalised before you submit a bid and sign a contract.

While it's impossible to know exactly how a project will go, it's important that you think about what could go wrong from as many perspectives as possible. This will help you gauge whether or not you can actually deliver on the client's expectations.

If you sign the contract, and only later realise that you can't execute on what you agreed on, you will likely find yourself in a very expensive, tense situation that could not only cost you the project, but your reputation too.

So, take the time to consult with your team and consider the situation before you jump in head first. You need to make sure that the projects you take on are projects that you can deliver on – so don't rush into things, and don't be greedy!

Internal authority

In the legal space, a verbal agreement is something that will hold up in court. This means that agreeing upon who has the authority to communicate what is crucial within your customer-facing team.

To make sure that everyone is on the same page and avoid mis-communications with the client, you need to be as transparent as possible about project status, timelines, costs and ad-hoc communications.

This will require focused attention to make sure nothing falls through the cracks. Committing time to a clear communication strategy is a much better option – and way less time consuming – than getting embroiled in a legal dispute with a client who was told over the phone by a receptionist that their building would be completed in the space of a week.

Regulatory compliance

In broad strokes, regulatory compliance is an organisation's adherence to laws, regulations, guidelines and specifications relevant to its business processes. It also helps you protect your business' resources and reputation, which is especially important when you're trying to get off the ground. If you choose not to comply with regulations, you could face penalties and charges.

In present-day South Africa, here are some of the most important regulations you need to meet being in the construction industry:

- COID compliance registration and a letter of good standing for tendering purposes
- VAT registration
- B-BBEE affidavit or certificate
- CIDB registration for contractors
- NHBRC registration (although this is not compulsory)
- MBSA membership (again, not compulsory)

Tax

Keeping up with your taxes is one of your most fundamental responsibilities as a business.

Tax is a highly regulated industry, regulated in terms of the Income Tax Act, 58 of 1962, and SARS reserves the right to impose penalties on non-compliant businesses. If your business is found to be non-tax compliant, SARS will come after the owners or directors, especially where the business does not have the means to pay penalties.

In addition to this, you should bear in mind that failure to set up your tax systems correctly and pay your monthly dues is considered a criminal act in South Africa. You don't want to go to jail, so don't cut corners when it comes to tax.

To make sure that everything operates as it should, it is a good idea to appoint an auditing firm. Working with an expert team will take a lot of pressure off you, so it's definitely worth investing in, especially when you're new to establishing a business.

These seven factors are very important to take into account when launching your own business in the construction industry. It's widely known that construction is a hard market to tap into, and many businesses around the world don't make it past the five-year mark due to poor planning.

But if you are patient, compliant with all the right rules and regulations and investing in what's important, you'll be taking solid steps in the right direction. ■



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INNOVATIVE TECHNOLOGY helping to transform construction businesses

The construction industry is being driven forward by technology innovations that significantly enhance efficiency and productivity on site. Companies that are quick to embrace these advancements will leverage several benefits over the long term that positively impact their profitability, says **Databuild CEO Morag Evans**.

“With time and data becoming increasingly important commodities in the construction landscape, these new technologies are geared to helping industry professionals better manage their time by providing them with more qualitative data.”

Evans cites mobile 3D LiDAR (Light Detection and Ranging) scanning as an example which is rapidly gaining impetus on construction sites, both locally and across the globe.

“The technology enables industry professionals to capture and manage data conveniently and accurately, resulting in substantial time and cost savings, as well as improved productivity.”

Calvin Ettish, co-founder of Archi-Tech, a company that provides software, hardware and service solutions for documenting and mapping geospatial environments, expounded on the uses and benefits of deploying mobile LiDAR scanning in construction projects during a webinar hosted by Databuild.

“New to the South African market, mobile 3D LiDAR scanners are used to generate point clouds, which comprise millions of single spatial measurements (points) on the external surfaces of objects,” he explained. “Using a process called registration, point cloud scans are stitched together to produce an accurate three-dimensional representation of a captured environment (reality capture), which can then be used across a number of use cases, like scan to BIM (building information model).”

“The mobile scanners incorporate SLAM (simultaneous localisation and mapping) imaging technology, which allows for

more mobility and flexibility in the data capturing process, making it quicker than traditional methods and more affordable.”

According to Ettish, the deployment of mobile 3D LiDAR scanning technology holds a myriad of benefits that positively impact users across the construction value chain.

“Traditional surveying methods are not only time-consuming – often taking days or weeks to complete – but are also limited in their ability to capture rugged terrain or smaller spaces due to their stationary structure. With mobile 3D LiDAR scanning, however, information can be captured quickly and accurately without the need for GPS (global positioning system), which means fewer visits to site to verify plans, particularly crucial in these pandemic-ridden times of required social distancing.”

BIM models produced from lidar scans provide unparalleled accuracy and can save on up to 80 per cent of design time, Ettish continued.

“It has become the norm to include a contingency of up to 30 per cent over and above the initial project budget to cater for inaccurate or incomplete costings on certain materials or jobs needed to complete the project.

“Thanks to LiDAR scanning, however, the data captured is correct from the outset, which enables the production of accurate drawings. This in turn means fewer change orders down the line, enabling the project to stay on schedule and within the allocated budget.

“BIM models and point clouds also facilitate seamless collaboration between other professionals and contractors involved on a project. Supporting software enables the synchronisation of design and building processes which allows participants to work simultaneously on one project from a single source of accurate information.”

“With only 24 hours in a day at their disposal, industry construction role players need to harness the tools available that help improve workflows and minimise errors,” says Evans. “Rather than view mobile 3D scanning technology as a threat to their existence, industry professionals should utilise this and other technologies to structure their businesses to be more successful.” ■



Forging ahead with the launch of virtual courses

Owing to the global COVID-19 pandemic and subsequent lockdown imposed by government, skills development has been severely impacted due to physical attendance of courses being brought to a halt. However, this has not deterred the School of Consulting Engineering (SCE), which has taken a step back while systems and processes were put in place to ensure individuals, companies and other organisations could benefit from the courses it offers.

Consulting Engineers South Africa's SCE was created to meet the specific needs of the Built Environment Industry. Speaking about the launch of the SCE-Learning virtual courses, SCE manager Brenda Lacey-Smith said students could take advantage of this new normal by attending training from the comfort of their homes, offices and other remote locations while also interacting with course convenors and other students. "While we had been accustomed to commuting in the morning and attending courses at CESA's training centre and other venues across the country, I believe we can use that commuting time to better use elsewhere," she stated. Lacey-Smith also announced the introduction of an updated course list as well as an increased number of convenors available to share their specific industry knowledge and expertise with students. "Our updated course groupings include Analysis and Investigation; Legal and Contractual; Project Management; Ethics; Marketing Management; Quality & Risk; Financial Management; Personal Development; Regulations; Information Technology; Procurement; Tech & Innovation; Leadership; Professional Registration – ECSA and SACPCMP; and Technical-Civil, Structural and Electrical."

Recent course attendee, Olivia Williams said attending online was something necessary considering the current situation, and she was warming up to this new normal having attended other SCE courses in recent years. Olivia's fellow training colleague, Ephraim Tsipe who has also attended SCE courses previously, also stated that he was getting used to attending via an online platform, and while it can be a bit of a challenge as far as focusing on one thing is concerned, the course convenor for the training he recently attended was well equipped for the job and made this an easy assimilation for himself as well as fellow attendees.

The School of Consulting Engineering aims to provide the opportunity for Consulting Engineers, their staff, their clients (Government & Private Sector) and other interested parties in the Infrastructure & Built Environment to enhance their engineering, professional management and entrepreneurial skills. ■



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GEOSYNTHETICS ARE THE KEY TO SUSTAINABILITY

Produce, consume, discard and repeat. This has been our pattern as humans since the dawn of evolution. We have become more sophisticated in what we produce and how we consume it. But the discarding, fundamentally, remains unchanged with tons of waste often ending up in landfills or water sources.

Whether it is in dams, mines or landfills; without the proper measures and tools in place, our actions risk contaminating the planet.

As Africa's oldest and largest geosynthetic installer, GAST understands how effective and efficient having the correct geosynthetics service provider can be. This has been GAST's niche since 1961 where the company has constantly installed an array of quality geosynthetics to meet the requirements of varying terrains and project needs.

GAST not only supplies but installs

numerous geosynthetic products from geomembranes which have the primary function of preventing the migration of contaminated leachate to surrounding soil in landfills, tailing storage facilities, coal stockyards, pollution control dams and/or return water dams; to geotextiles which play an integral part in various construction and civil applications due to its versatility and robustness including an array of other geosynthetic related products and services.

GAST has always been synonymous with innovation and progressive methods, stemming back to the 1980s when the

company patented the first "dam" linings, perfected through GAST's ingenuity, which made the "plasticisation" of soil possible for the first time in the world.

GAST is always adapting to the changing landscape, innovating not only to meet the needs of the industry but to consistently deliver quality products and services to its clients. It is believed that the Geosynthetic industry is experiencing a 4IR boom with entities globally adapting sophisticated equipment and tools to push innovation and improve quality. GAST is seen as a leader and pioneer in its 4IR endeavours

currently developing fully automated deployment machines that utilise state of the art Artificial Intelligence and other deep learning A.I technologies to provide a more cost-effective and higher quality service to its clients.

Kevin Gast CEO & President of GAST Global stated that "Globally we have seen a tremendous shift in geosynthetics over the last two years and COVID-19 has exacerbated the need for more innovative and cost-effective solutions forcing geosynthetic installers and manufactures to find 4IR driven technologies. GAST has recently appointed a new Chief Technology Officer and is at the forefront of autonomy and artificial intelligence within the industry, our clients come first and utilising technology provides them with a cheaper, higher quality and safer product."

GAST and Fraser Alexander have worked closely together on various projects in South Africa; including the Elikhulu TSF project; Marula TSF; and future projects like Rasimone. Perhaps one of the greatest consequences of this partnership has been the adherence to the social and environmental sustainability protocols while still producing quality outcomes.

GAST has completed over 13 000 projects during the last millennium and boasts accreditation from the United Nations and World Bank and is seen as a world leader in geosynthetics. ■





Pardon Mutasa – GBCSA, CFO, Leonie Andereya – Radisson Red, Curator & General Manager, Lisa Reynolds – GBCSA, CEO, David Green – V&A Waterfront, CEO, Mark Noble – V&A Waterfront, Development Director, Kirsten Goosen – V&A Waterfront, Development Project Manager, and Vusi Nondo – V&A Waterfront, Development Executive.

V&A WATERFRONT'S Radisson Red Hotel building is the new green

The V&A Waterfront today achieved another sustainability accolade when the Green Buildings Council of South Africa (GBCSA) handed over a plaque recognising the sustainable development of the Silo District's No. 6 Silo building.

The building, which now houses the new-concept 252 room Radisson RED Hotel, won the award for the Best 'Other' Development making it the first new hotel to receive a 5-Star Green Custom Hotel Design rating. It has also received a 5-Star Green Hotel As-Built rating.

The Green Star is a points-based green building rating system that evaluates buildings according to global best practice in sustainability. The system allocates points across nine categories including management, indoor environmental quality, energy, transport, innovation and water, materials used, land use and ecology and emissions. As no Green Star existed for hotels, a customised tool was developed for the project.

Handing over the plaque to the V&A Waterfront, GBCSA head of technical Georgina Smit, said, "Congratulations to the V&A for pioneering leadership within the hospitality sector. When No. 6 Silo was conceptualised, there was no locally available green building certification tool for hotels. The V&A's ambitious commitment to green, however, resulted in the project initiating the first Custom Hotel tool to be developed in South Africa, by making use of the GBCSA Custom Tool process.

"The GBCSA acknowledge the role that the hospitality sector plays in raising awareness about sustainability and how travellers are increasingly requesting accommodation and transport options that reduce their carbon footprint. No 6 Silo is an example of a green hotel that connects guests to alternative city transport options, precinct scale services that optimise efficiency (such as the innovative central seawater cooling plant) and attention to detail when it comes to dematerialisation in the interior finishes."

The award is one of several awarded to the V&A Waterfront's Silo district for the property's ongoing environmental developmental programme to promote green business practices as a strategic focus point throughout the property.

Explaining the V&A Waterfront's sustainability philosophy, Vusi Nondo, Executive Manager for Development said, "We value this latest accolade and all that it signifies as our buildings are an important asset to the V&A Waterfront and we take pride in applying a rigorous approach to sustainable development. We are pragmatic and commercial, but it is also our responsibility to ensure that the legacy we build today does not negatively impact on the future.

"We take a holistic approach to sustainability, and this was the key principle behind our developments at the Silo District, and elsewhere in our developments. Every element of new developments are scrutinised to maximise the efficiency of the design and the operation of the buildings."

A number of sustainable elements were considered.

The surrounding industrial and warehouse setting of the working harbour and the Zeitz Museum of Contemporary Arts Africa (MOCAA) has been articulated in the design of the building. Concrete and face brick therefore form an integral part of the architecture, giving the hotel a contemporary aesthetic look and ensuring low maintenance.

The building is spatially efficient with low VOC finishes. Good levels of natural lighting, together with appropriately designed facades, ensure maximum efficiency of resources. An independent Commissioning Agent was appointed to manage the commissioning and tuning process, which ensures optimum operations of the building.

The opportunity to install district-wide services for the various buildings was identified early in the planning of the Silo District. With major initiatives such as the centralised district sea water cooling and heating plant being among the most high-profile interventions, other simpler initiatives such as the shared potable water and fire sprinkler water tanks cut down on the amount of water required to be stored as well as reducing the space in the car park taken up by multiple individual tanks.

Other stand out sustainable features considered by the GBCSA includes:

- Efficient water and electrical design to minimise demand
- Durability and maintenance were a key consideration in the design detailing of the building
- The building's close geographical position to Cape Town's MyCiti bus service and a secure bicycle parking facility, as well as various amenities within walking distance promotes the use of sustainable public transport

Radisson Red Hotel, which opened in late 2017, was part of the international hotel group Carlson Rezidor's first new concept upscale lifestyle hotels in Europe, Africa and the Middle East (EMEA).

Leonie Andereya the Curator and General Manager for Radisson Red said, "We are super chuffed about the award and to showcase this Plaque at the hotel for our guests to see. RED is an attitude with a GREEN mindset about our responsibilities to run a business sustainable."

The ground floor of the hotel houses the reception and welcome area, event and meeting spaces and the restaurant. The first floor is set aside for back-of-house functions while floors two to eight house guest rooms. A gym, lounge bar and pool deck with panoramic views are located on the roof level. ■

STAKE DISPLAYS CONFIDENCE IN POWER SECTOR



This transaction is strategic and complementary to both Mulilo and STANLIB. It provides Mulilo with a robust financial partner that has an appetite to invest in new developments and planned growth. Similarly, it offers STANLIB access to a leading South African renewable energy platform with a strong development pipeline, of close to 3 gigawatts (GWs) of large-scale wind and solar PV projects.

The parties have announced their intention to participate in the strategic infrastructure 2 000 MW Risk Mitigation

Power Procurement Programme, as well as the future Renewable Energy Independent Power Producer Procurement Programme (REI4P) Round 5 and further bidding rounds.

Additionally, Mulilo is involved in several projects that provide clean energy to large industrial and commercial energy users, across the country.

