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FEATURES

11 Simple steps to secure employee buy-in for office return

What steps are needed to ensure that staff return to the office?

16 Stylish yet timeless refurbishment for ANEW Hotel Hilton

The hotel was originally built in 1936 and its refurbishment was sensitive to this.

17 Waterfall City wows with three Best in SA wins

This development north of Johannesburg is still winning major awards – nine years later.

20 Gass Architecture Studios wins big at 2022 SAPOA Awards

The bespoke architectural firm won SAPOA awards.

28 Gateway celebrates 21 years of growth and innovation

One of the biggest malls in the country has played a significant developmental role.

29 SA's regional shopping malls bounce back

Flanagan & Gerard Property Groups portfolio had double digit growth.

32 South African steel construction sector triumphs over adversity of recent years

After a COVID-induced absence, the SAISC recognised excellence in steel construction.

36 Eva-Last: environmental to the core

Alternative construction materials will enhance the sustainability of timber.

40 DTSA reveals 60 FUSO Canter FE7-136 limited edition models

The trucks further celebrates its 60 years in South Africa.



REGULARS

- 04 MARKETPLACE
- 14 ENVIRONMENT & SUSTAINABILITY
- 16 PROPERTY
- 20 BUILDING
- 32 STEEL CONSTRUCTION

ON THE COVER

CASE Construction Equipment has been setting industry standards for 180 years and the latest launch is inheriting the mantle. Since introducing the first-ever integrated backhoe loader in 1957, CASE has fast become a front-runner in the backhoe industry. Now 65 years later, CASE Construction South Africa launches its redesigned and restyled 580V and 695SV backhoe loaders.

Turn to page 18





The various construction projects throughout the country can lull one into a sense that the South African construction industry is buoyant. Construction World's annual Best Projects Awards attracted 65 entries – a number last seen in 2018. In general these were 'smaller' projects as major infrastructure projects are few and far between.

Despite there been many (especially) building projects in the county, CESA's Bi-annual Economic and Capacity Survey (BECS) for the period January to June 2022, indicates that while 2022 has an improved outlook compared to 2021, projection remains below 2% for 2023/24.

And it is not only the government's slowness in awarding infrastructure projects that plays a role. The low projection is on the back of higher lending rates, which are dampening potential investment demand in combination with slower consumer demand. The declining private and public sector investment, lack of structural reforms, higher inflation and the impact of tighter monetary policy leading to higher lending rates

lead to a situation where there is less investment in construction.

The lack of investment in infrastructure development - in especially the public sector - is of grave concern. To make matters worse, this is combined with a slow pace of tenders awarded and a high percentage of tender cancellations. CESA says this has a dire effect on consulting engineering and construction companies as it affects the sustainability of such companies.

Best Projects 2022

Construction World's Best Projects awards, which will be held for the 21st time this year, attracted 65 entries in its six categories. Entries ranged from bigger projects (building and

infrastructure) to smaller projects that all showcase the excellence and depth that the South African construction industry has. The winners will be announced on 9 November and the December issue will be dedicated to the winners and entries of this competition.

Wilhelm du Plessis
Editor



OUR DECEMBER ISSUE WILL FEATURE ALL THE WINNERS AND ENTRANTS OF THE BEST PROJECTS AWARDS.



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TOTAL CIRCULATION:
(Second Quarter '22)
15 188

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PUBLISHED MONTHLY BY
Crown Publications (Pty) Ltd
P O Box 140
BEDFORDVIEW, 2008
Tel: 27 11-622-4770 • Fax: 27 11-615-6108

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JG AFRIKA CONTINUES TO HARNESS THE IMMENSE TALENT OF WOMEN

JG Afrika continues to value the immense contribution that women have made towards the growth and sustainability of the 100-year-old consultancy, as well as the larger engineering and environmental sciences industries.

The firm strives to create a workplace that is able carry on attracting talented, passionate, and dedicated women and in which they can excel in their careers and grow and develop as professionals and individuals. This is demonstrated by the many forums that are held especially for women members of staff so that they can share their views on how their working environment can be further improved for female staff. A case in point is the Gender Inclusivity Lunch that the company hosted during Women's Month in August 2022. The event was a resounding success providing an environment in which female staff were able to discuss the struggles that women have and continue to face as professionals and the importance of gender inclusivity in both the firm and the industry.

"The engineering sector has greatly improved in terms of gender representation since I started my career as an engineer in the 1980s. JG Afrika continues to play a large part in this transformation. It has already done and continues to do a lot to foster a culture of gender inclusivity. I am proud to say that we now have as many as 58 women in our team, nine of whom are in leadership roles. They include technologists, engineers, and scientists. This is in addition to the many women who fulfil important support and administrative functions. When I joined JG Afrika in 1996, I was the first and only female engineer in the firm," Jan Norris, a Director of JG Afrika, says.

However, the industry can still do more to retain women employees. Many leave the profession before they can attain professional registration with very few progressing to management which remains extremely under-represented by women. Women leave the profession because of the pressures

associated with balancing family life and their careers.

However, there are also many other reasons for them exiting the industry. Through events, such as the Gender Inclusivity Lunch, JG Afrika improves its understanding of these challenges. In this way, management can continue finding ways of better supporting women in the workplace to retain female engineers, technicians, and scientists.

"A vast pool of talent resides with women, and we should always try to find more and better ways of harnessing it. As seasoned female professionals, we owe it to the next generation to pass on what we have learnt, share experiences, and develop policies to make it easier for all these amazing young talented, passionate, and dedicated women to achieve their full potential," Norris says. Among the many initiatives that JG Afrika has implemented to retain women employees is to create a workplace in which they feel safe, as well as included and represented at every level. Women also know that they are valued and that their voices are being heard by male team members and management.

Apart from promoting gender inclusivity because it is the ethical thing to do, JG Afrika appreciates that there is strength in diversity. Notably, Fortune 500 companies with the highest proportion of women on their boards performed significantly better than organisations with the lowest proportion.

"JG Afrika has always been a place where I felt that I could develop and grow, and I have been lucky to have received great support from my male colleagues throughout my career. I didn't see a glass ceiling and I am confident that those who follow me won't either," she concludes. ☺

THE FIVE KEY SKILLS DEVELOPED IN A LEARNERSHIP

South Africa faces a unique dilemma – we have the highest youth unemployment in the world, yet there is a shortage of skilled people to fill positions in many sectors. Businesses want workers who can hit the ground running, yet matriculants don't have the skills or the understanding of the work environment to make the required impact.

So how do we solve this impasse? According to Sean Sharp, Executive Head of Sales at EduPower Skills Academy, learnerships are the only solution.

“Learnerships bridge the gap between school and work. They can provide the essential skills to help young people get onto the employment ladder and once there, build solid career trajectories,” Sharp explains.

In a structured programme, a learnership is typically a 12-month qualification. Through work-based learning, learners sharpen the knowledge and skills needed for a specific job – all of which prepares them for the workplace. But what are the key skills developed by learnerships? Three learners from EduPower explain the five key skills they have acquired during their learnerships:

1. Time Management

Time management in the working world is very different from managing your time at school. Buyiswa Mchunu says she joined EduPower with no work experience and had to learn how to manage her time. It's not only about being on time for work, effective time management is about allocating the right time to the right activity for maximum impact and productivity.

2. Communication

Unathi Fihlo says that the work experience component of the learnership at EduPower has allowed her to develop her communication skills. The Academy has a custom-fitted contact centre that can accommodate more than 400 people. What really sets it apart from other skills providers is that the learners work on real campaigns talking to clients and Unathi says she has not only learnt how to speak to different people but to express herself in a clear, more succinct manner too.

3. Problem Solving

Another skill that learners quickly develop when working in the Academy's call centre is problem-solving. Samkelisiwe Ngubane says learning how to approach problems and solve them goes hand-in-hand with communication skills. There is nothing quite like a call centre to make you comfortable with decision-making. It gives you the confidence to identify problems as they arise and come up with effective solutions on the spot.



Sean Sharp,
Executive Head of Sales at EduPower
Skills Academy.

4. Computer Skills

When Unathi started her learnership she had never even powered up a computer before let alone work on one. After only a couple of months though, she is comfortable with a desktop and proficient in several programmes. Digital skills are essential in today's work environment and with a computer at every workstation, EduPower ensures that each of its learners uses every opportunity to maximise their computer prowess.

5. Learn to dream, again

The most important skill that learnerships can teach is the ability to dream BIG. Samkelisiwe dreams of becoming a journalist because she loves news and also wants to help people who live with disabilities. Unathi's dream is to open her own creche so she can also create employment opportunities in her community. And Buyiswa wants to be financially free to provide for herself, her child and her mother.