The renewable energy market in South Africa is set to exponentially grow over the next decade in line with the gazetted 2019 Integrated Resource Plan (IRP), which outlines increased allocations for both

wind and solar PV power, up to 2030.

Furthermore, with the expected decommissioning of over 24 GWs of coal power plants, in the period beyond 2030 to 2050, the country's IRP has further opened up opportunities for the renewable energy sector to support the country's post-COVID-19 economic recovery plan.

Mulilo is one of South Africa's largest renewables groups with a combined operational capacity of close to 500 MWs of solar PV and wind projects. It has a development pipeline of renewable energy



BioTherm Energy has announced that its 33 MW Excelsior Wind Energy Facility, in the Western Cape, is now connected to the country's national power grid, having successfully completed the commissioning of its thirteen wind turbine generators.

This is the first wind farm in the Western Cape, part of the Government's Renewable Energy Independent Power Producer Procurement Programme (REI4P), Bid Window 4, to reach this key milestone.

This Independent Power Producer (IPP), which commenced construction almost two years ago, is expected to achieve its Commercial Operations Date next month, when it will begin generating over 132 GWh of renewable power each year.

The wind farm is connected to the grid through an on-site substation and a dedicated 132 kV power line connecting to the Vryheid substation, located close to the plant in Swellendam.

"We are pleased to mark this pivotal point in the construction of Excelsior Wind, with all thirteen wind turbines commissioned and

connected to the power grid and are confident that we'll be able to announce the commercial operations next month," said Robert Skjodt, CEO of BioTherm Energy.

The portfolio of South African IPPs, developed by BioTherm Energy, also includes Aggeneys Solar, Konkoonies II Solar and Golden Valley Wind. Additionally, the company's portfolio reaches over the South African borders, to include the 100 MW Kipeto Wind, in Kenya.

The REI4P represents the governments' most comprehensive and successful strategy to achieving a transition to a green economy, with IPPs located across the country, in alignment with the prevalence of renewable energy resources. Wind projects are predominantly located along the coastal regions, including nine procured in the Western Cape. The Province has three wind farms presently under construction, which form part of the 27 Bid Window 4 IPPs that will collectively add 2 300 MW to the country's struggling national power grid, once they are all on line. ■



projects of 3 GWs in South Africa and regularly participates in opportunities on the rest of the African continent. Part of the company's growth strategy is to actively pursue the acquisition of equity stakes, in operating renewable energy projects.

STANLIB Infrastructure Investments manages a number of infrastructure funds and recently announced the successful close of its second fund, STANLIB Infrastructure Fund II, attracting over R4,5-bn of new committed capital. The Fund is managed by an experienced investment team and targets equity and quasi-equity investments in infrastructure projects, with a primary focus on renewable energy investments in South Africa. ■



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2 SOLAR PARK BEGINS FULL OPERATION

The Droogfontein 2 Solar Park situated near Kimberley in the Northern Cape, has reached full grid code compliance and Commercial Operation reports Engineering, Procurement and Construction (EPC) contractor juwi Renewable Energies (juwi). The 179 hectare solar area (comprising over 260 000 solar panels on a single axis tracker system) is supplying 75 MW (86 MW DC) into the ESKOM grid. The site was handed over to the Operations & Maintenance team in February 2020.

“Droogfontein 2 is the first of the three projects totalling 250 MW juwi was awarded in 2018 to reach completion. The project team, together with our various partners, the sponsors and shareholders have done an excellent job,” says Greg Austin, MD of juwi. The project sponsors and equity investors are African Infrastructure Investment Managers (AIIM) through its IDEAS Fund, Phakwe Group, Reatile Group and AREP.

Senior construction manager and site manager, Nkosikhona Yeko, attributes the smooth progression to the detailed planning and scheduling of the project prior to commencement: “Our baseline approach to scheduling is to ensure that everything is done not only in accordance with our project deliverables schedule but also of course within budget while meeting juwi’s stringent attention to quality.”

“Our planning has ensured that we have managed the challenges of coordinating several different contractors – with a combined workforce of many hundreds of people – on site at the same time. We have succeeded in getting all the different subcontractors to work together as one team, with shared objectives.”

Community involvement and benefit

Local community involvement is key to the success of the project, as indicated by Austin: “We have worked very closely with all the key stakeholders including the sponsor’s Community Operations team and the Droogfontein Communal Property Association (CPA), who are the land owners and represent the local community interests.”

Some 535 local community members were directly employed on the project, out of a total of 738 people employed, and additional employment was created through the contracting out of various services. “In effect, 2 000 individuals have been directly and positively impacted by the project, and of course there are economic multiplier effects throughout the community,” said Austin.

“The Droogfontein CPA community consists of approximately 104 families. Many of the beneficiaries of the CPA have been employed on the project, as well as other people from the greater Kimberley area.

“The project is leasing 200 hectares of land from the CPA, on which Droogfontein 2 Solar Park has been constructed; the revenue from the lease for that portion of land forms part of the CPA business plan.”

Global players, local impact

Stephan Hansen, the Chief Operating Officer of the juwi Group, says that the completion of the project is an important milestone in juwi’s strategy of implementing projects in South Africa: “This is one of our core markets in our global strategy where we want to do project development and also build projects for third parties.

“This portfolio is a very important bridge, we’ve been very successful early on in the South African market, and we’ve been awarded projects in nearly every round of the REIPP Programme. We’re one of the largest players in the market doing EPC and very importantly, we are now submitting our own PV projects.

“Once these three projects are concluded in the coming six months, juwi will have a 20% South African market share in both the EPC and O&M business areas.

“We are very eagerly looking forward to Round 5, we think the political environment is very good and it’s creating a sustainable environment for us to be successful in the market.

Solar is one big pillar, we are also active in wind – which is also equally important to us. This makes South Africa a unique market for us because it’s the only international market where we do solar and wind development. We are very proud of the team here and the success we have. Given the circumstances, the political environment, we hope that there’s going to be continued success and that we can provide a valuable contribution to the future energy mix of South Africa and to the local communities that we are serving with our projects.” ■



Inclusive energy mix vital for Africa's economic prosperity

In the first event of the Energy Leader's Dialogue webinar series on Energy Transition, a high-level panel representing global and regional energy leaders, shared their experience on the challenges to sustainable growth of the liquid petroleum gas (LPG), solar and nuclear energy industries in sub-Saharan Africa, as well as possible solutions.

"Energy sustainability is not just an opportunity to transform societies and grow economies, it is also a necessity – a prerequisite to meet Africa's growing energy demand and to reduce the global carbon footprint in accordance with the United Nations Sustainable Development Goals," says Ryan Collyer, Acting CEO of Rosatom Central and Southern Africa.

The most pressing issue of the global energy agenda, according to the panel, is solving the energy trilemma: in order to build a strong basis for prosperity and competitiveness, individual countries must find a balance between energy affordability, energy security and environmental sustainability in their respective energy mixes.

"Out of all sources of electricity, nuclear is one of very few that are currently capable of ticking all three boxes. Nuclear power is a cost-effective and reliable source of power that is always available," says Collyer.

A modern nuclear power plant (NPP) is able to supply uninterrupted power for 60-80 years at a predictable and affordable price, which is not drastically affected by the volatility of the global commodity market. Nuclear energy is also a key component of a clean and sustainable energy strategy, which emits no CO₂ into atmosphere.

Collyer called for an open and equal debate on different energy sources on the continent and noted that an energy mix made up of various sources is vitally important; "Generation sources should not be fighting over which source is best for the continent, but rather working together to empower the continent and its people through access to affordable and clean energy."

"The ideal future energy mix for Africa is nuclear accompanied by renewables – hydro, solar and wind. This is how we can make the world green and at the same time deliver cost efficient electricity to Africa in a sustainable manner," said Collyer.

Collyer also highlighted the importance for the nuclear industry to dispel the myths that it commonly faces; "The myth that nuclear is unsafe, for example, is simply untrue. Statistically, nuclear is the safest form of energy production known to man. From 1971 to 2009 the nuclear industry actually saved over 1,8-million lives through the prevention of harmful pollutants, should that power have been produced with hydrocarbons." ■



Ryan Collyer, Acting CEO of Rosatom Central and Southern Africa.

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CERTIFIED GREEN OFFICES HELD their value in tough rental market

In its fourth year, the MSCI South Africa Green Annual Property Index provides an independent and consistent comparative return on investment for green-certified and non-certified offices.

Released in conjunction with the Green Building Council South Africa (GBCSA) and sponsored by Growthpoint Properties, the MSCI South Africa Green Annual Property Index measures investment returns for a total of 293 prime and A grade offices (R54,5-bn capital value), and compares the returns of 105 green-certified buildings (R26,9-bn capital value) to the returns of the remaining 188 non-certified constituents.

For the year ended December 2019, the green-certified office sample delivered a total return of 7,6% versus the 5,1% of the non-certified sample.

"The findings of the MSCI Green Property Index for Offices strongly support Growthpoint's long-term office investment strategy," says Paul Kollenberg, Growthpoint's Head of Asset Management: Office. "We believe that the design and operation of buildings with a focus on occupant health and wellbeing will come into even sharper focus, and the index is proof that green buildings that prioritise health factors such as good ventilation and air quality are extremely well-positioned to retain and attract tenants now and in the future," he adds.

What drove the outperformance of green certified offices?

Capital growth was the main driver of this outperformance as the green-certified sample held its value in a challenging operating environment for the office market. While the green certified sample delivered a capital growth of -0,8% the non-certified sample saw capital growth slow to -3,3%.

The superior capital growth was the result of a better net income growth and a lower discount rate – meaning that valuers view green-certified office properties as

a lower risk investment. Also telling was a significantly lower vacancy rate of 8% versus the non-green sample vacancy rate of 11,5% highlighting the value occupiers are attaching to green certified premises.

The meaning behind these results

Released by MSCI in June 2020, the index results reinforced the association between quality and green-certified buildings, as reflected by a 34% higher capital value per square metre, more resilient capital growth and a higher net operating income per square metre compared to the non-certified office buildings.

"The latest SA Green Property Index results add to the growing body of evidence regarding the benefits of sustainable investing. It has been encouraging to see how green certified buildings have outperformed on the key investment metrics of occupancy, net operating income and operating cost ratios, highlighting these asset's defensiveness during tough times. Furthermore, it has been interesting to note the discount and cap rate spreads between green certified and non-certified assets, perhaps showing that valuers are adjusting their relative long-term risk assumptions for green certified buildings," says Eileen Andrew, Vice President: Client Coverage at MSCI South Africa.

Findings from the analysis showed that capital expenditure stood at 0,7% of the capital value for Green Star certified buildings, versus 1,2% of the capital value for uncertified buildings. This means that green-certified buildings required comparatively less capital expenditure,

which has enhanced its capital growth relative to the non-green sample.

"It is encouraging to see that yet again, the researched evidence shows that certified green buildings are a worthwhile investment. We expect that the value of certified green buildings will become even more pronounced as we navigate through the current challenges presented by COVID-19. With the greater focus on healthier environments, green buildings become even more attractive as they have always concentrated on health as wellbeing of tenants, as well as operating cost efficiencies," says Georgina Smit, GBCSA Head of Technical. She adds that the GBCSA has initiated globally leading independent research on the financial impacts of green buildings. The results from this year's MSCI Green Property Index are particularly significant from a capital investment perspective, given the COVID-19 related impact on the property sector.

Growthpoint is invested in real estate and communities across South Africa and internationally and is an established leader in commercial green developments. Growthpoint provides spaces that work best for its clients by owning and managing the biggest portfolio of green-certified buildings in Africa and the results of the MSCI Green Property Index for Offices demonstrate the real rewards of doing this.

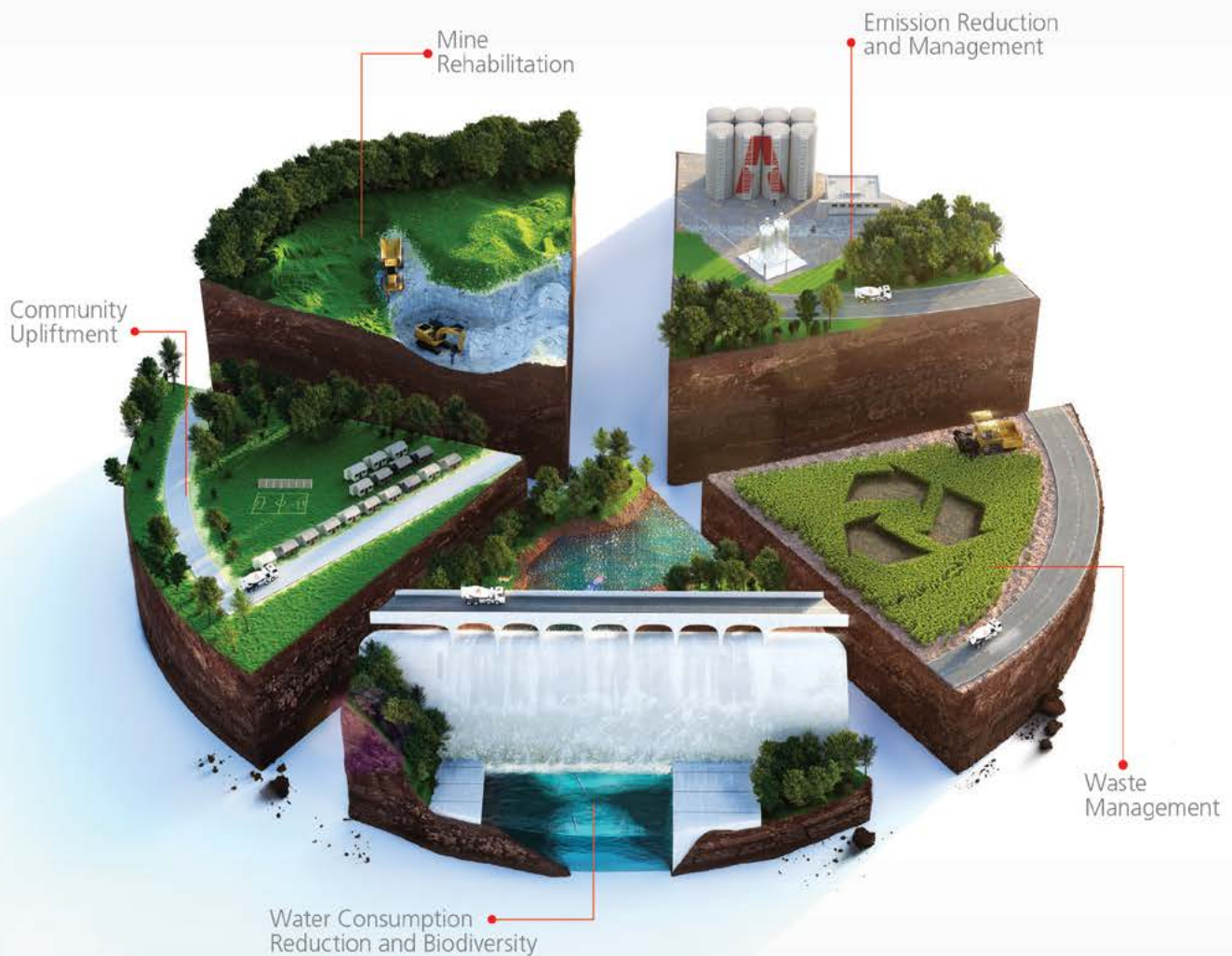
"Growthpoint creates space to thrive with innovative and sustainable property solutions in our portfolio of highly efficient office buildings, which support a lower cost of occupancy for clients, a lighter impact on the environment and rewarding returns for investors," concludes Kollenberg. ■

In a nutshell:

Comparison of Green Star Certified Buildings vs Non-Certified Buildings

	Certified	Non-certified
Total Return	7,6%	5,1%
Capital Growth	-0,8%	-3,3%
Vacancy	8,0%	11,5%
Capital expenditure vs Capital value	0,7%	1,2%





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FORWARD PLANNING in cities' design

The Cape Town city skyline is about to change. The long-awaited Harbour Arch development has finally been given the green light, with construction set to commence early in September on the newest, slickest, mixed-use precinct to hit the tip of Africa.