Sean says that EduPower not only teaches its learners the skills they need to prepare them for the world of work but also inspires each of its learners to dream, lighting a fire that will change their lives forever.

“Learnerships can play a pivotal role in providing opportunities for youngsters and developing the skills and attitudes that businesses need,” Sharp explains. More learnerships are however needed to tip the scales and get young South Africans working.

“Business can make a fundamental difference by investing in the growth and development of our youth. This will mean business gets the practical skills and theoretical knowledge they need whilst enabling our youth to become skilled, competent, and well-rounded contributors to South Africa's economy, workforce and communities.” ©



BASE ISOLATION BENEFITS AND APPLICATIONS IN THE SOUTH AFRICAN CONTEXT

South Africa may not be a country that experiences frequent or sizeable earthquakes, but the possibility still exists, and our infrastructure needs to be protected. This is where the method of base isolation demonstrates its value. Kabelo Seosenyeng, Design Engineer at GIBB Engineering, discusses the use of base isolation and how it can protect South Africa's built structures.

The base isolation system is essentially a method of decoupling or isolating the structure's supporting base from its foundations. This reduces the transfer of vibrations between the structure and its foundation, which significantly reduces forces transferred to the structure from its foundations.

The benefit of this method becomes apparent when considering earthquake-induced ground movement without base isolation, where vibrations from the earthquake are transferred directly to the base of the structure without any attenuation. For structures with a base isolation mechanism, earthquake forces transferred to the structure are significantly reduced, which results in a more earthquake-resilient structure.

Traditionally, civil structures have a concrete base rigidly fixed to the ground. This direct coupling between the ground and the structure's base means that all vibrations experienced from the ground are directly transferred to the base of the structure. Base isolated structures, however, are constructed with base isolation devices between the base of the structure and the ground.

There are two main types of base isolation: elastomeric/rubber isolators and sliding isolators. The primary function of both types is to reduce vibrations induced on the structure, provide adequate stiffness to restrain the movement of the structure due to vibrations, and to dissipate energy induced by ground motion on the structure.

Base isolation systems are often coupled with energy dissipators to reduce the energy that the structure is subjected to. These dissipators can take the form of various mechanisms, but commonly a lead/metallic core at the center of the bearing is used which dissipates energy through shear plastic deformations or through dedicated damping devices such as viscous fluid dampers or friction dampers.

South Africa is a particularly stable region in terms of seismic risk; however, for critical structures with a long service life, designers often have to consider longer earthquake return periods during design. For example, in the design of dams, earthquake return periods for as long as 1 000 to 10 000 years are often considered.

Longer earthquake return periods

often result in a requirement for such structures to endure significantly higher magnitude earthquakes compared to ordinary structures where earthquake return periods of up to 100 years are typically considered. As such, despite South Africa being a stable region, earthquake consideration becomes an important aspect of design for critical infrastructure, and base isolation is one of the available and well-proven methods for making structures more resilient if they are susceptible to earthquakes.

The technical benefits of a base isolation system to earthquake-prone civil engineering structures are undeniable, including:

- Significant reduction in relative displacement/distortion within the structure. This can be especially beneficial to the operation of mechanical equipment with a low tolerance to distortion, such as cranes, or hydromechanical equipment, such as gates, which may become inoperable due to the distortion in the structure.
- Significant reduction in overall shaking of the structure during an earthquake, which reduces damage to the structural elements due to cracks, particularly in concrete elements induced by shaking effects. Such cracks are often detrimental to the longevity of the structure, as reinforcement corrodes due to increased water penetration.

Despite South Africa being a stable region, earthquake consideration becomes an important aspect of design for critical infrastructure.

- Significant reduction in earthquake forces on the structure, which could potentially result in smaller structural elements, as earthquake loading requirements are lower.

While beneficial in many ways, base isolation systems are not without their challenges, and designers need to weigh these up against other alternatives. Challenges include:

- Significant maintenance requirements and costs, which include the need for periodic access to perform a condition assessment of the isolation system and ultimately replacement of isolators that have failed or reached their service life.
- Large lateral displacement at the base of the structure due to differential movement of the structure's base and its foundation. This requires special consideration for connections of services such as water pipes, power cables, communication networks and other structures which need to be linked with junctions that can allow such large movements.
- Unlike traditional fixed-base systems, there is a need for additional knowledge by designers, contractors and maintenance personnel on all relevant aspects of the base isolation system, its operation parameters and maintenance requirements.

Examples of civil engineering structures where base isolation has proved to be beneficial, include:

- Buildings – it's often applied to high-rise buildings. Due to their high center of gravity, such buildings are prone to earthquake risk. This is not however restricted to high-rise buildings; it also includes buildings that host sensitive equipment or which are structurally vulnerable to earthquakes, such as those constructed from large shell elements. Examples of iconic buildings with base isolation include the Apple Park building in the United States of America and Shinagawa Season Terrace building in Japan.
- Nuclear power plants – due to the sensitivity and high-risk nature of nuclear power plants, extra protection is often provided to a nuclear facility by using base isolation on nuclear reactor structures so that they are sufficiently protected from potential earthquake damage. Built in the 1970s, Koeberg Nuclear Power Plant (NPP), located near Cape Town, is one of the first NPPs in the world constructed with a base isolation system.
- Bridges – often a bridge's super-structure is isolated from its sub-structures by using isolators at the interface between the two bridge elements. However, some creative designs have been implemented on the South Rangitikei Rail Bridge in New Zealand in the 1970s, where base isolation devices were installed at the base of the bridge's 75 m tall piers.
- Liquid storage tanks – ground motion induces hydrodynamic forces on the stored fluid, which results in increased fluid pressures on the tank's walls. This could result in potential environmental contamination or safety risks if such tanks should fail. To keep economical wall thicknesses of lateral walls, storage tanks, particularly where safety and environmental risks are high, such as with liquified natural gas, are increasingly stored in base isolated tanks to limit potential risks associated with ground movement.
- Railway lines – buildings constructed near railway lines can be protected from vibrations induced by trains through the use of base isolation, which can be applied to either the railway structure or the buildings' foundations.

Base isolation is an important technical solution for dealing with the effects of ground vibrations/movements on civil infrastructure. Designers are encouraged to explore base isolation as a potential technical solution wherever there are risks to the structure from ground vibrations. The application of base isolation does not need to be restricted to new infrastructure; retrofitting existing buildings has proved to be highly beneficial for older structures designed using older seismic design methods which were not as stringent as the current design standards. ©

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“By reviewing project performance, we can identify a range of risks – highlighting those that are material to financing.”

Sharon Jones,
Partner and Principal Environmental Consultant
at SRK Consulting.

According to Sharon Jones, partner and principal environmental consultant at SRK Consulting, until fairly recently investors and lending institutions tended to scrutinise land acquisition and involuntary resettlement aspects, but there is now elevated interest in working conditions, resource efficiency and pollution prevention (to manage climate change). Indeed, certain types of projects – such as those requiring diesel power – were finding it more difficult to find any funding at all.

Jones highlighted that the reputational risk to investors and lenders remains a critical informant in financial decision making, putting project owners under growing pressure to recognise environmental and social risks. This burden is becoming more pronounced as shareholder activists

SAFEGUARDING LENDERS AS ENVIRONMENTAL AND SOCIAL RISKS SHIFT

Project finance comes increasingly with more pressure on borrowers to manage environmental and social risk – but the focus of this risk is also constantly shifting.

and civil society groups highlight investment decisions they perceive to be controversial.

“A leading guideline in this field has been the International Finance Corporation (IFC) Performance Standards,” she said. “But other standards and conventions, such as International Labour Organisation (ILO) conventions, are important too, and increasingly SRK is required to consider areas such as human rights, gender equality, carbon neutrality, circular economy, waste valorisation and climate change when assessing project risks.” –

This means that lenders and their Environmental, Social and Governance (ESG) consultants need to assess risk in issues as diverse as worker accommodation, gender-based violence, grievance mechanisms and the use of security forces for protection. There is a continued focus on climate change and climate resilience of projects.

“Other important areas of concern include community health, safety and security, as well as Indigenous Peoples’ rights and cultural heritage,” she noted. “The Equator Principles, also driven by financial institutions, have been updated to focus more intensely on aspects like climate change.”

This has confirmed the value of Environmental and Social Due Diligence (ESDD) as a tool to assess projects’ environmental and social compliance with good international industry practice (GIIP). SRK partner and principal consultant Christopher Dalgliesh highlighted that ESDD’s often identify gaps and recommend measures to bring projects into compliance, providing assurance

to funders. Gaps are typically documented in an Environmental and Social Action Plan (ESAP) against which lenders usually require ongoing compliance reviews or audits through construction and into project operations.

“By reviewing project performance, we can identify a range of risks – highlighting those that are material to financing,” said Dalgliesh. “By giving lenders insight into certain key risk areas, they are in a better position to make their lending decisions.”

This makes the exercise different to a normal environmental and social impact assessment, where mitigation measures are recommended which can solve specific problems.

ESDD work usually begins with expert scrutiny of key project documents. This highlights the main areas of potential concern, which can be further explored during a site visit.

“With an experienced practitioner or team conducting the ESDD, a great deal of valuable insight can be gathered in discussions with the project team, project owners and Health, Safety and Environment managers – but also with a range of project stakeholders,” said Jones.

She noted that ESG consultants need to be constantly upgrading their skill sets to keep abreast of evolving or shifting risks and standards. As a leader in ESG compliance, SRK has conducted ESDD across many sectors, ranging from hydropower projects in Angola and fertiliser projects in Bangladesh, to a mine upgrade near Saldanha Bay and a hydro-electric scheme in Ethiopia. ☺

VIRTUAL TECHNOLOGY EXPANDS THE FRONTIERS OF CONSTRUCTION

Technology is changing the shape of the global construction industry, and some of the most exciting trends have already taken root in South Africa. By Bongani Dladla, CEO of the cidb.

At the cutting edge of development is the utilisation of virtual reality and augmented reality to reduce the costs of projects, enhance the quality of delivery and raise productivity levels.

The application of 4th Industrial Revolution (4IR) technologies is no longer on the fringes of the construction sector. Many companies are utilising laser scanning, 3D printing, on-site robots and small drones to deliver more cost-effective projects. Big data is transforming the industry by reducing costs and increasing access to information.

The sector becomes more productive and efficient with each advance. Virtual reality and augmented reality take these evolving technologies a few steps further.

Both technologies are already extensively used in the entertainment and gaming industries, in aerospace and defence, and in medicine and healthcare sectors. It also has the potential to transform the construction and engineering fields and expand the edges of possibilities.

Virtual reality uses computer technology to create a simulated environment. It enables users to relate both physically and virtually with this environment.

Augmented reality builds on this technology by overlaying information as visual content into a real-time experience. The user may survey the physical environment through smartphones or tablets while computer-generated simulations offer views of what a future structure could and should look like. Potential flaws and challenges are identified on the spot.

The immense opportunities which these technologies offer to the construction sector are obvious. It enables owners and contractors to visualise what a building will look like before construction starts, and subsequently tracks the building processes through all their stages to the point of final delivery.

Construction is, by definition, a highly collaborative sector which requires high levels of teamwork between contractors from various disciplines. On-site meetings consume costly time and resources, and often contribute to failure of meeting deadlines and late delivery of projects.

Many of these processes can now be streamlined through the application of new technology. These factors alone will prompt many construction companies to invest in virtual and augmented reality applications which are still very expensive.

But this will not be an entirely major leap for the local industries. COVID-19 requirements have already introduced a shift towards virtual planning and electronic meetings.

The new generation of leadership within engineering and construction are all early adapters of technology and have the curiosity and skills to

embrace the next generation of applications.

The obvious question is whether these technologies are applicable within the current South African environment in which there are still huge disparities in the resources available to large primary contractors and small and medium enterprises, predominantly owned by women and Black people.

Will these technologies only be found in the toolboxes of established conglomerates or will emerging contractors also be able to function within this space? The costs of programmes and applications are still premium, but will, inevitably, become accessible to medium-sized and niche contractors who want to expand their businesses.

These are issues which need to be addressed within the broader construction and engineering sectors as the indications are that construction activity is picking up and government's expansive infrastructure programme will be a major driver of future growth.

The Construction Industry Development Board (cidb) in South Africa, is strategically placed to provide leadership and industry experience in this field. Our primary mandates are to transform the industry, to facilitate access to public sector construction opportunities, and to champion the participation of emerging contractors.

In addition, we need to collaborate with all industry partners to achieve these strategic interventions linked to its legislative mandate, functions, and responsibilities

We are already assisting emerging contractors with support programmes to grow their skills and improve their capacity to move up through the contractor levels. As will the introduction of virtual technologies.

Examples of these are software developers who produce applications which are tailor made for South African conditions and offer the requisite training. Such solutions are already on the market in the property, surveying and planning environments.

Moreover, the cidb can play a catalytic role to provide software developers and the research community with valuable insights into the nature of the local construction sector.

Virtual and augmented reality applications are becoming agile and more intuitive daily and are increasingly being integrated into standard construction software. As the technology becomes mature and gain acceptance, it will become more cost effective and deliver better returns on investment.

This presents exciting new opportunities for the South African construction industry.

The Construction Industry Development Board is established in terms of the CIDB Act 38 of 2000 to lead transformation and development of the construction industry. ©

BCCEI CALLS FOR PARTNERSHIPS IN ROLLING BACK CONSTRUCTION CRIME

Taking an important step in addressing systemic extortion in the construction sector, the Bargaining Council for the Civil Engineering Industry (BCCEI) has signed the Anti-Corruption Pledge and set up a platform for joint action.

Working in support of Public Works and Infrastructure (DPWI) Minister Patricia de Lille's and Special Investigating Unit Advocate Mothibi's Infrastructure Built Anti-Corruption Forum, the BCCEI is calling on all affected parties to be part of a collaborative solution.

"It has been encouraging to see government and media expressing growing concern about how the construction mafia is impacting South Africa's future," says BCCEI operations manager Lindie Fourie (pictured). "After many months of consultation and planning, the BCCEI has an action plan in place that reaches out to all parties involved."

Construction sites have been disrupted country-wide by criminal gangs often presenting themselves as business forums. As far back as 2020, it was estimated that the resulting losses suffered by the economy had reached over R40bn. Representing employers and employees in the civil engineering sector, the BCCEI has been proactive, says Fourie.

"In addition to engaging with our own stakeholders, we have put our full support behind the Infrastructure Built Anti-Corruption Forum set up by Minister De Lille and the Special Investigating Unit (SIU)," she says. "We are now looking forward to building practical partnerships to roll back the lawlessness that threatens our sector."

She highlights that the minister called for a risk analysis focusing on key threats to the execution of projects. This would include identifying high priority projects where these risks were delaying successful completion.

"Our action plan deliberately aligns with the efforts of government departments and agencies, so that the energy of all affected parties can be harnessed," she says. "The focus has often been on the South African Police Service to do more about stemming this criminal activity; but the long-term solution really needs everyone's involvement."

She highlights that the BCCEI action plan includes macro level engagements with government, as well as support mechanisms at the micro level where construction projects are planned or being conducted. The BCCEI council has approved the appointment of a resource to co-ordinate input from project stakeholders including contractors, clients, employees and communities and offer guidance to contractors when sites are disrupted by construction mafia or communities. This will include working closely with the responsible persons within SAPS mandated to address extortion incidents.

"To help our members to execute projects safely and smoothly, we are creating a centralised database with key contacts at



regional and national level," says Fourie. "This includes unions, government departments, police, private security, community leaders and even taxi associations."

The BCCEI is also reaching out to credible specialists who may be able to assist in resolving site disruptions. At project level, she says the plan would see engagement between clients and contractors on how to systematically deal with criminal and other disruption.

"The aim is to equip both parties with guidelines to prevent and respond to external interference – with the support of SAPS and a national policing strategic plan," she says. "Importantly, we would like to see every project having contact details of a nominated mobile policing unit."

Projects should also have local contacts in the trade unions, municipalities, emergency services and Department of Employment and Labour – who will be able to provide support. Fourie emphasised that it was not enough just to react to project interference; proactive steps need to be taken to prevent it. This, she says, needs to take place within a framework of acceptable behaviour that all parties formally accept.

"Awareness needs to be built around the value that civil engineering projects are adding to communities, and community expectations must also be carefully managed," she says. "Reacting to disruption will need more effective collaboration and intervention – with careful monitoring and recording of information on each incident."

She is hopeful that momentum is building in the national response to construction mafia disruption and violence. The safety of employees on site remains the key concern. A key aim must be to create a stable environment where law-abiding communities and capable local subcontractors can benefit fully from construction works, she explains. ☺



SIMPLE STEPS TO SECURE EMPLOYEE BUY-IN FOR OFFICE RETURN

It is a fact that COVID-related disruption to the workplace has given rise to a hybrid work model, a flexible arrangement whereby staff are allowed to work some of the time at home and some of the time at the office. But as markets adjust to the post-COVID era, many businesses are struggling to get employees back into the office – but there is a way which, if done correctly, is straightforward and effective, say human capital management experts at CRS Technologies.

The human capital management specialist company has undertaken extensive research and applied its own in-house expertise to compile a list of steps that can help businesses ensure staff return to the office.

One of the biggest obstacles to overcome has been uncertainty ... uncertainty in the workplace, among employees, among employers and decision-makers.