Just as the V&A Waterfront transformed an under-utilised area of Cape Town Harbour, this glittering new development aims to makeover the 'Nowhere Land' around the unfinished elevated highway on the foreshore. "It's an eyesore that has become an unfortunate landmark. A sobering reminder of what a lack of vision can mean for an urban space. Fortunately, the construction of the Amdec Group's Harbour Arch development at the gateway to the CBD means that this part of the foreshore will no longer be viewed as a wasteland of missed opportunity," says James Wilson, CEO of Amdec Group.

Harbour Arch will breathe life into an uninspiring site and bring a sense of community to the city. Pushing the boundaries of design and architecture, the innovative high-rise development aims to become a landmark and attraction in its own right, putting us on the map alongside similar developments in other big cities like New York, London, Sydney and Dubai.

Inspired by New York, made in Cape Town

Harbour Arch takes its inspiration from the benchmark of Hudson Yards in New York. The 12-year Hudson Yards project saw the first phase opening in March last year, and it has already become a tourist attraction. This urban regeneration development is being built on platforms over a working railyard. It will eventually offer nearly 11ha of residential, retail, office and public green space, a performing arts centre and even a school.

Following this example, Amdec has devised a multi-phased project designed to bring growth to the city. The 5.8hectare Harbour Arch will turn under-utilised land in a good location into a vibrant, dynamic new area for living, playing and working. Being built using international best practice in design and construction, it will eventually comprise six individual tower blocks with fantastic views, housing retail stores, offices, restaurants, health clubs, two Marriott International hotels and 2 000 residential units.

A strong community focus aims to enhance quality of life for all Capetonians, as well as to attract visitors. Public pedestrian routes and transportation systems through the area will link the CBD to the

V&A, the east city precinct and eventually Woodstock.

A landscaped and well-lit urban green space will offer gathering places, markets, bike tracks, climbing walls, and skateboarding and splash parks, creating a secure, appealing and child-friendly neighbourhood for a diverse range of communities.

According to Wilson, the urban village will be "a vibrant, 24-hour precinct that offers Capetonians the opportunity to safely live, work and play in an iconic landmark setting".

A focus on sustainability into the future

Again, emulating the tech-forward Hudson Yards, sustainability is an important part of Amdec's vision, as it is at the Group's other developments, The Yacht Club and Melrose Arch. The innovative solutions include recycling and energy saving technologies such as using natural light and low-energy lighting, harnessing wind power from the southeaster and implementing water-wise systems, with future plans for a desalination plant.

Balancing the city divide

Harbour Arch is conveniently positioned at a convergence in major access roads, including the N1 and N2. The flexibility of the development also allows the municipality to revisit its vision for the foreshore by potentially relocating the freeway either below ground or on grade. This will extend the city's footprint and reconnect the shoreline to the inner city, with the potential in time to link all the way through to Woodstock.

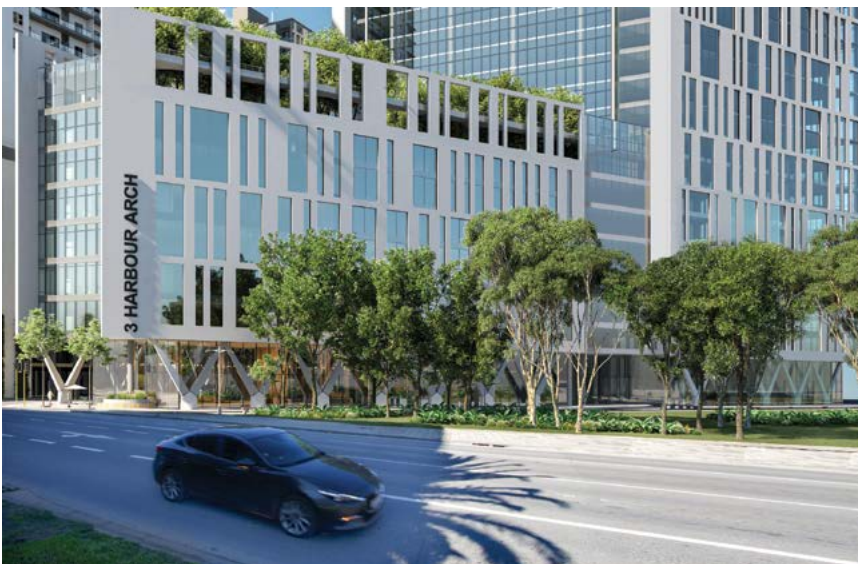
Adding value all round

Contributing to the sustained economic growth of the city is important to the Amdec Group. The Harbour Arch project brings R15-bn in private investment into the Cape Town CBD, with a further R100-m expected to be spent on much-needed infrastructure upgrades for the city. The construction phase alone will create 20 000 jobs, with many more on completion, especially in the retail, tourism and hospitality sectors. There is also an opportunity to include 100 affordable housing units on site, while profits from the development will help to fund a much larger affordable housing project in Ottery too, benefitting several levels of society.

An investment to be proud of

The world-class level of quality and innovation and the current trend towards mixed-use developments makes buying property in Harbour Arch an extremely attractive proposition for savvy investors. The first tower is already 95% sold out and the second tower will be launching shortly. Building during the downturn in the economy has proved to be a smart move and, as the economy begins to turn around, the project will be ready for more investors and purchasers.

Encapsulating the principles of urban living in a safe, convenient and desirable environment, and reconnecting the city and its communities, Harbour Arch is a neighbourhood for the future and undoubtedly good for Cape Town. ■



Becoming equal partners in **MUSINA MALL, LIMPOPO**

Flanagan & Gerard Property Development & Investment, through its investment company Changing Tides 91, has acquired 50% of Musina Mall from Investec Property Fund.



The transaction has resulted in Flanagan & Gerard and Moolman Group becoming 50/50 co-owners of Musina Mall, extending their long-standing association. Moolman Group, Musina Mall's lead developer with Investec Property Group, previously owned a one-third stake in the mall which it has increased to a 50% holding.

Paul Gerard, MD of Flanagan & Gerard, says, "We are proud to partner with Moolman Group again, and thrilled to acquire a 50% stake of this quality three-year-old retail asset from a property investor of the calibre of Investec Property Fund. Musina Mall meets all our investment criteria – it is reporting excellent trading and is dominant in its trade area where it has very little competition. We are pleased to count Musina Mall in our portfolio of quality shopping centres."

Investec Property Fund joint CEOs Andrew Wooler and Darryl Mayers commend Flanagan & Gerard Property Investment and Development in their acquisition of Musina Mall. "While it is difficult to let go of such a quality asset, we believe that the sale is necessary to de-gear our balance sheet as we look to provide further capital funding for the Pan European logistics real estate and UK Fund strategies."

Investec Property Fund has shared and exemplary partnership with Moolman Group following an extension of Musina Mall in 2017, and look forward to seeing their collaboration alongside Flanagan & Gerard. We strongly believe in the class of the asset given the heritage rich town of Musina and walk away proud after eight years of holding the mall within our portfolio."

Pieter Lombaard, CEO of Moolman Group, comments, "The initial acquisition and redevelopment of Musina Mall, formerly

The Great North Plaza, has been incredibly positive and rewarding. It has outperformed our expectations since its relaunch and continues to show significant growth, even in the tough times of late. Our relationships with both Investec Property Fund and Flanagan & Gerard have always been collaborative, progressive, and respectful. We are looking forward to the continued journey ahead and unlocking the potential of this shopping mall."

Musina Mall is in the heart of the heritage-rich town of Musina in the Vhembe District of Limpopo, which is SA's northernmost major town. It is a mere 10km from the Beitbridge border post into Zimbabwe, which is the second biggest port of entry into the country and a gateway to other SADC countries. Offering superb access, the mall is situated on the N1 from which it enjoys direct access.

It is also located within the Musina-Makhado Special Economic Zone, which is rich with mineral resources, including diamonds. The zone is intended to accelerate economic growth, and President Ramaphosa has identified it as being a focus in SA's post-COVID-19 economic recovery.

The redeveloped Musina Mall first opened its doors in March 2017, incorporating the site's original development, The Great North Plaza. With 35 000sqm of retail space, the mall houses almost all the area's recognised national retailers and popular brands.

Musina Mall is anchored by Checkers and Shoprite and offers Woolworths, Clicks, Mr Price, Foschini, Ackermans, Truworths, and Pep, and much more. It is also home to all five major banks: ABSA, Standard Bank, Nedbank, FNB and Capitec. Dis-Chem is



Paul Gerard, Managing Director of Flanagan & Gerard Property Investment and Development along with various exterior images of Musina Mall in the Limpopo region.

opening in the mall in September 2020.

The mall's retail is differentiated from the shopping available in the Musina CBD, and the two nearest competing shopping centres are a distant 100 km and 200 kms away respectively.

"Musina Mall is in high demand for shopping and trading opportunities by residents of this prominent business, social and tourist node, for whom it offers unparalleled convenience, and it also attracts many customers from over the Beitbridge border in Zimbabwe and beyond," adds Gerard.

The Flanagan & Gerard portfolio comprises nine retail centres with Musina Mall. It develops and invests in mostly dominant regional shopping centres which can maintain their market positions over time. Flanagan & Gerard's quality portfolio of retail assets includes Vaal Mall (co-owned with Growthpoint Properties), Middleburg Mall (co-owned with Moolman Group), Springs Mall (co-owned with Vukile Property Fund, Murinda Investments and Blue Crane Eco Mall), Mall of the North (co-owned with Resilient REIT and Moolman Group), Highveld Mall (co-owned with Resilient REIT, Mogwele Investments and Retraction Props), Ballito Junction Regional Mall (co-owned with Menlyn Maine Investment Holdings), Thavhani Mall (co-owned with Vukile), and Morningside Shopping Centre (co-owned with Grapnel Property Group). ■

CAN DIGITALISATION ACCELERATE INNOVATION AND REDUCE COSTS?

In early 2020, the world changed – and so did construction around the globe. As the industry continues to respond to the effects of the COVID-19 pandemic, it has adjusted to weekly and sometimes even daily changes. As the current situation develops, contractors are turning to digital technology to help them weather the storm and build an environment where risk is managed better, with speed, better efficiencies and with cheaper costs in the long term.

Procore Technologies, Inc., a leading provider of cloud-based construction software, has proved this and is entering the African market to replicate its success from the international markets alongside its partner Agile Business Technology.

Our time is now

We have seen a profound transformation recently given the world has been driven to find new ways of working, from the way we communicate and work physically, mentally and emotionally. And we have seen construction adapt, fast. Its response to COVID-19 has pointed to a new way forward for the industry – or at the very least catalysed a process that was already taking place.

This new global challenge has underlined the importance of providing teams with the right tools to allow them to continue to work as efficiently and proactively as possible. The response to COVID-19 hasn't just connected the site and office, it has blurred the boundaries between them. Construction requires information and teams to be connected, and if we can keep them productive and safe, construction will play a vital role in keeping the economy going.

Platform companies are uniquely well positioned to address challenges like COVID-19 because of their ability to enable key stakeholders to collaborate across locations and devices. While point solutions, like traditional pen and paper to Excel spreadsheets, are cut adrift during these times due to their inability to span workflows and processes, platforms play an important role in keeping people connected and productive.

There will be a positive change and a new way of working in the face of adversity, but, construction has always lagged behind nearly every other industry in terms of digitalisation. According to McKinsey's Industry Digitisation Index, construction ranks second from the bottom in digitisation across all major sectors, above only agriculture and hunting. Jacob Barnard, Director of AEC Solutions at Agile believes the industry has now reached a "digitise or die" point and can no longer ignore the importance of digitally integrated processes.

About Procore

Procore Technologies, Inc. is a leading provider of cloud-based software for Construction. The company has a diversified business model with products for Construction Project Management, Construction Financials, and Quality & Safety. Procore has more than 2 million users managing billions of dollars in annual construction volume with over 90% customer satisfaction. With global

headquarters in California and EMEA headquarters in London, Procore has over 2 500 employees across the globe.

Agile Business Technology, a niche consulting organisation focussing on the AEC industry, recently formed a partnership with Procore Technologies that will help construction companies across Africa to accelerate their adoption of digital construction technology.

Agile believes that features such as Procore's unlimited user model and industry leading mobile application will make a huge difference to our construction customers.

In the recent independent research report *The Future is Now*, Procore spoke with 250 construction managers to reveal key changes and opportunities for the construction industry post pandemic. From the increased need for digitalisation to the importance of collaboration and risk management, this industry leader's insight is a blueprint for how to adapt and grow.

It revealed that COVID-19 has caused a transformative turn towards technology in the construction industry, with platform technology playing a particularly pivotal role. 80% believe that platform technology will play a role in the future of how we work in construction.

And amid challenges in keeping job sites operational during COVID-19, well over half (66%) of construction businesses surveyed rolled out some sort of new technology during lockdown with the majority (94%) seeing an improvement in the way their teams work as a result. ■



Jacob Barnard, Director of AEC Solutions at Agile.



For a copy of the complete report or to arrange a demonstration of the Procore platform, please contact the Agile team at procore@agile.co.za.



The software platform that manages your projects, resources and commercials from project planning to handover.