Nicol Myburgh, Head: HCM Business Unit at CRS Technologies, says: “Of course, many industries were hit hard with having to initiate crisis management literally overnight and somehow enable remote or offsite work. The stop-start and haphazard frenzy in some industries only worsened uncertainty. That, coupled with

the notion of the ‘great resignation’ and the impact of the pandemic on people and movement, meant that employees have been reluctant to return to the office full time.” Myburgh echoes the sentiment of many labour law experts and human resource managers who believe that while the law allows employers to dismiss staff who defy company rules, there is more business sense in securing the buy-in and loyalty of human resources.

“Key to addressing uncertainty is to have a clear, well-communicated vision and mission – and of course, the strategy in place to achieve this. People need to feel a part of something; they need to understand that their role in the process, their tasks and deliverables are recognised. That is

what secures buy-in.” The situation calls for decisive action, a cool and calm approach to meet any challenges or resistance. As Myburgh explains, while sense should always prevail, it is equally important that business leaders weed out any resisters or personnel who are obstinate in their flouting of the rules.

“In addition to a vision and strategy, there must be consistency in communication and a proactive approach to follow-ups – every effort must be made to do the ‘checks and balances’. Flexibility is also very important and a good business leader will recognise if and when change is required to the plan, how best to go about this and how to get the very best out of people.” ©

“Key to addressing uncertainty is to have a clear, well-communicated vision and mission – and of course, the strategy in place to achieve this.”

AFRIMAT CONSTRUCTION INDEX RECOVERS IN SECOND QUARTER OF 2022

Afrimat, the JSE-listed open pit mining company providing industrial minerals, bulk commodities and construction materials, has released the findings of the Afrimat Construction Index (ACI) for the second quarter of 2022. The ACI is a composite index of the level of activity within the building and construction sectors compiled by economist Dr Roelof Botha on behalf of Afrimat.

According to Dr Botha, the construction sector managed to increase the value added to the economy by an impressive 4,1% in real terms, compared with the previous quarter. “This is despite a series of unfortunate events putting additional pressure on levels of economic activity during the second quarter, including the KwaZulu-Natal floods and lengthy strikes at major mining companies, combined with general economic factors such as weaker prices for precious metals and iron ore, high fuel costs, extensive loadshedding, inefficiencies in rail transport and increasing inflation.”

He adds that the ACI also recorded a modest 2,4% increase over the first quarter of the year, saying that one of the most encouraging features of the second quarter performance was the positive trend for both the volume and the value of building material sales, which may be regarded as leading indicators for future construction activity.

“The best-performing indicator, however, was the value of buildings completed in the metros and larger municipalities, with a 21% year-on-year rate of increase. The increase in employment in construction during the second quarter was also encouraging and will hopefully continue as government starts embarking on more public/private partnerships as part of the promised infrastructure drive.”

Building material sales increased by 9,6% (quarter-on-quarter) and by 4,4% compared to the second quarter of 2021.

“The public sector is still lagging behind the private sector in the crucial area of capital formation, which is the aggregate demand component that ultimately incorporates construction sector activity. Infrastructure investment by government has not yet resulted in higher levels of public sector expenditure on capital projects,” Botha points out, adding that private sector capital formation produced an impressive 8.7% increase, in real terms, during the second quarter, compared to the second quarter of 2021.

Dr Botha says that during the second quarter, positive signs did however start to surface as the fixed capital formation by state corporations managed to increase in real terms, both in quarter-on-quarter and year-on-year terms. “Another positive development is the rise in the SME Business Confidence Survey

for the construction sector, a quarterly survey conducted by the Bureau for Economic Research on behalf of the Construction Industry Development Board. This particular index recorded a level of 42 during the second quarter, compared with 35 in the first quarter.”

“Although government has started a process of deregulation, especially in the crucial area of renewable energy by lifting the limitation on self-generation, much more needs to be done to improve, expand and maintain the country’s infrastructure and also improve the functionality and capacity of key state-owned enterprises and municipalities.”

He believes that fiscal constraints are not the root cause of the lack of public sector expenditure on infrastructure, but rather over-regulation, a lack of requisite skills, especially in project management, and the dysfunctional state of a large number of municipalities. “Fortunately, government has acknowledged that all of these issues should be prioritised under the new growth and reconstruction strategy and visible signs of deregulation have already come to the fore.”

Afrimat’s CEO, Andries van Heerden, acknowledges that while South Africa is not an easy environment to operate in at the moment, given loadshedding, increasing input costs such as diesel and what was a poor performance from Transnet, Afrimat’s strength lies in its ability to be nimble, underpinned by the diversification of products, commodities, location and foreign exchange income streams, all of which enable the Group to overcome and work through these operational detractors.

“Although there has been an uptick in the performance indicators of this edition of the ACI, we can attest to the fact that construction and infrastructure activity remains low. Thankfully, the Construction Materials segment continues to benefit from being located in strategic places across the country, efficiency drives, and product diversification. Similarly, in the Industrial Minerals segment, sector diversity, especially in support of the agricultural sector, is proving to be a solid support to the segment.”

In conclusion, Van Heerden says that Afrimat remains in a strong cash position, bolstered by the recent and oversubscribed capital raise. This supports an already strong cash balance and provides the ability to implement an exciting pipeline of growth projects whilst being able to react quickly to good opportunities that present themselves. “The focus for the remainder of the year will be on ensuring seamless execution and the implementation of the Glenover phosphate, vermiculite and rare earth project, which aligns with the global trends of decarbonisation, technology advancements and food security, as well as further enhancing the Afrimat diversification strategy, which shows good long-term market dynamics with healthy margins.” ©

“The best-performing indicator, however, was the value of buildings completed in the metros and larger municipalities, with a 21% year-on-year rate of increase.”

MBA NORTH ISSUES PRACTICE NOTE TO HELP MEMBERS COUNTER UNETHICAL CONTRACTUAL PRACTICES

The Master Builders Association (MBA) North has issued a practice note for its members aimed at helping them fight back against unethical contractual practices that have become prevalent in the industry. Mohau Mphomela, Executive Director, MBA North, says the Association has noted with concern that a growing number of its members are finding themselves in trouble owing to unethical contractual practices forced on them by some professionals and employers.

“When you start to see contractors and subcontractors who have been in business for decades having to go into business rescue, then it’s clear there is something wrong,” he says.

“We convened a meeting with some of our leading members – contractors and subcontractors – to hear from them what challenges they were facing when it comes to contracts. The practice note is the fruit of that meeting.”

The practice note provides guidance about best practice when it comes to contracting, for both contractors and subcontractors.

Brad Boertje, a construction risk management consultant and ADR practitioner for the MBA North, says that the standard industry contracts, such as the Joint Building Contracts Committee (JBCC) contracts, are the gold standard and should be followed to the letter. These standard contracts should ideally not be amended but, if amendments are made, they need to be agreed to by both parties, not imposed by the developer or principal agent.

It’s also vital that contractors and subcontractors take the time to populate the contract with all the relevant data. If a dispute arises later, an incomplete contract could prejudice the contractor.

The contract should be the full and complete record of all parties’ obligations to each other. Contractors should not accede to requests to take on out-of-scope work on the promise that they will be “looked after” at a later stage – only



to find that the client will not honour that payment. The JBCC contracts are necessary because the Common Law does not cater for issues specific to the construction industry.

Another challenge is the issuing of incorrect payment certificates or the non-issue of payment certificates. Boertje cautions that ‘negative’ payment certificates have become common, but they often do not reflect an accurate certification of the Works.

“Contractors often find themselves having to litigate to get their money, which greatly impacts their cash flow,” he says.

Construction or performance guarantees are yet another area where contractors are experiencing issues. Boertje points out that contractors have the right to choose the kind of security they wish to offer. He advises that construction guarantees are much to be preferred to retentions; in the latter case, if the main contractor runs into business difficulties, the subcontractor can find his or her retention is at major risk of being released. The appointment of selected subcontractors is another area of contention, and there are many others.

“Because business conditions are so tough, contractors and subcontractors often find themselves being forced to condone unethical contractual practices, and then find themselves in trouble. Yet they find it hard to fight back for fear of being precluded from future tenders,” Mphomela concludes. “As an association, the time has come to say enough is enough – we must present a united front to demand adherence to ethical practices – to the benefit of all stakeholders.” ☺

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GREEN BUILDING COUNCIL SOUTH AFRICA TURNS 15

“Green Building Council South Africa (GBCSA) is not an organisation, but a movement.” So says Dorah Modise, former GBCSA CEO, reflecting on its milestone 15th anniversary. Its pioneering transformation of the South African property sector has yielded significant results that have driven measurable impact not only in terms of certifications but also in training, accreditation, job creation and climate change mitigation.

Current CEO of GBCSA, Lisa Reynolds, says that in this time the organisation has reached 905 certifications in Africa, across the Green Star, Net Zero, EWP and EDGE certifications. The impact of the 905 certifications can be illustrated through the energy and water savings and carbon reductions achieved as a result of the measures required to achieve the certification. 91 500 households worth of annual energy (1 320 million kWh/annum), and 1 220 million litres of potable drinking water will be saved annually, which equates to 1 672 800 people’s daily drinking water needs every year. The 1 590 million kgCO₂/annum that will be saved equates to 395 400 cars off the roads every year in terms of kgCO₂ equivalent.

“In the last year alone 165 buildings were certified which reflects the exponential growth in the adoption of more sustainable building practices - the first 50 certifications took over five years, but as the environmental and financial benefits of green building became more apparent, we saw a greater buy-in across the board and the industry as a whole has shifted. Our role in education and training is an important part of achieving this shift, and supports a just transition to low-carbon green building, ensuring the future and livelihoods of workers by creating new jobs within a green economy.”

GBCSA is one of about 70 members of the World Green Building Council (WGBC) and collaborates with Green Building Councils across the globe, enabling access to a community

“In the last year alone 165 buildings were certified which reflects the exponential growth in the adoption of more sustainable building practices.”



CEO of GBCSA, Lisa Reynolds.

of experts and creating a platform for advocacy, training and certification, also catalysing a number of regulatory changes. GBCSA’s Annual Green Building Convention has become the property industry’s premier gathering of experts and leaders in the field of sustainable building.

Through the development of a host of certification tools and the training and accreditation of professionals in the field of green building, the adoption of environmentally responsible practice in the property sector has become mainstream, and the vision of being a driving force in the mitigation of climate change has become a reality. To date, 2265 professionals have been accredited through GBCSA’s training and accreditation programmes with 325 students going through the candidate programme. In 2007, **Bruce Kerswill**, who is currently the Managing Director of Spire Property Group, saw the need for a body to facilitate the growth and adoption of green principles in the property sector in South Africa, where at the time, green building was the exception rather than the rule. He says: “We received much valuable support from the Australian Green Building Council and assistance with the development of South Africa’s own Green Star tool. Neil Gopal from SAPOA (South African Property Owners Association) was instrumental in our initial efforts, and Nicola Douglas as our CEO was a driving force in getting the organisation off the ground.”

The Green Star SA rating system was launched in 2008 and the first certification, of Phase Two of Nedbank’s Head Office in Sandton, Johannesburg, was awarded in 2009. The Green Star Rating and certification is a rigorous, standardised system that uses independent assessors to evaluate submissions and allocate points for the various green measures that have been implemented in a building project. Certification is awarded for 4-Star, 5-Star or 6-Star Green Star SA ratings and guarantees that businesses live up to their green building claims.

In 2011 the Energy Water Performance tool (EWP) was introduced for existing buildings, starting with office buildings. In 2014, GBCSA announced their partnership with the International Finance Corporation, a member of the World

Bank Group, to launch the EDGE rating system, a green building certification programme for the residential property market, utilised for homes in South Africa. Net Zero certification assists building projects to completely neutralise or positively redress their impacts in carbon, water, waste and ecology.

Brian Wilkinson, GBCSA CEO from 2011- 2017, says: “I was incredibly fortunate to see a huge uptake of Green Building principles and practices by not only the commercial property

industry and professionals in the built environment, but also by corporate South Africa and even ordinary home owners. The built environment offers an almost unique ability to really do something about climate change in a meaningful way, both in terms of mitigation impact as well as making commercial sense. It was inspiring to see how the early adopters saw their efforts become a competitive advantage and also how they proved to the sector that green building principles and practices were very doable, were not significantly more expensive and that the skills and products were absolutely available. It was not long before green building became the norm – to the point where the uptake in formal certifications increased exponentially.”

Former CEO **Dorah Modise** says: “Being at the helm of the GBCSA from 2017 to 2020 and prior to that as a non-executive Director since 2009, meant that I was able to observe and be in the middle of its fast-paced growth. The level of ambition in transforming the built environment has always meant we were punching above our own weight - at times in the scariest possible ways, but the movement always emerged victorious.”

Grahame Cruickshanks is Head of Sustainability and Utilities at Growthpoint Properties, a founding member of the GBCSA that has led the way in implementing green building practices: “The biggest impact of GBCSA is the introduction of green building as an active movement in the South African private and public property sector. The introduction of 3rd party verified certification systems to ensure the legitimacy of green building initiatives has provided benchmarks and targets for the South African property sector and achieved continuity for the green building movement.”

Reynolds says that the work of GBCSA has been driven by many partnerships in the public and private sectors and collaboration is crucial to its continued success: “Support from government bodies, the private sector roleplayers and institutions driving sustainability efforts, remains one of the cornerstones of our programmes and we look forward to growing these important relationships in order to extend the green building economy.”

Manfred Braune, Director of Environmental Sustainability

at the University of Cape Town, says: “To have established a national standard for green buildings that is aligned with international best practice for green buildings, through which hundreds (close to a thousand) of buildings have been certified, is incredible, and a fantastic achievement for the first 15 years. GBCSA has also trained hundreds of people on green buildings, transforming people and equipping them to design, construct and operate green buildings.”

Jutta Berns, Founder and Director at Eco-centric, says: “The GBCSA has been the green property industry’s most significant trailblazer and advocate - indeed, without the GBCSA holding and consistently driving the narrative in South Africa and on the continent, we would not be where we are now, where green buildings are not only commonplace but are becoming standard practice.

“We now have a shared vision and a shared language that straddles the interests of the investor, developer, designer, operator and construction community, which is essential in harnessing the opportunities that the green property sector offers in reversing climate change.

Another key achievement is that we as green building professionals have managed to create an entirely new industry and are able to bring along others on the path to ensuring that all jobs are climate jobs. This is market transformation.”

Kerswill reflects on the GBCSA legacy: “For me, the Convention is one of the most important and most enjoyable of GBCSA’s activities - it inspires the industry, promotes networking with local and global leaders and shares technical knowledge.

The training courses are also inspiring – running through the different categories and the multitude of interventions that can be made to achieve a really significant environmental impact. I’m extremely proud of GBCSA and what it has achieved – and the fact that it has reached 15 years and is still going stronger than ever.

I believe there are few other organisations that have such a direct, practical and extensive impact on climate change and so many aspects of sustainability.” ☺

BID WINDOW 6 AMENDMENTS

Bid Window 6 of the Renewable Energy Independent Power Producer Procurement Programme’s (REIPPPP) request for proposals (RFP), which was released two months ago (7 July 2022), has been amended by the Department of Mineral Resources and Energy (DMRE).

As noted by the South African Wind Energy Association (SAWEA), the wind energy allocation has been doubled to 3 200 MW for this bid window, making up the majority of the increased allocation of 4 200 MW across all technologies.

The Association has welcomed this increase as well as the extended bid submission date, which is now set for 3 October 2022, as it opens the process to new bidders and will help ensure more participation by the wind sector.

“Furthermore, we urge the NERSA concurrence, with the DMRE Minister,

to determine the remainder of the IRP2019 allocation, be concluded with urgency, to ensure that the President’s directive on new generation is met,” said Niveshen Govender, CEO of SAWEA.

Speaking on behalf of its members, SAWEA says it is certain that the wind sector will respond effectively to the call for this additional generation capacity, which will further enable it to play a key role in the country’s energy mix, thereby creating economic value and impact.

In line with the NDP, the REIPPP Programme continues to deliver more than clean power generation, as it is

designed to stimulate investment and deliver economic and socio-economic benefits for the country.

SAWEA confirms that the industry remains confident in its ability to build new renewable energy generation capacity while meeting economic development objectives and reiterates that it has no doubt that the sector will respond positively. The Association’s engagements with the DMRE, DTIC and the other key sector stakeholders have strategically mapped the way forward to deliver on the just energy transition mandate. ☺



STYLISH YET TIMELESS REFURBISHMENT FOR ANEW HOTEL HILTON

A new experience awaits guests at ANEW Hotel Hilton, in the heart of the KwaZulu-Natal Midlands, as the property undergoes refurbishments. Originally built in 1936, the hotel combines old-world charm with family values and efficient service and is in high demand locally and internationally. Renovations are expected to be completed by January 2023.

With its striking original features, the building speaks for itself. Many guests have spoken of their experiences at this hotel in years past, describing plush rooms and grand events. As a team, the brand embarked on this renovation to elevate the property to even higher standards, says Anthony Moskovitch, General Manager of ANEW Hotel Hilton.

“People have a strong connection to this property because it has been the place where they have either gotten married or spent their honeymoon. Furthermore, it is surrounded by several elite schools, so families often start their journey at the hotel. We have been seeing multi-generational families returning again and again,” he says.