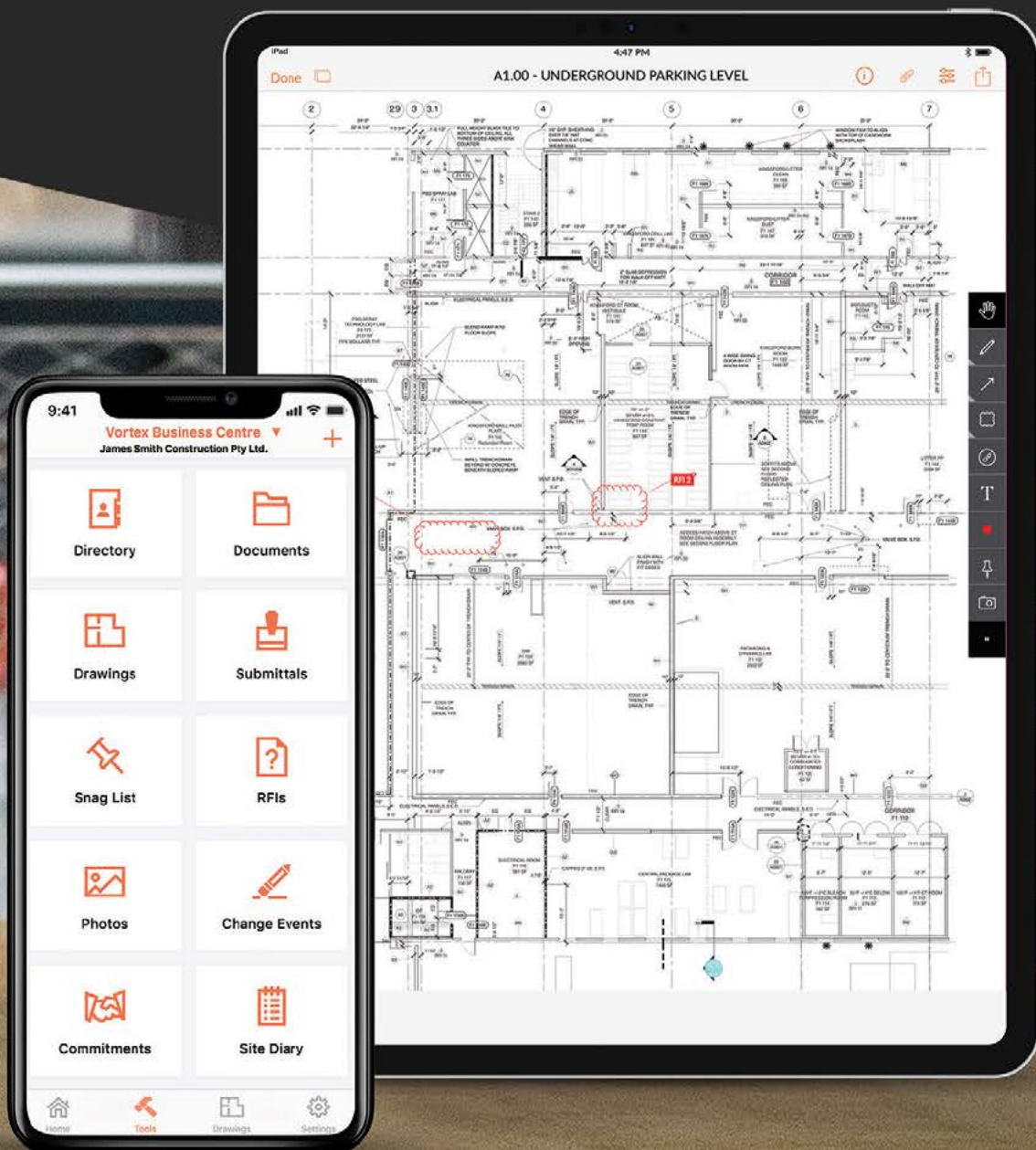
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KEEPING RENEWABLE ENERGY PROJECTS IN THE FAST LANE

JG Afrika, a leading firm of consulting engineers, continues to build on a long and proud legacy of providing high quality traffic and transportation engineering services to prominent international developers of renewable energy projects in the country. This is as the Renewable Energy Independent Power Producer Procurement (REIPPP) programme starts gaining traction following a period of hiatus.

To date, over 100 independent-power producer (IPP) projects have been procured from four bidding round windows and more are to be announced in the future as South Africa strives to generate almost 18 000 MW of electricity from renewable energy sources by 2030.

These include utility-scale solar, gas-to-power, biomass, waste-to-energy and wind projects, all of which require unique specialist studies to ensure the efficient and safe transportation of imported components from the country's ports to various development sites.

Iris Wink, a JG Afrika Associate who leads the firm's Transport & Traffic Engineering Division in Cape Town, has successfully completed about 100 traffic and transportation engineering studies for developers of various renewable energy projects throughout her long career as a transport and traffic engineer.

Passionate about sustainable energy, specifically wind, she also helped the firm develop its transport and traffic engineering services for the renewable energy sector and has successfully completed about 60 related studies for developers of these projects since joining the firm in 2012.

These studies have played an invaluable role in keeping renewable energy projects on track and mitigating the need for potential design changes to road infrastructure and upgrades at a late stage in the construction programme.

"Depending on the size of the project, JG Afrika is invited by developers to undertake detailed traffic and transportation studies fairly early on in its lifecycle, such as in the prefeasibility and in the Environmental Impact Assessment stages where a more general study is undertaken. Our comprehensive traffic and transportation engineering services for developers of renewable energy projects include detailed access risk assessments, route management and transport logistics studies. This is in addition to studying the impact of renewable energy projects on road networks and communities, as well as undertaking Transport Impact Assessments and conceptual access road designs," she says.

To date, the most challenging and interesting traffic and transportation engineering studies undertaken by JG Afrika's team of transportation and traffic engineers for the renewable energy market

have been for developers of wind farms.

The firm has already completed about 40 traffic and transportation engineering studies for this segment of the renewable energy market and it is currently undertaking six more related assignments for developers of wind farms.

Notably, wind comprises a larger portion of planned renewable energy investments in South Africa and it is anticipated that it will contribute just under 60% of clean energy-related emissions reductions over project lifespans.

Wind farms now supply up to 52% of the country's clean energy, with a total of 22 operational wind IPPs with an installed capacity of 2 078 MW currently connected to the national grid and more than 900 wind turbines located throughout three provinces of South Africa.

A total of 6 360 MW of wind power has already been determined for procurement from IPPs. This is 69% of the capacity planned by 2030 and there are currently 36 preferred wind IPP bidders, providing a combined capacity of 3 366 MW, under the latest round of the REIPPP programme.

However, one of the challenges in executing these projects is their extremely



remote locations. They are becoming more isolated, placing significant logistical constraints on both the developer, as well as the engineer, procure and construction teams appointed to execute these large projects.

"International original equipment manufacturers' components, including the blades, nacelles and tower sections, have to be transported over longer distances from a suitable point of entry to outlying rural areas that are not adequately or yet serviced by roads. There has been at least one case where a project was scuppered because the abnormal loads trucks would have been unable to access the project site, despite numerous attempts to find a workable solution. Based on the findings of our studies during the early planning phases of these projects, the location of many wind turbine generators have also had to be relocated to areas that can be accessed by the specialised haulage companies that will be appointed to transport the valuable mechanical equipment," Wink says.

She adds that the components are also becoming larger, adding a further level of complexity to transport and logistics planning on these projects. For example, JG Afrika has undertaken traffic and transportation studies for wind farms that have wind-generator turbines with hub heights of up to 190 m to reach higher above the earth's surface where stronger winds blow. Their more aerodynamically efficient blades are up to 95 m in length, while the

nacelle, alone, can weigh up to 56 tonnes.

This is opposed to those wind projects that were completed during earlier windows of the REIPPP programme that entailed around 60 m-high wind turbines with blade lengths of between 45 m and 50 m. The components were hence still shorter.

Transporting a single blade all the way from the port of entry to the crane laydown area or directly to the location of a wind turbine, where they are lifted and placed on the nacelle by contractors working to strict deadlines, is a significant undertaking. The task at hand entails using specialised imported trucks and self-steering trailers to negotiate sharp turns. In some instances, the trailers are also fitted with cranes to lift the blades over obstacles as they make their way from the ports, such as Ngqura in the Eastern Cape.

Specialist drivers and technicians help to transport these abnormal loads over predetermined routes. Some of the other factors that are taken into consideration during the traffic and transportation planning include challenging gradients, route hazards, as well as underground and over-ground services. This is in addition to challenging factors, such as black-spots, sharp bends, overhead height restrictions, weather conditions, and telecommunications and cable clearances.

Certainly, these projects complement the firm's already strong participation in the REIPPP programme where JG Afrika has provided other quality professional

The task at hand entails using specialised imported trucks and self-steering trailers to negotiate sharp turns. In some instances, the trailers are also fitted with cranes to lift the blades over obstacles as they make their way from the ports, such as Ngqura in the Eastern Cape.

engineering services. For example, the firm delivered structural review engineering and construction monitoring services for the 50 MW !Khi Solar One Tower, the tallest concentrating solar power at the time, and served as owner's engineer on the Noblesfontein Wind Farm, relying heavily upon its geotechnical specialist consulting services.

These extensive experience and learning have also helped inform the services provided by the Transport and Traffic Engineering Department to the renewable energy sector and positioned the firm as among one of the local leaders in the field.

Wink is optimistic about the future of renewable energy in the country, considering President Cyril Ramaphosa's pledge to restart the REIPPP programme by initiating the fifth bidding window in his State of the Nation Address earlier this year. This is despite delays to the implementation of this plan due to the lockdown to contain the spread of the COVID-19 virus.

"South Africa has lost a lot of manufacturing capacity because of previous delays to the REIPPP programme. A case in point is a wind tower factory in the Eastern Cape that went into liquidation due to the postponement of projects. Locally manufactured tower sections for wind projects would have eased some of the logistical challenges surrounding these projects. This is over-and-above contributing towards the localisation targets set out by the REIPPP programme. Certainly, a resolute commitment from government to renewable energy bodes well for the entire industry," she concludes. ■



COUNTING THE REAL COSTS OF LOCKDOWN

on the development and construction sector

While construction sites were able to reopen as far back as early May for civil projects, ongoing delays in terms of both the public sector being slow to change gears, as well as the requirements of clients for additional regulations around health and safety, have exacerbated challenges for both property development and construction companies.

According to Stefan Bothma, CEO of The Power Group's development arm, Power Developments, while his company was able to adapt its own business model overnight to enable staff to work remotely, its physical operations and in turn many of its clients' projects have been severely hamstrung by government departments failing to put similar systems in place.

Adds Steven Levey, the company's Senior Development Manager: "Government services seemingly went backwards instead of forwards as their own operations came back on stream, from building plan and NHBRC approvals to town planning applications and the Western Cape Deeds Office in terms of transfers. These are the factors having the biggest impact on our industry and not necessarily COVID-19 itself."

The 37-year-old Power Group, founded by chairman Graham Power, supplies civil, roads, building, turnkey housing and property development services through its two companies, Power Construction and Power Developments. With regard to the latter, the company has for several years specialised in the affordable housing

market, particularly in the price range of between R500 000 and R850 000.

Notes Bothma: "With the average household income of South Africans who can afford this price range being around R18 500 per month, new homeowners in the Western Cape who have been waiting to take possession of their properties are being hard hit by the on-going closure of the Deeds Office."

This adds huge economic stress onto a segment of the South African workforce where there has already been substantial job losses due to COVID-19. "Families in this income bracket are now either being expected to look for other rental accommodation while they await transfer on their new properties, or are expected to pay occupational interest way beyond what they budgeted for or would be paying on their bonds," notes Bothma. "And all of this with the added uncertainty as to when the situation will be rectified, despite higher echelons of government trying to intervene."

Transferring attorneys with whom he has been in discussion have informed Bothma that registration of properties at the Western Cape Deeds Office now takes 37 working



Stefan Bothma, CEO of The Power Group's development arm, Power Developments.

days, whereas previously it took between eight to 10 days: "This essentially has stretched the waiting period by an additional two months – an untenable situation for most new property owners, let alone those in the affordable market."

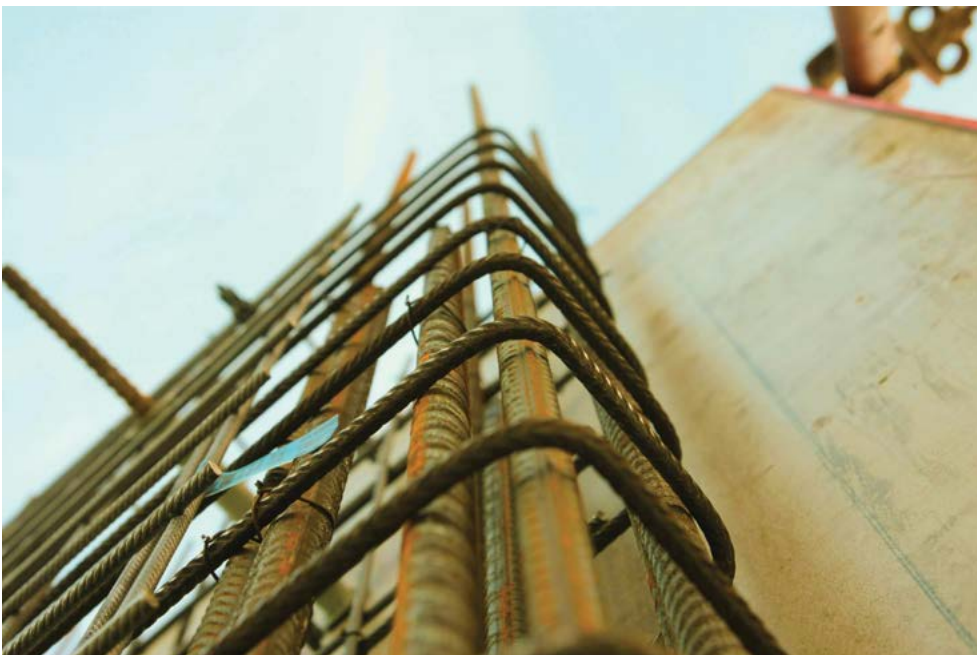
The group's construction arm has also been hit with challenges no one could have foreseen with COVID-19.

"As an example," notes Bothma, "the construction of five large wind farms as part of the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) were not seen as public works projects, so it took a number of weeks for the authorities to give the final go-ahead."

To complicate matters even further the wind farm projects are in three provinces (Western, Eastern and Northern Cape) and the movement of people and other resources across provincial borders delayed the recommencement of these projects by approximately three weeks.

With the projects situated in remote areas, transporting the work teams immediately doubled in cost with South African regulations stipulating vehicles could only carry 50% passenger capacity. The same challenges applied to guest houses and other venues accommodating the teams.

"One has to understand that the base camps from which these teams work are in remote areas and people have to be transported up to 60 km", says Bothma.



Civils holds opportunities for LOCAL CONSTRUCTION COMPANY

Despite the decline of the Civils sector, which saw a low confidence level of 24% as measured by the FNB/BER Index just before COVID-19, GVK-Siya Zama has tapped into its entrepreneurial spirit and added a dedicated Civils unit to its operational offering.

Through this unit, the company aims to create jobs and better society by filling the void left by many companies in the industry that had to close their doors.

This is according to Dumisani Madi, Chairman of GVK-Siya Zama, who says a time of crisis and uncertainty often presents entrepreneurs with good opportunities to grow their businesses. "Adding the Civils component to our services will expand our reach in the market and increase our chance of procuring construction work through exposure to different clients."

Based in Gauteng, the unit will be structured to enable it to work country-wide from any of GVK-Siya Zama's regional branches. It will be spearheaded by 35-year industry veteran Anton Botha, who has extensive civils experience at senior board level at some of the foremost construction companies in the country.

Notable Civils projects that Botha completed during his tenure include water and wastewater treatment plants, reservoirs, windshields for power station chimneys, container terminals, wind farms, underground mining infrastructure, mine materials handling services, process plants, the Gautrain Station at Sandton, winder and shaft structures for new mines tunnel construction, production plants, and silos.

When considering the addition of the Civils unit to the company, Botha believes that it is vital that businesses adapt in order to grow and he believes that this is the right time for GVK-Siya Zama to add Civils construction to their portfolio.