Jayne Armour, the Interior Decorator for the project echoes Anthony’s remarks relating to the family tradition which exists at the hotel. “If you chat to our parents about the Hilton Hotel (as it was formerly known until ANEW Hotels & Resorts acquired the property), they will tell you a story of the night they stayed over at the property.” She continues, “The refurbishment is extensive and long planned with a view to ensure we modernise a truly iconic part of the history of Hilton. Maintaining the Tudor-style but adding a modern twist was a priority. We have gone with a classic modern look which will appeal to all ages.”

Furthermore, on technology, Anthony says the team is in the process of introducing a number of new features to enhance the guest experience, including the updating of the door management system for guests to use their cell phones to unlock their room doors.

The 97-room hotel, considered by many as the most sought-after Pietermaritzburg hotel, features all the modern amenities expected by vacationing families and businessmen.

“Each room type is unique and has been designed with careful thought and attention to detail. Our dining and living spaces have also received a full refurbishment. Our main restaurant, The Copper Kitchen, will not disappoint as it embodies sophistication and elegance. There is space for large groups and intimate private dining,” Jayne says.

As we head into the warmer months, ANEW Hotel Hilton is the perfect setting for a romantic rekindling dinner on the floodlit pool deck while enjoying the sounds of cascading water, only five hours from Johannesburg.

About ANEW Hotels & Resorts

ANEW Hotels & Resorts has evolved as a family business that started in 1952. Family culture and attention to detail are firmly grounded in its people, and the group prides itself on the personal touch. The ANEW Hotel & Resorts Group owns and manages various properties in South Africa, with a vision to grow the brand by acquiring additional properties and management contracts in strategic locations.

The brand has managed to achieve incredible growth over the past two-and-a-half years, in the midst of a pandemic, and continues to look for opportunities to provide premier products for local and international business and leisure market segments throughout the country. They conduct their business within legal and ethical parameters and strive to provide customers with world-class service.

ANEW Hotels & Resorts received The Inspiration Award at Africa’s Travel Indaba 2022 as the organisation that has for the past two years inspired Africa’s travel Indaba community by the way in which they have challenged the odds to rise up and shine. Visit <https://anewhotels.com/> for more information. ©

WATERFALL CITY WOWS WITH THREE BEST IN SA WINS

At the lavish International Property Awards ceremony held at the exclusive Habtoor Grand Resort in Dubai on 6 October 2022, Waterfall Management Company was honoured with the Best Mixed-use Development in South Africa award for Waterfall (which recently rebranded as Waterfall City) for the eighth time in nine years.

In addition, Waterfall City walked off with two more Best in SA 2022-2023 accolades. LYT Architecture was awarded Best Leisure Interior for the Highline – Courtyard Hotel Rooftop Bar and Restaurant, while Balwin Properties won Best Leisure Architecture for the Munyaka Lifestyle Estate.

Besides scooping these prestigious awards, all three winners were also nominated for Best in Africa accolades by the International Property Awards – Africa and Arabia chapter. Now in their 30th year, the International Property Awards celebrate the very best projects and professionals in the industry worldwide, covering the regions of Asia Pacific, Africa and Arabia, Europe, USA and the Americas, as well as the UK. Judging focuses on design, quality, service, innovation, originality, and commitment to sustainability.

The highest scoring, five-star winners from each category in Africa will be automatically put forward for re-judging against the five-star winners in the other regions of the world.

Following this re-assessment, the 2022 International

winners in each category will be identified as the 'World's Best'. These winners will be announced at the grand gala presentation dinner to be held at the Savoy Hotel in London in January 2023.

Waterfall City has to date won Best Mixed-use Development in Africa for seven consecutive years and Best International Mixed-use Development for four years running, from 2017 to 2020.

Willie Vos, CEO of Waterfall Management Company, said; "Winning the Best Mixed-use Development in South Africa award again certainly reaffirms Waterfall City's world-class status. Such recognition is an ongoing achievement we, along with all our partners, are very proud of.

It has been an honour to watch this development evolve, and having recently rebranded Waterfall to Waterfall City, we have entered a new and exciting phase of our evolution as a world-class Smart City.

We will continue to showcase the excellence of Waterfall City and look forward to what the future holds." ☺





THE NEW CASE BACKHOE LOADER V-SERIES: THE LEGEND OF THE KING CONTINUES

CASE Construction Equipment has been setting industry standards for 180 years, and the latest launch is inheriting the mantle. Since introducing the first-ever integrated backhoe loader in 1957, CASE has fast become a front-runner in the backhoe industry. Now 65 years later, CASE Construction South Africa launches its redesigned and restyled 580V and 695SV backhoe loaders.

A CAB FIT FOR A KING

The focus has always been placed on delivering comfort, productivity, and profitability for customers, and the V-Series continues in that vein. Thus, the most impactful innovations can be found at the driver's seat. The V-Series boasts a wider interior cab space which provides greater clearance for the operator's legs when rotating the seat between forward-facing and rear-facing configurations. The left-hand cab console redesign places the wiper tank beneath one of the new open tray storage units inside the cab, enabling easier and more convenient refills via the left-hand door.

The ergonomic design offers greater accessibility to control panels as well as a relocation of pre-existing safety features, thus optimising the operator's performance and overall productivity. From the king-cab, the operator will benefit from more legroom and storage space, with four times more than its previous ST model, which includes two lockable compartments (one of which is refrigerated) two bottle/cup holders, and four open trays. A cell phone holder has also been integrated into the righthand pillar and the operator's phone can be recharged with the built-in USB port.

Additionally, the visibility has been greatly improved, especially at the rear, with new additional rear-side glasses – so even in the most challenging situation, the operator will benefit from excellent 360-degree visibility. The flat glass is

also cheaper to replace in the event of damage.

The new 695SV model boasts an airconditioned cab with a standard ride-control and an all-wheel steering feature, which ensures great versatility and outstanding maneuverability for the operator. The all-wheel steering feature, offers three different steering modes, allowing operators to alternate between two-wheel steering – road steer for standard operations, four-wheel steering for agile and fast operations, as well as crab steer for restricted areas.

“Comfortable operators are productive operators, and the new V-Series backhoe loaders have many improvements that amount to a greater productivity gain. This latest V-Series follows over 60 years of innovation that has earned all CASE backhoe loaders their unofficial name of The King,” says Graham Forte, Divisional Managing Director for CASE Construction South Africa,

A POWERFUL HEART

CASE has always placed emphasis on both power and performance, as proven with their new generation engines, developed by Fiat Powertrain Technologies Industrial (FPT Industrial).

The S8000 engine of the 580V provides outstanding performances such as a faster response time and produces 72kW. While the FPT 4.5 litre engine of the 695SV delivers 82kW and has the lowest maintenance cost in the market.

The familiar and effective one-side serviceability layout is retained for swift and convenient maintenance operations.

Forte concludes: “The game-changing features in the V-Series backhoe loaders have been driven by our customers. When choosing the V-Series, our customers will discover new ways of working built on trust, high performance, comfort, and significant cost reductions.”

For more information on CASE Construction’s available backhoe loaders, feel free to browse our website www.casece.co.za or contact us directly. 011 922 2000 | case-enquirers@cnhind.com

CASE CONSTRUCTION CELEBRATES THE V-SERIES LAUNCH

CASE Construction celebrated the launch of the new V-Series backhoe loader on the 13 of October. Clients were invited to enjoy the day with the CASE Construction team at their Isando branch in Kempton Park. Along with their brand-new backhoe loaders on show, they displayed a client’s 50-year-old CASE Wheel Loader and TLB that made their trip around the Construction Pit - a testament to the CASE reliability promise.

Steve Beardmore (CNH product specialist) that flew in from Berlin, Germany especially for this event, showcased some thrilling tricks with the CASE machines. Clients received a live machine walk-around and were later entertained by a live musician and cartoon artist who joined them for the two-day event.

“These events help us to build and maintain stronger relationships with our clients. Since the COVID-19 pandemic, the demand within the market has grown and we at CASE have equipped the team to meet these demands and challenges within the industry.

“Our goal is to get closer to the client, and with the recent acquisition that took place last year, where CNH Industrial bought over CASE Construction – it has allowed clients to deal directly with the OEM,” says Forte. ☺





GASS ARCHITECTURE STUDIOS WINS BIG AT 2022 SAPOA AWARDS

Bespoke architectural design studio GASS Architecture Studios won five awards at the recent South African Property Owner Association (SAPOA) Awards. The awards ceremony took place at the 2022 SAPOA Convention held at Sun City from 28 – 30 September 2022.