Civils is an essential service

The word Civils relates to creating infrastructure and services for civilians and this is exactly where the opportunities currently lie in South Africa. "There is a huge demand for

civil work at local or provincial levels, and in industry and mining - which is currently experiencing massive growth," points out Botha.

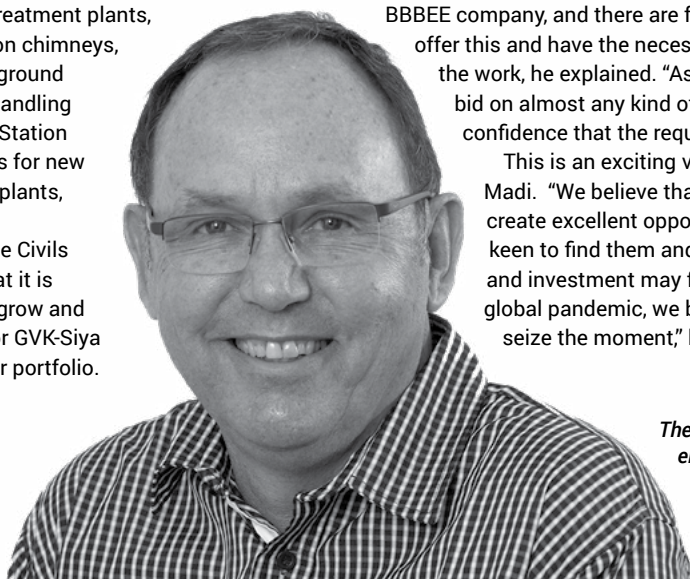
Furthermore, the provision of roads, water and sewer infrastructure are key to creating a better environment for South Africans, he continues. "The need for infrastructure is vital for the growth of South Africa and this is acknowledged in the Government's planned R340-billion infrastructure development plan."

Creating jobs

Civils contractors will always be in demand in developing countries such as South Africa, where governments are obliged to create infrastructure for growing communities. "Along with this, the downturn of the past few years meant there are many skilled staff across most disciplines now available."

It is also important to note that GVK-Siya Zama is a level 1 BBBEE company, and there are few Civils companies that offer this and have the necessary experience to carry out the work, he explained. "As such, GVK-Siya Zama could bid on almost any kind of project with the reasonable confidence that the requisite skills are there."

This is an exciting venture for the group, says Madi. "We believe that tough and trying times create excellent opportunities for those who are keen to find them and seize them. While expansion and investment may feel counter-intuitive during a global pandemic, we believe that it's the best time to seize the moment," he concludes. ■



The unit will be structured to enable it to work country-wide from any of GVK-Siya Zama's regional branches. It will be spearheaded by 35-year industry veteran Anton Botha.

"Adding to the challenges just in terms of getting supplies and teams on site were the implementation of additional PPE and daily measures such as temperature monitoring and stricter access control, and thus costs have really climbed."

An additional unforeseen challenge has been the client's own extended COVID-19 regulations added on top of those of the South African government.

Bothma explains: "Just in terms of transportation, even though South Africa has relaxed passenger capacity, the client is still insisting we run vehicles at only 70% of full capacity. This is understandable when one acknowledges the high Covid-19

death rate encountered in Europe.

The overall frustration with government red tape and inefficiencies has resulted in the group being actively involved in lobbying for change in the property development and construction industry for a number of years now, and it was among the first members of the Western Cape Property Development Forum (WCPDF) in 2008.

The group's introduction of the WCPDF years later to the then Western Cape Minister of Economic Opportunities, Alan Winde, led to the WCPDF's chairperson Deon van Zyl proposing the establishment of an Economic War Room; an initiative adopted by Winde's Cabinet in 2019.

Power Developments was also a Gold sponsor of the WCPDF's next "In Conversation" webinar on 17 September, at which National Minister of Public Works and Infrastructure discussed government's investment in growth post COVID-19 through infrastructure projects. De Lille was in discussion with panellists Webster Mfebe (South African Forum of Civil Engineering Contractors), Vuyiswa Mutshekwanne (South African Institute of Black Property Professionals) and Deon van Zyl (WCPDF), with the webinar facilitated by Bafikile Simelane (South African Council for the Project and Construction Management Professions). ■

A BOOST FOR SA HEALTHCARE FACILITIES

As hospitals around the world are trying to fight the ongoing onslaught of the COVID-19 pandemic, the importance of well-maintained, fully functioning hospitals and clinics is continuously being highlighted. Pandemics and disasters aside, experts agree that healthcare is a mega-trend around the world.

Growing demand for healthcare services

"We see more personal and public resources being spent on healthcare today than ever before. Ageing populations, increased focus on preventative health, growing affluence and technological advancements in the medical world are all contributing factors to hospitals and healthcare facilities experiencing a growing influx of patients," says Lydia Hendricks, Business Development Director of the AFMS Group and its subsidiary FM Solutions – a privately-owned company that provides specialist FM services to the built environment throughout Southern Africa.

Why outsourcing to FM experts makes sense

Traditionally, hospitals used to operate with their own in-house facilities management or maintenance teams. Progressive hospitals, however, are changing this approach by outsourcing this service in order to streamline their operations, improve efficiencies and unlock savings.

"Around the world, it has become a growing trend by hospital administrators of public and private hospitals to outsource their FM duties to specialist companies who are able to coordinate a large group of different team members and services. South Africa is slowly but surely following suit as decision-makers realise the many benefits that are afforded to them when they partner with a Facilities Management service provider," Lydia explains.

Typically, FM for hospitals, clinics and other healthcare facilities cover a wide range of services and activities. This includes the close monitoring of how high-value assets in the hospitals are used, ensuring around-the-clock access to technical expertise and maintenance services, improving workplace flow and streamlining daily services to support the institution.

High expectations of public hospitals

Since opening its doors for the first time in 2002, FM Solutions has

provided various industries with facilities management solutions. In 2014 they were called upon to assist the Eastern Cape Department of Health with conditions audits, provide maintenance solutions and introduce SMME Development initiatives at 343 of its provincial medical facilities.

"The stakes and expectations are high for public hospitals who have to comply with legislation such as Government's Immovable Asset Management Act (GIAMA) and the Public Finance Management Act (PFMA) that regulate the management of state assets. AFMS has experience in this field and was brought on-board to offer support to Eastern Cape hospitals where capacity was lacking," Lydia says.

This project gave the company's team of FM experts first-hand exposure to the unique challenges hospitals face in their day-to-day operations and the valuable role they can play when it comes to delivering technical support, bolstering business and taking control of the day-to-day running of support services.

Delivering Integrated FM Services to Western Cape Hospitals

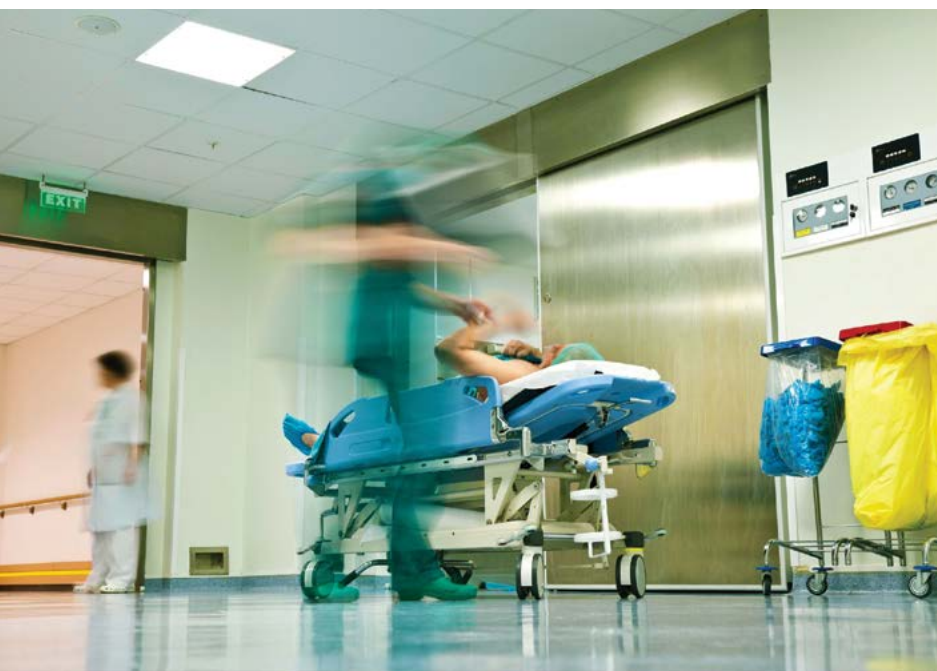
Recently, FM Solutions formed a joint venture company, called the Lentegeur Facilities Management Solutions (LFMS), specifically for the on-site management of certain facilities management services at the Lentegeur Psychiatric Hospital and Western Cape Rehabilitation Centre situated in Mitchells Plain, Cape Town. In addition, FM Solutions has also taken over the management of certain facilities at the Hospital of Hope – the temporary hospital constructed at the CTICC and the biggest COVID-19 field hospital in Africa. This hospital has been receiving high praise from patients who were treated there both for the excellent level of care they have received and the exceptional way in which the facility is being managed.

Kevin Stasch, FM Solutions' Key Account Manager at LFMS confirms that their remit is to manage specific support services that are required to make the hospital run smoothly. This includes the cleaning of wards, landscaping/estate maintenance, catering, laundry and handyman services. Should an issue arise that requires attention, LFMS has established a dedicated, on-site helpdesk where nursing staff and doctors can log requests for repairs 24 hours a day, 365 days of the year. These jobs are scheduled according to their urgency or severity and alerts are sent out if the problem is not solved within the designated time.

"We are passionate about job creation and empowering SMMEs from the immediate area. For this reason, we outsource certain tasks to local service providers once clear service level agreements are in place. Where highly technical, specialist repairs are required, e.g. catering or maintaining medical equipment, we are responsible for appointing and overseeing these services too," Kevin explains.

Outsourcing allows for greater accountability and transparency

"Outsourcing the management of support services to an FM service provider makes sense for hospitals, as it allows them access to flexible, agile and efficient



Green light for RIVER CLUB REDEVELOPMENT

We are pleased to announce that the River Club redevelopment in Observatory, Cape Town was yesterday given the go-ahead by the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP).

The planned mixed-use development will be a significant boost to the economy and people of Cape Town in the aftermath of the national COVID-19 lockdown. It will create over 6 000 direct jobs, including 5 239 jobs during the construction phase. This will provide a critical lifeline to the construction industry, which has seen the loss of more than 25 000 jobs this year, as a result of the economic recession, which has been exacerbated by COVID-19. The project will also create more than 13 000 indirect and induced jobs. Further employment will be created by the tenants that will occupy the offices, residential and retail spaces that will form part of the development.

The project will also serve as a first-of-its-kind landmark in the City for the First Nations people to reclaim, memorialise and share their heritage with the greater public. The planned Heritage Cultural and Media Centre will be operated by the First Nations people and will provide critical job opportunities to members of these communities. This initiative follows extensive and constructive engagements with the senior Indigenous Khoi and San leaders comprising the First Nations Collective.

The First Nations' rich history will be further commemorated through the



inclusion of symbols central to the First Nation's narrative in the landscaping, architectural iconography and educational signage in the open spaces.

The project will also include an indigenous medicinal garden that will be planted, cultivated and used by the First Nations people, as well as a Heritage-Eco trail and garden amphitheatre for use by the First Nations and the general public, which will provide an ideal platform to celebrate this heritage.

A large part of the development will consist of safe recreational public spaces including running and cycling pathways, public viewing areas and seating areas along the rehabilitated and clean riverbank. Twenty percent of the development will be allocated to residential use, of which

one fifth will be dedicated to developer-subsidised inclusionary housing.

The development will provide a range of socio-economic benefits for surrounding communities. It will provide an opportunity to address the injustices of Apartheid spatial planning and to rehabilitate the current degraded, inaccessible private space into a publicly accessible amenity in an urban park environment, with significantly enhanced ecological value. It will also create significant employment opportunities, anchored by major tenants, and restore and celebrate the First Nations' rich heritage and history.

In this tough economic climate, we look forward to delivering a development that presents many exciting opportunities for the people of Cape Town and the Western Cape. ■

service coordination and business support. Because hospital administrators no longer have to spend their time managing maintenance or support staff, it frees them up to focus their attention on the organisational tasks required for running the facility and caring for patients. Doctors and nursing staff feel empowered to perform their jobs optimally as the environment is clean, safe and well-maintained and downtime and disruptions are kept to a minimum. Visitors and patients benefit from receiving better care and the entire treatment process becomes a more enjoyable and humane experience. We believe this helps to create a win-win situation for all the parties involved!" Lydia says.

She highlights that hospitals have peace of mind when they outsource their FM services because they know the job will be done to an excellent standard. "We are contractually bound to perform certain services and our clients have the right to penalise us if we fail to deliver. We hold our service providers to the same standard. Problems that are left unattended can snowball very quickly – especially in a hospital environment where everything is connected. A problem in the kitchen, for example, could end up having a negative impact on waste management, which in turn will jeopardize cleaning and ultimately the health, safety and comfort of the patients and staff," she clarifies.

Because transparency and accountability are vital, FM Solutions incorporates the use of state-of-the-art technology to help them keep track of all the tasks they perform. The clients are provided with detailed, monthly reporting regarding how many of the jobs were planned or unexpected and how quickly the problems were solved. Most importantly, it allows them to track and manage the cost and expenses, prolong the lifecycle of the assets and ensure the reliability and overall efficiency of the facility.

The shape of things to come

Looking ahead at what the future holds for hospital management in South Africa, Lydia says the FM Solutions team is passionate about helping the country's healthcare system flourish and run optimally.

"We work in close partnership with hospital administrators and the Government to achieve their stated objectives. Bringing us on board means that cumbersome and lengthy procurement processes are avoided. The turn-around time for repairs is reduced and the entire management process on the ground just becomes much smoother and quicker. I believe the future for hospitals in our country shines brightly and that public hospitals will be able to dispel the stigma of being run-down, ineffectively run hospitals if they accept the helping hand that is offered to them," Lydia concludes. ■

DRIVEN BY DIVERSIFICATION AND EFFICIENCY

Afrimat, a leading black empowered open pit mining company providing industrial minerals and construction materials, is listed in the 'Construction & Building Materials' sector of the Main Board JSE Limited since 2006. *Construction World* wanted to know about its hugely successful diversification process and how the company goes from strength to strength despite challenges.

What is Afrimat's vision?

Our vision is to be globally respected for excellence in unlocking and enhancing the earth's mineral potential to build a better world. This really boils down to being exceptionally good at what we do and doing that with real integrity.

What is the company's unique selling point?

Afrimat's assets normally possess at least one of three competitive advantages:

- Unique metallurgical content resulting in sought-after quality
- Geographical location resulting in favourable logistics
- Structural low cost resulting in exceptional competitiveness

Given our wide range of resources and wealth of expertise, we have the opportunity to fulfil our clients' wider needs. We pride ourselves in our fast reaction times, transparent communication, honesty and flexibility.

A big part of Afrimat's success has been its diversification strategy. Explain what this strategy is?

Afrimat's core skill is the efficient operation of smaller mines. We honed this skill in the quarrying industry, then developed it further when we entered the industrial minerals sector and our entry into bulk commodities has taken it even further. Our entrepreneurial culture is key in Afrimat's growth strategy. We are always looking for opportunities to buy businesses which are not performing to their potential and turning them around to ensure continuous growth and diversification within the group.

The diversification strategy commenced in 2009 after the worldwide economic crisis of 2008. We realised that our exposure to the South African construction industry could pose a risk. Our first step was the acquisition of Glen Douglas Dolomite in 2010, followed by the Clinker Group in 2012, Infrasons in 2013 and Cape Lime in 2016. We acquired Demaneng in 2017, acquired a minority stake in Unicorn Capital Partners (UCP) early in 2020 and we are busy with the acquisition of the remaining shares in UCP. Afrimat has also recently announced the

acquisition of Coza Mining which has grown its iron ore business in the Northern Cape significantly.

Because of this approach we have been able to continue to deliver solid results even in a difficult economic climate.

What are Afrimat's key divisions?

Construction Materials, Industrial Minerals, Bulk Commodities, Contracting Services

What sets you apart from its competitors?

With more than 50 years of experience our clients are sure to get expert advice, quality products and consistent delivery of services.

What is Afrimat's geographical footprint?

We are based in eight of the nine provinces in South Africa (Western Cape, Northern Cape, Eastern Cape, Free State, KwaZulu-Natal, Mpumalanga, Gauteng and Limpopo) as well as Mozambique and Mauritius.

What is the company's policy regarding environmental sustainability?

Afrimat is committed to delivering sustainable growth and wealth creation for shareholders and at the same time

protecting the environment and enhancing the quality of life of its employees and empowering communities affected by its operations.

As such the company's vision, mission, values and strategic objectives are integrated into policies, procedures, decision-making processes and operations, with sustainability as the ultimate objective.

Afrimat's Social, Ethics & Sustainability Committee is responsible for monitoring and regulating the impacts of the group on its material stakeholders and environments. Although management is tasked with overseeing the day-to-day operational sustainability of their respective areas of business, and reporting thereon to the committee, the board retains ultimate responsibility for group sustainability.

The group manages its environmental footprint through formal Environmental Management Programmes (EMPs) in line with local and international regulations and best practice. The EMPs focus on responsible mining, reducing emissions through upgrades to diesel-driven equipment, decreasing noise pollution, recycling products where viable and maintaining all plants at optimum working levels and efficiency. Active programmes to reduce the group's carbon footprint have also recently been introduced.

With Afrimat committed to continually upgrading and improving its EMPs, it has today become well renowned and respected in the industry in this regard.

Further, third-party audits by ASPASA, SARMA and external consultants support our environmental conservation and protection efforts and provide added opportunity for refinement of its EMPs.

Environmental progress reports are submitted annually to the Department of Mineral Resources in terms of mining rights requirements. In addition, mine rehabilitation assessments are conducted by external consultants and provisions are raised to meet these future obligations.

Afrimat values staff engagement as this promotes the sustainability of the company. How does this contribute to company policy?

We believe that a business can only remain successful if it has highly competent people



who work in an environment where they feel valued and engaged. We have defined our desired company culture and call it The Afrimat Way. It is a high performing culture but also a culture with an atmosphere of joy and positivity.

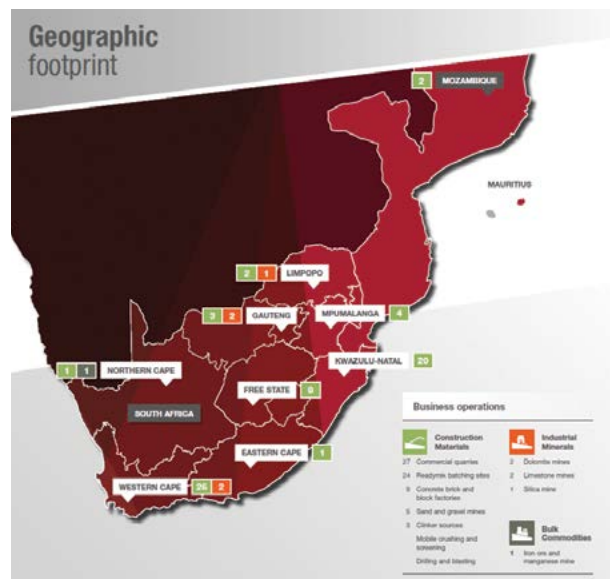
Afrimat currently employs 2 289 employees across South Africa. The Group prioritises ongoing training in order to raise standards of performance and productivity, offering internal courses and using external suppliers to facilitate continuous development of its skills base.

A focused training division is dedicated to providing all employees with the opportunity of expanding their skills and qualifications. In line with succession planning, candidates have been identified and are receiving personal mentorship in furthering their formal education and operational knowledge. Focus is on the areas of mechanical and civil engineering as well as management, where previously disadvantaged candidates have been appointed as Trainee/Assistant Managers as part of two-three year development programmes.

Afrimat operates in a potentially dangerous segment: how do you ensure the health and safety of employees?

Afrimat cares for the wellbeing of all staff and recognises its workforce as a meaningful and important contributor towards its core business. It is the company's policy to use our Health & Safety management system to do all that is reasonably practical to prevent occupational diseases, personal injury, damage to property and to protect all employees, visitors, contractors, public, interested and affected parties from foreseeable work hazards, insofar as they come into contact with the operations or are exposed to the performance within the company.

We follow a pro-active and participative approach towards Health & Safety management both within the boundaries of our operations and the integration thereof



with surrounding areas. This means that we endeavour to pro-actively identify and resolve potential Health & Safety risks before they manifest as accidents, incidents or non-compliances. We believe in leading by example and encourage and empower staff in appropriate ways to work together as a team to fulfil their responsibility. ■

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CONSTRUCTION CHEMICALS

PLACING ROAD CONSTRUCTION TRAINING IN THE FAST LANE

Hillary Construction continues to invest into quality training with a specific focus on developing vibrant and long careers in the civil-engineering construction sector.

Notably, the lion's share of young South Africans who have been given the opportunity to participate in the company's 'Gap Year' initiative are from previously marginalised areas of the country, with a significant focus of the training also geared at attracting more women into the civil-engineering construction industry.

The programme was launched in 2017 as a pilot project by the, Human Resource Development Department of Hillary Construction. It was initially aimed at attracting enterprising matriculants to the civil-engineering construction sector and has since been extended to include N6 civil-engineering interns who need to complete 18 months of workplace training to complete their National Diplomas.

The most promising individuals are awarded bursaries by Hillary Construction to study for a Civil-Engineering Degree or Diploma. As many as 18 of the just under 50 candidates who have participated in this initiative thus far are now furthering their education at universities or Technikons.

An additional 12 individuals recently started their four-month-long training at Tjeka Training Matters' state-of-the-art training and trade-testing facility in Randfontein as part of this year's Gap Year programme. Notably, eight individuals from this group are women who, once they have completed their theoretical training, will be deployed on Hillary Construction sites for practical training.

Tjeka Training Matters has been providing the road-construction training on behalf of Hillary Construction since the launch of the initiative.

Hillary Construction continues to place significant credence on training, which continues to provide a return-on-investment. Hillary Construction has retained Tjeka Training Matters as its preferred training

provider considering the very high quality of its road-construction training which, the contractor says, "remains unrivalled". This is evidenced by the feedback it continues to receive from the learners who have participated in the programme, backed by their solid performance on our road-construction projects. Importantly, Tjeka Training Matters is a registered private technical vocational education training (TVET) college that provides training that is accredited by the Construction Education Training Authority.

Frans Toua, Chief Executive Officer of Tjeka Training Matters, lauds the high quality of learners that the 20-year-old TVET college has received from this client over the years.

"Their learners are very enthusiastic and ambitious. Certainly, this has made a great contribution towards the overall success of the training service that we continue to provide this leading civil-engineering contractor," Toua says.

Candidates apply for the training by submitting their CVs to Hillary Construction via its website.

Importantly, they must have maths and science at matric level with an average pass mark of 50% and be willing to undergo a psychometric evaluation to measure their mental capabilities and behavioural style, as well as their suitability for the road-construction industry.

The elective component of the 12 month-long National Certificate in Road Construction Works NQF3 learnership covers road maintenance, layer works, bitumen surfacing, stormwater drainage, culverts and kerbing. These are complemented by the core units, namely engineering drawings, quality and production, in addition to health and safety.

Certainly, keeping the young learners

motivated is also key to the success of Tjeka Training Matters' training.

They receive mentorship and coaching from an experienced team of trainers. It includes Solly Mqhamkana with support from Ronnie Jacobs, Operations Manager of Tjeka Training Matters' Randfontein facility. "They listen to you and make sure that you understand right from the word go. The training has been fantastic, and I am excited to continue learning more about my chosen field," Patrick Semenya says.

The 27-year-old Semenya is participating in the initiative to gain the 18-month practical training he needs to complete his National Diploma in Civil Engineering. This is an important first step taken towards achieving his goal of enrolling for a degree as a civil engineer and later registering with the Engineering Council of South Africa as a professional.

One of the highlights of the training for him thus far has been the installation of precast-concrete stormwater pipes and he is now also looking very forward to helping to repair potholes in the area as part of his practical component of his learnership. "The more you learn, the more you will be able to master. I have an enquiring mind that wants to learn as much as possible about civil engineering, especially road construction," he says.

Meanwhile, Geraldine Rademeyer is following closely in her brother, Ignatias', footsteps. Ignatias is now studying for a degree in civil engineering at the University of Pretoria having received a full bursary from Hillary Construction based on his stellar performance in the 2018 Gap Year programme, including completing his learnership at Tjeka Training Matters with flying colours.

"I know that I can do it because my brother did it. This is despite me being a





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woman that is very excited about working in an industry that has long been dominated by males," says Rademeyer, who is 19 years of age and recently completed her matric, which included technical subjects.

She says that she has already learnt a lot from Tjeka Training Matters and is looking forward to completing her learnership and working one of Hillary Construction's current projects. Like Semenya, she praises the quality of the training that she has received from the TVET college.

Toua concludes by noting that he is proud of Tjeka Training Matters' long track

Importantly, they must have maths and science at matric level with an average pass mark of 50% and be willing to undergo a psychometric evaluation to measure their mental capabilities and behavioural style, as well as their suitability for the road-construction industry.

record working with this prominent road construction contractor.

"Hillary Construction continues to show that it takes training very seriously. Its approach transcends merely contributing

towards the scorecard, with many young South Africans having been afforded a well-deserved opportunity to start careers in an exciting industry by participating in the Gap Year programme." ■

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CELEBRATING COMPLETION OF R377-m Pampoennek Road in Brits

Engineering consultant Zutari has celebrated its involvement as part of the professional team on the R512-PWV3 Pampoennek Road in Brits in the North West Province. Built at a cost of R377-million on behalf of the South African National Roads Agency SOC Limited (SANRAL), the road stretches from the R512 to the west of the dam, and connects directly to the N4 to Rustenburg through Pampoennek.

The project was officially opened by Transport Minister Fikile Mbalula, in partnership with SANRAL and Madibeng Local Municipality, on 3 September 2020. Zutari, responsible for the Design and Construction Supervision (Project Management and Quality Control), was represented at the official opening by Engineer's Representative Hendrik Louw, Client Director for Transport Phil Hendrik and CFO Joe Ndala. Louw has been working on SANRAL and SANRAL-related projects for the past 12 years.



There is now a link between the North West Province from the west of Pretoria and Johannesburg.



Hendrik Louw, Phil Hendrik and Zutari CFO Joe Ndala with Transport Minister Fikile Mbalula.

Motorists will now enjoy a free flow of traffic, as well as there now being a better link between the North West Province from the west of Pretoria and Johannesburg. The completion of this 30-month project demonstrates the ongoing commitment by SANRAL in investing in road infrastructure as part of its Horizon 2030 proactive response to improve the national road transport system.

The project brief was construction of National Route 4 Section 12 (PWV3) from km 69.985 at the interchange with Road 980 to the interchange between the project road and Road P123-1 and to km 76.170. The road traverses a mountainous terrain in a north-westerly to a south-easterly direction. This resulted in a vertical alignment with a sub-section in deep cut and other sub-sections on high fills. The cut has a maximum depth of about 19 m while fills will reach a maximum height of 18 m. The project included construction of various on-site culverts, a bridge structure at the interchange with Road P123-1 and a game underpass south of the cutting.

The new construction was 6 km of undivided dual carriageway, with interchanges at P123-1 and 980, and resurfacing of Ramp A, De Rust. There were three soil-nailed and Titan anchor retaining walls at the Magaliesberg Neck, with a portion of contiguous piled retaining wall. The culverts were installed at the De Rust interchange, along with various gabion structures and erosion protection.

Zutari's design scope was the vertical and horizontal alignment of the road and the design of various structures. This included a bridge on the southern end, 75,8 m long and 26,6 m wide, and the design and optimisation of the geotechnical aspects in the cutting, such as three soil-nailed and Titan anchored retaining walls finished in a Rockscape finish to mimic the natural environment. The construction supervision entailed project management and full-time quality control monitoring on-site. As part of the scope, the optimal utilisation of the on-site soils was closely monitored and managed by the site team.

The mountainous terrain and the limited width in the cutting through Pampoennek made the optimal vertical alignment through the cutting quite a challenge, notes Louw. "In an endeavour to supply a superior product while keeping the client's interests and budget at heart, we optimised the vertical alignment to ensure a balance between the cut and fill materials, while taking the natural topography and on-site soil conditions into account," he elaborates.

The consulting team and contractor carried out investigations in the cutting in a grid pattern (just over 60 blocks in total per horizon) in 3-m-deep horizons to ensure optimal utilisation of the on-site materials. The construction of fills to a maximum of 18 m in height was quite a challenge, as settlement can be detrimental to the final product, which required strict quality control.

Due to the poor-quality material, the biggest challenge posed was to fit the full width of the roadway the road reserve within the cutting. This had a 33,2 m surfaced width, which is six lanes, with 2 x 3,9 m wide concrete side drains, for a total width of 41 m of roadway in the cutting. Various designs were considered, with the final choice being

Continued on page 38 ...

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Inspiring growth through consistent delivery of solutions that empower our people and our customers.

The Aggregates Division is a key division within AfriMat Limited producing aggregates of a wide variety of sizes and technical specifications, primarily with products including stone, laterite and sand mainly for large-scale civil engineering and infrastructure projects. The Aggregates Division is located in eight of South Africa's provinces.

The Readymix Division supplies concrete primarily to large-scale civil engineering and infrastructure projects through fixed and mobile readymix plants, where concrete is batched on demand and then transported to site by concrete mixer trucks. Concrete Based Products include bricks, blocks and readymix. Close to 90% of the division's raw material needs (excluding cement) are sourced from the group's own quarries. While the mobile concrete batching can be set up in any part of the country, the fixed plants are based in the Western Cape, KwaZulu-Natal, Free State and Mpumalanga.

The Aggregates Division and the Concrete Based Products Division are part of AfriMat Limited, a leading black empowered open pit mining company.