These prestigious awards recognise excellence in the contributions of developers and built environment professionals through commercial real estate development. Founder and director of GASS Architecture Studios Georg van Gass said, “We are proud and honoured to have worked on these remarkable projects and to have had the opportunity to contribute meaningfully to these amazing developments through architecture and design. Well done to the teams that worked together so well to realise the final results.”

GASS Architecture Studios won the following awards:

- Winner in the ‘Residential Developments’ category for The Onyx at Jewel City, developed by Divercity and designed by GASS Architecture Studios.
- Winner in the ‘Transformation’ category for Jewel City Precinct, developed by Divercity and designed by GASS Architecture Studios.
- Winner of the overall award in the ‘Sustainability’ category for the Green School South Afrika.
- Winner in the ‘Other’ category for the Green School South Afrika.
- ‘Overall Winner’ for Green School South Afrika.

Green School South Africa, which opened in February 2021 in the Drakenstein Valley just outside Paarl in the Western Cape, was developed along sustainable and biophilic principles. GASS Architecture Studios’ regenerative approach to architecture and design on this project was guided by the requirements of the Living Building Challenge (LBC) certification, which is considered the world’s most exacting and advanced sustainable building certification.

Green School South Africa’s principle of “Educating for sustainability” means that sustainability is embedded in every aspect of the design, from the materials to the school curriculum, and the learning environment is considered an active pedagogical tool. The spatial arrangement of the buildings was inspired by the tectonic shapes of the Paarl Rock Boulders which surround the site, and mimics the



spur architects and developers to develop the best built environment that they can. “GASS Architecture Studios is inspired to push the boundaries and extend the possibilities of design in the projects we work on,” he said.

He added, “These awards are always the result of team work and I would like to thank the teams at GASS Architecture Studios who worked on these projects, as well as the developers and other contributors to these projects in achieving this recognition for the work on these projects. We are incredibly proud.”

GASS Architecture Studios project Franks Place won the SAPOA award in the ‘Residential’ category in 2016.

About GASS Architecture Studios

GASS Architecture Studios is a bespoke architectural design studio with predominant focus on urban regeneration, architecture and interior architecture. ☺

JEWEL CITY PROFESSIONAL TEAM

Client: Atterbury, Divercity, Ithemba

Architect: GASS Architecture Studio

Quantity Surveyor: Matla Quantity Surveyors

Electrical Engineer: Eksteen & Le Roux

Structural Engineer: EDS Engineers

Mechanical, Electrical & Wet Services Engineers: Izazi Consulting Engineers

Fire Engineer: Fenco Fire Engineers & Consultants

Hvac Engineer: Graeme Page Consulting Engineers

Building Contractor: WBHO

Construction: Motheo Construction Group (Block 1 & 3); Nomad Group (Block 2, 4-6); Pentacon Civils (Pty) Ltd (Fox Street)

Health And Safety Consultant: Cairnmead Industrial Consultants (Pty) Ltd

Landscape Architect: Daniel Rebel Landscape Architects (Pty) Ltd

Landscape Installation: Bidvest Top Turf

GREEN SCHOOL SOUTH AFRICA PROFESSIONAL TEAM

Architect: GASS Architecture Studios

Landscape Architect: DDS landscaping

Interior Design: D12 Interiors

Structural Engineer: Sutherland Engineers

Electrical Engineer: Frame

Fire Engineer: AECOM

Civil Engineer: Frame Engineering

Traffic Engineer: ITS

Comfort Engineer: Climetric

Environmental consultant: Terramanzi

Quantity Surveyor: AECOM

Contractor: Energy Master Builders

Acoustic Engineer: Linspace



broader geography of the area. Clusters of buildings are nestled amidst orchards, vegetable gardens, walkways, landscaped terraces and spill-out spaces, emphasising the relationship between interior and exterior spaces. Natural materials were prioritised throughout the campus, and include rammed earth, locally harvested rock, clay, timber and locally manufactured bricks. While efficient passive design (including thermally massive materials, insulation, orientation, shading, etc) provides abundant natural light and thermal comfort, additional heating and cooling is provided by a Thermally Activated Building Structure (TABS) system.

At present, the campus includes facilities for learners from kindergarten to Grade 8, and construction will begin on second phase in 2023, which will add facilities for learners up to Grade 12.

Jewel City in Maboneng involved the redevelopment of six city blocks in Johannesburg’s eastern CBD, transforming a pre-existing industrial complex that housed Joburg’s precious metals and diamond trade into an open, vibrant mixed-use precinct. It comprises 2 700 apartments and 20 000 m² of commercial space, including retail space, offices, schools and medical facilities, as well as plenty of open public space with lawns and play areas, sports, recreation and public art. While much of GASS Architecture Studios’ intervention involved repurposing the existing industrial buildings, The Onyx is a new 13-storey residential building that opens onto a large public square and urban park animated by fountains and public art.

The complex has been reintegrated with the existing urban fabric, and largely pedestrianised, supporting a safe, friendly and open public environment and urban infrastructure. The quality of the public space and the broader architectural character of the precinct is designed not only to catalyse and support a greater diversity of people within the precinct, but also to invite and encourage further investment into the CBD, particularly other key nodes of urban development, such as Maboneng, the Absa Precinct and further developments along Fox Street, to merge and form an integrated walkable city.

Van Gass added that these awards not only bring recognition to the best contributions in the field, but

SPITALLAMM DAM: DOKA MAKES A LASTING IMPACT ON SWISS ENERGY FUTURE

Doka, the international formwork and scaffolding expert, is demonstrating its expertise in dam construction as the principal supplier to the new Spitallamm dam project at Lake Grimsel in the Swiss Alps. The project necessitates oversight of exceptional construction work and the creation of customized components under challenging conditions. The new double curvature dam will require pouring more than 220 000 m² of concrete, supported by Doka formwork. On completion in 2025, Doka's customised solutions will have contributed to renewable energy sources supplying more than one million people with sustainable energy.



Robert Hauser, CEO of Doka, says: “Hydropower plants enable largely CO₂-free energy generation. With the construction of the new Spitallamm dam, we are working on a project that will secure green electricity in Switzerland in the long term. Our comprehensive know-how in power plant construction, our formwork, and digital solutions, as well as our experience in high alpine terrain, make us the ideal partner.” This is Doka’s fifth Swiss dam project after Nant de Drance, Mutsee, Vieux Emosson, and the Linth-Limmern pumped storage plant.

Securing green energy for the next generations

Doka is exceptionally proud to be part of this important energy project. With a capacity of around 94 million cubic metres, Lake Grimsel is the best known, largest, and most important reservoir of Kraftwerke Oberhasli AG. Two hundred and sixty-three million kilowatt hours of ecological hydropower are generated annually. When the Spitallamm replacement dam is completed in 2025, it will continue to provide sustainable hydroelectric power for more than one million people in the future. The Spitallamm Dam construction showcases how Doka is harnessing digital services and legacy knowledge to help customers improve efficiency and safety, and the importance it gives to incorporating sustainability into each project.

Digital solutions provide longevity

The Grimsel consortium is using Doka’s formwork solutions and digital information system Concremote for real-time monitoring of the temperatures inside the enormous concrete blocks. In the case of mass concrete components, the heat released from the cement reaction leads to a temperature rise which can result in critical thermal stresses, temperature cracks and ultimately reduced durability of the concrete. Monitoring the temperatures and implementing block cooling and curing measures on-site mitigates

the potential damage, and ensures the long service life of the dam. To further increase safety, Doka's concrete pressure measuring systems also deliver real-time data about the fresh concrete pressure. This enables improved management of the formwork and structure and confirms and documents, that the formwork is not overloaded. The first season of concreting work at Spitallamm began in May 2021.

Unique landscape, unique project

The 1 900-metre high alpine construction site presents a demanding work environment, primarily because of difficult weather conditions and logistical challenges. “Doka was responsible for all planning and optimization of the project. With the support of our headquarters in Austria, we invested 1 500 hours of pre-construction planning, created a full 3D engineering model, organised the pre-assembly, and deployed our experienced supervisors to ensure smooth operations at the site,” explains Klaus Mirna, Project Manager Engineering Zurich at Doka. “A highlight is undoubtedly the sturdy dam formwork, including safety platforms and the preassembled gallery formwork, which formed the complex network of control walkways inside the dam. Our ability to support the entire project from formwork and planning to digital services is a real benefit for the customer as everything is supplied from a single source,” Mirna summarises. The new Spitallamm dam is being constructed in front of the existing dam, which will be retained and flooded later. Operated by energy provider Kraftwerke Oberhasli AG, the new dam has the same crest height of 113 metres as the existing wall, and offers the possibility of being raised in a later phase to enlarge Lake Grimsel. ©

PROJECT INFORMATION

Project: New construction of dam Spitallamm, double-curved arch dam

Location: Grimsel, Switzerland

Type of structure: Hydropower plant

General Contractor: Kraftwerke Oberhasli AG, Arge Grimsel

Start of construction: 2021

Scheduled completion: 2025

Systems used: Dam formwork D22, large-area formwork Top 50

Services: Pre-assembly Service, Project Management, Formwork Instructor, Concremote

SHIRE RIVER FLOOD RISK MANAGEMENT PROJECT SETS A BENCHMARK IN MALAWI

The implementation of locally relevant solutions and a national guideline for community-based flood risk management (FRM), aimed at communities and NGOs in the Lower Shire Valley in Malawi, is one of the first of its kind to be developed globally, as acknowledged by the Water ChangeMaker Awards. Leading consulting engineering and infrastructure advisory firm Zutari undertook the project in association with BRLi of France and a local Malawi-based engineering firm.