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CONSISTENTLY DELIVERING

PAVERS AND KERBS ADD FLARE to new Olifantsfontein fire station

The new multi-million-rand Olifantsfontein Fire Station that commenced construction in late 2019, has a most impressive forecourt paved by Technicrete Double Zig Zag (DZZ) pavers and Fig 3 kerbs. The fire station, which is being built by the City of Ekurhuleni, will replace the old fire station that was built in the 1940s.

Fire station forecourts need durable paving due to the heavy load of fire engine and emergency vehicle traffic.

The new Olifantsfontein Fire Station will have housing and forecourt space for five fire trucks, three ambulances and a helipad, making the choice of paver

for the station an important factor.

Technicrete sales consultant, Luan van der Berg, said "Our DZZ pavers are particularly suitable for forecourts and industrial areas that will have regular usage by heavy load vehicles travelling upon them, such as the Olifantsfontein Fire Station and their large heavy-laden fire trucks. It is an economical paver, but still gives the project an impressive forecourt appearance and our Fig 3 kerbs added the finishing touch".

Pmash Project Management's site agent, Zikhona Lukani commented "We wanted a manufacturer and supplier of pavers for this project that would not only offer a

reliable delivery of the pavers, but who had solid experience in assisting in the choice of paver for this distinctive application. The pavers we required needed to be able to withstand the harsh and frequent traffic load that a fire station has. We found these elements with Technicrete, who always met delivery scheduling and offered sound technical assistance".

Between February and March 2020 Technicrete supplied 4 400 m² of grey 80 mm DZZ, 1807 m² of grey 60 mm DZZ and 1 000 m of Fig 3 kerbs to the Olifantsfontein Fire Station project. "One of the perks of being nearby and having a manufacturing plant that always meets orders, is what enabled us to meet the deadlines required by Pmash Project Management," said van der Berg.

Technicrete's DZZ pavers are available in a variety of colour tones and sizes. Apart from fire station forecourts they are ideally suited, due to their durability and longevity to domestic driveways, municipal parking areas, pedestrian pavements, pathways and commercial developments. Petrol station forecourts, industrial and factory roads, suburban streets, heavy duty loading bays, platforms and industrial areas used by forklifts and other yellow metal equipment.

Technicrete is a certificated member of the Concrete Manufacturers Association and has been involved in a variety of local government infrastructure projects as well as private and commercial developments. ■



... continued from page 36

vertical retaining walls on the left-hand side of the cutting and a contiguous piled wall on the right-hand side.

A full-time Designated Environmental Officer and Environmental Control Officer oversaw the rescue and reinstatement of indigenous vegetation. The installation of the corrugated iron game underpass connects the nature reserves on either side of the freeway. Any blasting and associated activities that could potentially have disturbed the breeding processes at the Skeerpoort endangered Krantz vulture breeding colony had to be concluded during the small window between the last nestlings leaving the nests and the next year's copulation rituals.

During the initial months of the project, a plant search-and-rescue was conducted whereby 3 556 small plants and shrubs were rescued from within the affected road reserve. These plants and shrubs (with some of their seedlings) were re-established next to the road and in the cutting during the final months of the project. In addition to the rescued plants, 1 147 indigenous trees and 561 indigenous shrubs, all from local nurseries, were planted in the cutting and along the road reserve. The project was audited on a monthly basis in terms of its environmental compliance.

Local labour and sub-contractors received both on-site and

accredited training. The training provided was for NQF levels 3 and 4. Additional Contractor development training was also provided to 15 identified local SMME contractors. A total of 209 full-time local labourers were employed on-site. A certain percentage of the expenditure for local SMME contractors was allocated to women-owned enterprises.

"Zutari has a long-standing and deeply-invested skill set when it comes to the design and construction supervision of road projects," notes Louw. It is fully geared for the planning and design of such projects, with a wealth of knowledge in geometrical design, structural design, pavement design, materials and geotechnical expertise. In addition, Zutari has deeply-rooted knowledge and experience in construction supervision, contract administration and project management skills.

Commenting on the successful outcome of this project, Louw concludes: "This is just a confirmation that Zutari is the leading consultant on our continent. We pride ourselves in delivering products of superior quality and value our relationships with our clients. This was an awesome project delivered by an awesome team." The team included Grinaker-LTA and Lubocon Civils on the contracting side. ■

ANOTHER SUCCESS STORY

As a leading supplier of construction materials and technical solutions, AfriSam was instrumental in the successful execution of a project in Spartan, Kempton Park. Working closely with contractor, DM Bodenstein Projects & Construction, AfriSam leveraged its expertise to create yet another concrete possibility the moment the lockdown ban was lifted on construction activity for essential services.

Appointed to undertake a project relating to the transport and distribution logistics for the client, DM Bodenstein Projects & Construction brought its experience on similar and, in fact, larger projects to the contract. The company is owner driven with a solid track record in delivering quality projects on time.

Phase 1 of the project was completed last year and comprised access and security structures. Phase 2, 3 and 4 comprise the construction of three surface beds in the storage yard to carry the static and dynamic loads of containers and heavy delivery vehicles, as well as the installation of fire hydrant lines and sleeving for all services and all paved walkways.

With heavily loaded forklifts with up to 98,17 tons on the front axle, the challenge was to design and construct concrete slabs to carry these loads. The surface beds are only 300 mm thick.

"We believe we secured this contract based not only on our experience and ability to offer a competitive price, but also because we were able, through our relationship with AfriSam, to offer technical solutions that would meet the specific application requirement," Dewet Bodenstein, director of Bodenstein Projects & Construction says.

This solution was found in a modified AfriSam Surfacebed mix with the addition of Oxyfibre, supplied by CHRYSO Southern Africa. In consultation with the AfriSam Centre of Product Excellence and the technical team from CHRYSO Southern Africa, a high dosage rate of 3 kg Oxyfibre per cubic metre of concrete was determined as the optimum application for these surface beds.

"The project specification called for a 40 MPa concrete, 125 mm slump, with a 22.4 mm aggregate. The addition of the Oxyfibre, with a strand length of 40 mm, required careful monitoring of the slump at all times," Bodenstein says.

The high density of fibre in the mix necessitated very thorough mixing of the concrete to ensure that the fibres were evenly dispersed. As AfriSam's readymix plant in Spartan is less than 2 km from the construction site the concrete trucks arriving on site had to stand for another 10 minutes to complete the required mixing time.

Some 1 800 m² of fibre reinforced concrete was placed using an AfriSam pump, and Bodenstein says that placing the pumped concrete is much easier and faster when the operator does not have to navigate steel reinforcing. In total all four phases will equate to about 7 000 m².

"Another major advantage of using fibre instead of steel mesh is that the fibre disperses throughout the concrete matrix, facilitating a multi-directional plastic shrinkage cracking reduction matrix," he explains. Seven-day cube results achieved 29 MPa, and with appropriate curing the required 40 MPa specified strength at 28 days was achieved. While the cold weather and windy conditions have slowed down the curing process somewhat, it has had no detrimental effect on the placing of the concrete.

"The AfriSam readymix plant's proximity to the site,

coupled with AfriSam's track record of excellent support service, made the company an easy choice," Bodenstein says. "And their readiness to supply material at short notice once the lockdown was eased, and the support received from their Centre of Product Excellence and sales representative on site ensured that the project could proceed without a hitch.

"This is our first experience using Oxyfibre at this scale, and having experienced the advantages and ease of use, we are confident that this is the way of the future for reinforcement."

Queen Mabunda, territory sales manager at AfriSam concludes: "We pride ourselves on giving excellent service and building lasting relationships to ensure the successful execution of a project. Working with DM Bodenstein Projects & Construction on this project proved once again that supplying appropriate materials, supported by dedicated service is the AfriSam way." ■



TAKING RESPONSIBILITY for concrete onsite

Surface mining industry association (ASPASA) says its members, who supply sand and aggregates, as well as readymix concrete to the construction industry, are alarmed at the lack of responsibility taken for concrete used on construction sites.

This is increasingly leading to disputes on site where the blame is often incorrectly placed on the shoulders of the material suppliers. They then carry the burden of proving materials were delivered as specified and prescribed.

ASPASA director, Nico Pienaar, says many of the country's sand and aggregate producers also operate readymix concrete plants on their sites and are calling for fairer practices when it comes to proportioning blame when things go wrong.

"During recent construction industry-wide discussions it was evident that those involved throughout the construction supply chain do not want to take responsibility and would prefer it stays with the concrete supplier - even despite various onsite factors that can affect the quality of concrete.

"That is why we say there must be a clear cut-off at every stage where the responsibility changes hands from the supplier to the contractor and the site engineers. A good example of this is where readymix trucks wait for long periods of time to offload concrete with potentially significant effects on the quality, consistency, and workability of the concrete.

In these events the suppliers should be absolved of liability and it should fall squarely on the shoulders of the engineer in charge.

"In order to avoid these and other problems in future we once again want to advise our members, and all other suppliers in the industry, to take the time to carefully negotiate all requirements of the supply agreement upfront. When a contract is being negotiated there should be a meeting with the client, the engineer, the contractor, and the suppliers to set out the rules and to agree on the various issues.

"Agreement needs to be reached on specifications, material requirements, testing methods onsite, as well as delivery and timeframes for the placement of the concrete.

Laboratory procedures also need to be discussed and methods used internally, as well as by accredited laboratories that will test the quality of the materials. With these types of agreements in place ASPASA hopes to see fewer disputes in future," says Nico.

He concludes that the association is also taking a further, proactive approach to preventing disputes with the compilation of a site meeting guideline and process documents to be used by members when accepting supply contracts. These will be made available from the association when completed. ■

ASPASA director, Nico Pienaar.



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7 AND 8 SERIES

The 7 Series units are primarily suited to the pulp and saw mill environments for their pick and carry capabilities and ability to stockpile at heights, while the 8 Series units are ideal for use in other industries due to each modular material handling machine able to be custom-built to the client's specifications with an efficient design that assists in maintaining productivity. Undercarriage options range from mobile, crawler, rail, gantry and stationary, and can also include optimally raised units with pylon, while different quick-coupling systems and a large range of attachments highlight the machines' versatility.

Claude Delport, Sales Executive for SENNEBOGEN at Babcock, says that SENNEBOGEN's E-Series of material handling equipment presents customers with a choice of new-generation fuel-saving diesel engines or environmentally friendly electric motors, with the latter capable of running up to 100 000 hours before needing to be replaced.

The state-of-the-art Tier 3 emission diesel engines have optimised engine settings for reduced fuel consumption and modern exhaust gas treatment for cleaner air. Electric motors provide operating cost reductions of up to 50% compared with conventional diesel engines, do not produce emissions, and operate at very low noise levels.

SENNEBOGEN 8 SERIES

Delport says that in the last two years Babcock has sold several 830R electric units to a large steel mill in Gauteng for their scrap processing and feeding of the melt pots division where they have been performing well.

At a saw mill in KwaZulu-Natal, a customer is using an electric unit to pick and carry timber, stack and feed the mill. This customer opted for the 825-electric unit with a railway type undercarriage in order to suit existing infrastructure at the sawmill. The machine has handled the application extremely well, and the customer is impressed with its performance.

SENNEBOGEN 735E

Early this year Babcock delivered SENNEBOGEN 735E diesel units to a log yard and pulp mill where the customer required a machine capable of pick and carry and stockpiling at heights of up to 10 metres, as well as being able to tow a trailer. "The 735E meets these needs with an elevated cab providing the operator with unobstructed views," says Delport.

Regarded as a true pick and carry machine, the 735E provides a rear-hinged boom for optimum weight distribution, high load capacities, compact measurements and small slewing radiuses for manoeuvring in narrow spaces between stacks, and a stacking height of approximately 10 metres.

With a robust undercarriage and two powerful, quiet travel motors, the 735 can pull up to 30 tonnes on a trailer, and a rear boom provides unobstructed views from the cab.

As with all SENNEBOGEN machines, the 735E offers easy access to service points, maximum operator comfort and safety, and fuel-saving efficiency that lowers operating costs and environmental impact. Its towing function permits the transport of more product per trip, thus increasing productivity and reducing operating costs.

SENNEBOGEN 730E

The compact SENNEBOGEN 730E has also featured on Babcock's sales list and is ideal for sawmill sorting line applications and offloading of logs and feeding the mill. Recently, Babcock replaced a well-used 730E unit which was first purchased in 2006 by a sawmill in Mpumalanga. Delport says the customer has long favoured the capabilities of the 730E and has kept to the brand and model when deciding to replace older units.

The 730E runs on tyres, making it mobile on site, while its 360-degree rotation makes it extremely versatile for loading and offloading of trucks and rail wagons, and sorting and stacking in confined spaces.

A formidable driving machine with high safe working loads, the SENNEBOGEN 730 impresses with its powerful drive, convenient reach, and compact measurements. Thanks to a 360-degree slewing upper carriage, the material handler can navigate narrow spaces without the need for complex turning manoeuvres.

Wide range of models and aftermarket support

Featuring high performance, uncomplicated quality components, and long product service life, the SENNEBOGEN machinery available from Babcock includes a range of material handlers, duty cycle cranes, lattice boom crawler cranes, port cranes, and mobile harbour cranes with a lifting capacity of 125 tonnes. All SENNEBOGEN machinery is backed by Babcock's nationwide network of service centres and aftermarket support, offering customers around-the-clock local support that can be quickly and easily accessed. ■



ALL-AROUND PERFORMANCE WITH EASY OPERATION AND MAINTENANCE

The newest Cat® bulldozer brings back familiar components to meet the needs of customers who require a robust machine that is easy to maintain, productive and economical to own and operate. Fully mechanical components and robust structures offer a dozer that is tough in a wide range of conditions and provides a quick return on equipment investment. The D6 GC is an addition to the Cat dozer lineup with 158 kW of nominal net power and operating weight ranging from 21 630 to 22 710 kg.

Fully mechanical

Like the long-popular D7G dozer, the D6 GC is powered by the well-known Cat 3306 engine. A 3-speed planetary powershift transmission and Caterpillar exclusive torque divider ensure that more useable power gets to the ground for solid all-around performance in a wide variety of applications. These mechanical components make up a robust power train that is easy to diagnose and maintain, even in remote locations.

Easy to operate

Operators will find familiar 2-lever clutch and brake steering controls. Traditional blade controls and an easy-to-read analog dash display add to the simplicity and ease of operation.

Choose a dozer with either open (canopy) or enclosed cab, both with Integrated Roll-Over Protective Structure (ROPS/FOPS) for comfort, excellent visibility and added safety. Suspension seat includes a built-in retractable seat belt, and the cab is available with air conditioning for added operator comfort.

The elevated sprocket undercarriage provides excellent ride balance and puts more track on the ground for added stability and performance. Heavy components are located low in the machine delivering a low machine center of gravity compared to its D7G oval track predecessor.

Maintenance made easy

Everything about the D6 GC is designed to help make it easy to own. Familiar systems and widely available parts help make maintenance and repairs easier, especially in remote locations.

Efficient aluminum bar plate cooling package delivers excellent ambient capability. The durable system is highly abrasion resistant and designed to minimise plugging.

The elevated sprocket helps make maintenance easier with modular components that are easy to remove/install for service. Segmented sprockets are easy to replace. The undercarriage is optimized with strong structures for stability and durability. The two-piece track roller frame has a maintenance-free recoil system, and the sealed and lubricated track helps prevent internal wear and maximise bushing life.

To save time on daily maintenance, the D6 GC features grouped service points and a minimal number of daily grease points.



Equipped for the job

Semi-Universal (SU) blade provides more capacity than the former D7G dozer for more productivity. Or customers can choose a robust mechanical tilt Angle Blade to suit the work they do. Rear attachment choices include ripper or rigid drawbar. Several options are also available for dealer-installed winches.

A variety of factory options are available to increase the durability in tough applications like forestry and land clearing. Cab and canopy machines can be ordered with sweeps to help protect against falling debris. Front, side, rear and/or door screens are available to surround the operator station.

Extra guarding helps protect the fuel and hydraulic tanks, transmission and air pre-cleaner. Heavy-duty bottom guards are standard and added sealing helps keep debris out of the engine compartment. SU and Angle blades are available with brush rack for more carrying capacity and to help protect the machine from debris. Outfit the machine with a dealer-installed winch for towing capability.

For extreme cold weather work, the D6 GC can be outfitted with features like heavy-duty batteries, a solid engine hood and an engine coolant heater connection to aid frigid weather starting. Manually adjustable reversible fan varies air flow through the radiator and optional in-line fuel heater aids operation in colder climates. ■

WearCheck moves to Westville

Condition monitoring specialists, WearCheck, recently relocated their head office and main laboratory from Pinetown to Westville, just outside Durban. The company's Durban transformer laboratory also moved to the same premises.

WearCheck's new laboratory and offices are at No. 4 The Terrace, Westway Office Park, Westville.

Managing director of WearCheck, Neil Robinson, says customers are benefiting as the new location is very accessible from the N3 freeway and is also closer to many customer operations, making sample drop-off even easier.

'The consolidation of head office staff, our oil analysis laboratory and the transformer oil laboratory and staff all under one bespoke roof has streamlined our business and facilitates the quick and easy processing of samples,' he said.

Formed more than 40 years ago in 1976, WearCheck moved into the Le Mans Place, Pinetown head office in 1992, from where it has operated for the past 28 years. WearCheck's 2017 acquisition of Transformer Chemistry Services – coupled with a growing workforce, expanded service offering and swelling customer base – created the need for a larger workspace, all at one address.

The WearCheck flag flies proudly over 17 world class laboratories in nine countries across Africa and beyond. The South African laboratories are in Johannesburg, Durban, Cape Town and Middelburg, while the international laboratories are in Zambia (at Lumwana mine and Kitwe), Mozambique, Ghana, Zimbabwe, DRC, Namibia, India, and Dubai.

'We look forward to welcoming our customers to our new state-of-the-art



Managing director of WearCheck, Neil Robinson.

offices, where we combine cutting-edge technology with outstanding customer service as Africa's leading condition monitoring specialists,' says Robinson. ■

VALUE PACKS TAILORED FOR USER NEEDS



Lubrication Engineers (LE) South Africa is making its industry-leading products available in value packs designed to meet all the lubrication needs of everyday users in agriculture, boating and marine environments, among others.

'We're bundling smaller sizes of our product offerings to make available to customers, so they have everything they need to meet their specific lubrication requirements without having to purchase industrial-sized containers,' says Callum Ford, National Marketing Manager at LE South Africa.

'This offers small users better value, as well as access to

products they may previously not have been able to use, which will offer superior performance than generic options.'

Ford says customers will also be able to customise the value packs, depending on their lubrication needs. Some of the LE products available will include:

- 8800 Monolec Ultra® Engine Oil: an SAE 15W-40 engine oil that provides exceptional extended-drain service for diesel engines in mobile equipment and stationary generators for increased fuel efficiency, dependable all-weather performance and outstanding wear protection.
- Wirelife® Monolec® Penetrating Lubricant (2001): the perfect penetration solution to deal with rust in boating and marine wire applications. This product has excellent corrosion resistance and high load carrying (EP) properties. It penetrates to the core of wire ropes, whether they are running or stationary. It is also excellent as a penetrating lubricant for chains of all sizes.
- Wirelife® Almasol® Coating Lubricant (2002): a coating solution for boating and marine applications, this product a fluid wire rope lubricant that provides a tough outer coating to seal and protect against fretting corrosion, wear and rust - even under extreme load and moisture.
- Almatek® General Purpose Lubricant (1232 and 1233): EP grease for marine applications (among others) that increases uptime, reduces maintenance costs and lowers lubrication costs.
- OSE II: OSE II is believed to be the world's most environmentally safe and cost-effective bioremediation process for the mitigation of hazardous waste, spills and contamination virtually anywhere of any size, large or small. It uses a biological enzyme to convert waste into a natural food source for bacteria found in aquatic environments. Ideal for marine or agricultural oil spills or oil cleaning. ■



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Advanced integrated THERMAL CAMERA

The launch of the Cat® S62 Pro is the pinnacle of innovation, functional design and rugged durability. It incorporates the highest resolution FLIR Lepton® thermal imaging, which is a game changer for more demanding work environments, such as engineering, mining, manufacture, agriculture and wildlife. Compared with its predecessor, it is 12% more compact, with a 10% bigger screen. It is faster, more powerful and incredibly tough, making it the ultimate work phone.

With isotherm alarming, you can monitor a custom temperature range (anything between -20 degrees Celsius to +400 degrees Celsius) and add alarms to alert you when something falls within that range.

This is hugely useful and time saving when watching for machinery to reach a specified temperature, screening for unusually elevated temperatures, finding game or livestock at night, or even checking if the braai is at the right temperature.

Powered by the FLIR Lepton 3.5 and the new MyFLIR™ Pro app, the S62 Pro offers a four-fold increase in the number of thermal pixels and an unmatched feature set within the included application. For the first time, professionals and consumers can access FLIR Systems' VividIR™ image processing, enhanced MSX® (Multi-Spectral Dynamic Imaging), and visible-to-thermal blending technologies integrated into their smartphone.

Users can now vary the intensity of MSX®, which overlays visual outline detail from the scene onto the thermal image or use the new alpha blending feature to combine thermal detail with the visual image from the Sony dual-pixel camera. Together these upgrades deliver dramatically enhanced image quality, sharper images and higher thermal resolution to provide greater context and understanding of the thermal image you are seeing.

Tested to Cat® phones' demanding, market leading rugged standards, the S62 Pro is incredibly tough. It achieves and surpasses an ingress protection rating of IP68 and US military standard, Mil Spec 810H. It has undergone rigorous testing including repeated drop tests from 1,8 m onto steel, with multiple drops onto every side and corner, as well as extensive waterproof, dirt and dust proof, temperature extreme survivability, and vibration and tumble tests.

It is hygienic too – it can be fully submerged and easily washed with soaps and disinfectants or cleaned with alcohol wipes, which makes it ideal for hygiene-conscious consumers, especially during the Covid-19 pandemic. The IP69 rating has recently been added, which includes the ability to withstand washing with high pressure washers.

The S62 Pro's display has been upgraded to 5.7" FHD+ (18 x 9), and memory is now 6GB RAM and 128GB ROM. It also features a faster Qualcomm chipset, Android™ 10, and a large, optimised long life battery. The Cat® S62 Pro is fully enterprise ready. It supports Android Enterprise features, including Zero-touch, and has undergone a series of enrolment and policy provisioning tests with leading EMM solutions. Manage all the Android devices in your organisation simply. It is built for business, is rugged and ready to go anywhere – work or play. ■

Housekeeping on-site made easy

Good housekeeping on a construction site is not negotiable. When working with cement and readymix concrete it becomes even more critical that surrounding areas are free from spills and build-up, as well as keeping equipment and tools clean, to optimise functionality.

CHRYSO® Green Decap 200 is a new generation concrete stripper, which allows for the easy cleaning of all equipment and surfaces, where both hardened cementitious and readymix concrete residues need to be effectively removed. It is less aggressive in terms of its impact on both health and safety as well as the environment, when compared to traditionally used acids such as hydrochloric and nitric.

This synthetic concrete stripper dissolves nearly 15% more hardened cementitious based paste, than extremely aggressive substances such as a nitric and hydrochloric acid. The special formulation may be used, where cement and concrete spills and stains need to be removed, without damaging surfaces such as paintwork, chrome, coated steel, plastic, aluminum, glass or insulated wiring.

The stripper can be applied with a brush or a spray and is typically left for 10 minutes to react before washing the surface or equipment with clean water. The operation may need to be repeated several times, to remove stubborn residues or stains.

CHRYSO® Green Decap 200's may also successfully be used to remove laitance and as a final cleaning of exposed aggregate surfaces. This versatile product is an additional offering in



CHRYSO Southern Africa's comprehensive range of products designed to optimise the placing, performance and aesthetics of concrete.

CHRYSO Southern Africa's sales and technical teams are on hand, to discuss how CHRYSO® Green Decap 200 can ensure that unsightly cementitious-based spills and stains, do not affect a concrete project, while also ensuring that tools and equipment remain clean and functional. ■

Key specifications

- Picks up heat and measures surface temperatures from a distance of up to 30 m
- Scalable and movable regions of interest with 'hottest' and 'coldest' indicators
- Horizontal field of vision is expanded to 57 degrees to capture more of the scene
- 9 thermal colour palettes to choose from depending on the situation.
- PDF reporting
- Powerful 4 000 mAh battery
- 12MP Sony dual pixel rear camera and 8MP front camera
- Hardwearing, non-slip rubberised TPU back
- Bluetooth 5.0, NFC



Partners in SUSTAINABILITY

hansgrohe has always been at the forefront of creating state-of-the-art, sustainable kitchen and bathroom fittings that conserve our most precious liquid resource. Add to that hansgrohe's unmistakable flair for world-class design, and you have the ideal partner for modern green building projects with their own striking aesthetics.

So when Barloworld Equipment – respected supplier of Caterpillar earthmoving machinery – undertook to kit out its impressive new head office and Equipment Showroom with sustainably-designed fittings, the earth moved when Paragon Architects came on board and chose hansgrohe sanitary fittings to enhance the building's design and sustainability features.

The team left no stone – or detail – unturned as they took on the mammoth project. Project Architectural Technologist and Project Leader for Paragon, David Cloete, says, "Tackling a project of this magnitude was uniquely exciting for us. Beyond the overall design, we took a long, hard look at the minutiae that all add up to make the building more sustainable.

"For example, we have constructed the building as north-facing, to cut down drastically on energy requirements. The roof structure has made provision for solar panels, and low-rated sanitary fittings were installed to ensure minimal water usage. That's where hansgrohe's products were the perfect fit. hansgrohe mixers have the perfect energy- and water-efficiency ratings to support our green approach to the project."

Barloworld's imposing new showroom looks out over the R24 in Isando, Johannesburg. This striking new presence on the Johannesburg skyline features Paragon's trademark two-tower building approach, with the office plates being linked by an atrium and linking circulation bridge. The building is breaking ground in other ways, too, as it is the first showroom in South Africa that is entirely dedicated to large earthmoving equipment.

While the building's height has been restricted due to its proximity to OR Tambo International Airport, the Paragon team has admirably optimised the space in the one three-storey and the other two-storey section. Gleaning inspiration from classic Caterpillar earthmovers, the bubble-shaped buildings glisten in glass, floating on a podium above the parking level with a glazed-glass bridge linking it all.

hansgrohe's sleek, minimalist EcoSmart mixers not only add to

the beautifully modern and minimalist aesthetic, they reduce water consumption and energy costs on a grand scale. hansgrohe taps require just five litres of water per minute. They also decrease hot water consumption and cut down hugely on energy consumption costs. CO₂ emissions are also minimised due to lower energy use.

hansgrohe is proud to be associated with this iconic new project and hopes to contribute to a more sustainable approach to building for years to come. ■





More features

Ctrack by Inseego, a leading vehicle telematics, tracking and fleet management services provider, has added even more features to the Ctrack Iris video monitoring and telematics solution, enabling fleet operators even more control and productivity from their vehicles and assets.

By monitoring crew activities, it is possible to improve and enforce company processes and procedures and reduce theft, pilferage and stock damage. Furthermore, the video solution from Ctrack can improve vehicle route optimisation, increase load frequency and hasten turnaround times.

Ctrack Iris is a high-quality, customisable video monitoring solution ideal for rental vehicles, light deliveries, fleet vehicles, heavy commercials, general machinery and busses, and will now feature a newly developed dashcam.

Apart from a dual view (front and cab-facing) camera solution with infra-red night vision, the new three channel dash cam includes ADAS (Advanced Driver Assist System). ADAS includes a range of electronic systems that help the driver while driving. When designed with a safe human-machine interface, they are intended to increase car safety and more generally road safety.

While most road accidents occur due to human error, the automated system which is provided by ADAS is proven to reduce road fatalities by minimising these errors.

ADAS safety features are designed to avoid collisions and accidents by offering technologies that alert the driver or operations centre to potential problems.

Fatigue monitoring can be added to the Ctrack dash cam as an optional extra. This will require a third camera to be equipped to the dashcam specifically targeting the facial features of the driver, picking up on anomalies such as smoking, looking down at a cell phone or any out of the ordinary behaviour.

ADAS alerts drivers to other cars or imminent dangers and has a lane departure warning system. Video footage can be recorded in eight quality settings and real-time video streaming can be viewed on mobile devices giving fleet managers/operators absolute control over their asset.

Fleet owners can also benefit from a reduced number of insurance claims and settle claims much faster by using video evidence from the stored Iris footage. Iris can also be used to lower fuel consumption and improve vehicle maintenance through better driving, while also reducing diesel and goods-in-transit theft.

Ctrack Iris is supported by cloud-based, web software and a password protected mobile application. These platforms provide video and dashboard event management, and alarm triggers in real-time, ensuring reduced asset risk, more productive drivers, productive route management and ultimately reduced operating costs.

Ctrack Iris is a sustainable, long-term video tracking solution of the highest order, keeping your assets 'Always Visible'. ■



WATERPROOFING WITH MAPEI's Mapelastik

SA product that has always been innovative and ideal for all waterproofing applications from large sites to smaller restorations.

Mapelastik is a two-component, flexible cementitious waterproofer for protection against water ingress on terraces, balconies, bathrooms, bridges, viaducts, dams, underground structures, storage tanks, basins, swimming pools and external coatings. Thanks to its high synthetic resin content, Mapelastik guarantees protection that maintains its flexibility and impermeability to water.

When the two components of Mapelastik are mixed together, they form a flexible mix which is easy to apply in layers up to 2 mm thick, including on vertical surfaces. Mapelastik may be applied on both new screeds and existing flooring without removing old tiles.

Mapelastik also forms a barrier against the ingress of aggressive agents and has the capacity to protect concrete structures from the aggressive action of carbon dioxide and sodium chloride which are critical in the formation of carbonation and chlorides attacks; and calcium chlorides which makes it ideal for use in coastal areas. It is also resistant to UV rays and maintains its flexibility at very low temperatures (-20 °C).

New wall and floor coverings may be overlaid directly on the waterproofing membrane, which means that both the structure and the screed are protected and, over the years, efflorescence cannot form between the flooring and subfloor system.

Mapelastik is one of the many waterproofing solutions that Mapei South Africa offers. MAPEI has developed a comprehensive range of different waterproofing systems to cover most of the requirements which are commonly found on local construction projects, combined with the knowledge and international expertise to specify the correct solution needed. ■





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