The Zutari Water team has close on 90 years' experience as a group of Water ChangeMakers in Africa. "Being from Africa, we have developed a unique understanding that combines global expertise with local insight. Added to this is an appreciation of the value of ecosystem services and integrating ecological infrastructure into a traditional engineering approach to long-term sustainable solutions in support of climate change adaptation in Africa," highlights James Cullis, Expertise Leader for Sustainability at Zutari (pictured).

The Lower Shire Valley in Malawi is faced with extreme development challenges due to a highly variable climate, including regular floods and drought resulting in poverty and food insecurity. For several years, floods and droughts have been consistently identified in the World Economic Forum's top five global risks by impact. There have also been increasing numbers of disasters linked to the impacts of climate change, globally and particularly in Africa.

Recognising the severe humanitarian and economic impacts of flooding, the government aimed to develop and implement national guidelines. Zutari had previously also assisted in the development of guidelines for Integrated Catchment Management and Sustainable Rural Infrastructure Development in Malawi.

Prior to the Shire River flood risk management project, no guidelines for FRM planning, design and implementation existed at district, traditional authority or group village head level in Malawi. The project aimed to address this by developing approaches for FRM planning, costing appropriate approaches to address flooding, implementing these in selected villages and capturing these experiences in national guidelines for the Malawian Department of Disaster Management Affairs and the Department of Irrigation and Water Development. Through intensive and sustained community and stakeholder consultations in the valley, the project identified the communities regularly affected by floods (230 000 people), conceptualised and prioritised interventions for the worst-affected communities (187 000

people) and used hydrodynamic modelling to design 34 large-scale civil works and 41 labour-intensive community-based interventions that will reduce the flood risk of 86 000 and 10 000 people respectively.

Zutari also oversaw the construction of ten interventions (protection for 45 000 people) and implemented an appropriate flood warning system across the valley operated by the communities themselves.

The designs maximised the use of local labour and materials, are low maintenance in character and where constructed have already provided protection during two tropical cyclones. Once the national guidelines were completed, training commenced across the valley. This focused on building a basic understanding of floods, FRM and planning for floods at a community level. The training was undertaken through innovative means including theatre and advertisements on local radio stations.

Apart from its work in Malawi, Zutari's Water ChangeMaker journey has included several significant other engineering and water related projects, with a key focus on enhancing the value of ecological infrastructure and community engagement and integrating this with an engineering approach to address water challenges in Africa.

Examples include engineering support for Working for Wetlands, determining the benefits of clearing invasive alien plants for improved water security for the City of Cape Town, operating rules for dams to implement environmental flows and compiling water resources development plans in several countries across Africa, most recently in Kenya and Uganda.

In addition, Zutari is responsible for the design and implementation of innovative engineering solutions to water security challenges that support resilience and sustainability. These solutions embrace innovative approaches to the co-discovery of solutions with stakeholders to identify not only sustainable water resource development projects, but also the importance of incorporating environmental flows and ecosystem services. They co-create an engineered impact. ©



PUTTING SUSTAINABILITY AT THE CORE OF AFRICA'S HEALTH

The healthcare buildings we are designing and building today are very different from the hospitals, clinics and general practitioner (GP) surgeries we had become accustomed to for such services in Africa. Technological innovation, changing population demographics, shifts in expectations of how healthcare should be provided, and environmental considerations are driving a revolution in building design as achieving net zero becomes increasingly important. In Africa, Jabulile Nhlapo, Healthcare Lead (Principal Associate) for WSP in Africa, says accessibility must be a key consideration for governments and healthcare providers if true sustainability is to be achieved.

Worldwide, citizens depend on hospitals to run 24/7 without interruption and deliver continual critical care. From cooling and ventilation to sterilisation and lighting, the energy needs of hospitals are significant and, as such, their carbon emissions are high. The healthcare sector is responsible for 4.4% annual global emissions. As governments around the world pledge to meet net zero targets, hospitals have a significant responsibility. Decarbonisation of the healthcare sector is a pressing and difficult challenge on a global scale.

The challenge is compounded in Africa by the fact that only 52% of its citizens have access to the healthcare they need. This means that, in the African context, sustainability is about so much more than green building principles, carbon footprints and the race to achieve NetZero. It is also about addressing people's needs, improving access to care for rural communities and ensuring that the solutions provided can be continuously maintained and supported over time.

With rising adoption of technology to support carbon emissions reductions and improve patient care, we will also see hospitals making increasing use of technology to deliver outpatient services straight to the patient's home. These services will be supported by networks of decentralised, community-based day clinics, to provide hands-on nursing care and social support, as needed. But the mutually beneficial applications for sustainability principles doesn't end there.

Electrification presents significant opportunity

There is certainly the challenge of an unreliable electrical grid in many African countries. Second to this, the electrical power provided by the grid in most of these countries is still heavily reliant on fossil fuels like coal and gas, with diesel generator backup solutions.

Within this local market context, while the solutions we provide as a start might not necessarily eliminate the use of fossil fuels entirely, they certainly reduce the reliance on fossil fuels through integrated hybrid energy solutions. This sees healthcare groups and developers looking to invest in standalone or micro-grid hybrid power solutions that incorporate some form of alternative and zero-carbon electricity sources such as wind, solar, hydro and geothermal

with battery storage backup. Such hybrid solutions can for example be used to power isolated systems which represent a significant annual energy consumption within the facility.

By incorporating electrification, hospitals can reduce their reliance on fossil fuels and reap significant benefits. And while an all-electric facility may seem like a futuristic vision in the African context now, it's not impossible and represents the opportunity to save on energy costs, contribute to improving human health and pave the way towards a greener, more sustainable future for healthcare and the planet. Getting this right will require taking further steps to swap existing technologies and systems that use fossil fuels with sustainable alternatives like heat pumps etc., either during hospital refurbishments or in new hospital designs from the outset.

If Africa can harness its significant potential for renewable energy production, the cost of running healthcare facilities in more remote communities, as well as the significant challenges posed by insufficient infrastructure in these communities, could be heavily reduced. On a continent where new facilities are sorely needed, it's about designing for sustainability from the outset. HVAC systems can be designed to leverage electric technologies to meet cooling and hot water generation requirements, where heat rejected from cooling the facility is used to provide pre-heating for hot water systems.

There are indeed challenges, but these hurdles can

be overcome with adequate and thorough preparations. Engineers and healthcare providers need to approach new building designs, and building refurbishment projects, with sustainability in mind. Each estate needs a comprehensive technical assessment and detailed strategy and business case to find the most effective solution.

Green building non-negotiable

In the African context, aging and over-subscribed healthcare infrastructure and strained budgets for new builds or refurbishments are another compounding factor. And, while there are some phenomenal, forward-thinking Government-led and private hospital group projects that are adopting sustainability principles to create world class hospitals and medical centres, largely we still seem to be falling behind this global trend. Often, this can be attributed to concerns over delivering a project within budget. Some of the current challenges exacerbating project budgets are the fluctuating costs to import equipment and materials for construction as well as the exorbitant lead times. However, this is also an opportunity to shift the focus to the long-term returns, which could provide the confidence needed to make the necessary investments.

To put this into context, in the commercial property space building for efficiency, sustainability and climate change resistance have already been proven to boast significant return on investment. Added to this, in many parts of Africa there are infrastructure concerns that constrain access to basic services such as water and power. This makes the case in Africa much stronger for hospitals and healthcare facilities to implement green building best practices and

renewable energy solutions to provide their own power and heat efficiently, making them self-sufficient in the event of outages and, at the same time, countering the effects of climate change, rising energy costs and water scarcity.

Striking the balance

Sustainability in African healthcare provision is a balancing act between sustainable, leading-edge engineering, and providing basic access. In the pursuit of a prosperous future of inclusive and sustainable growth, where all African people have a high standard of living, quality of life, sound health and well-being, learning from global trends and adapting these to suit African conditions is the key to building successful networks of healthcare infrastructure and medical facilities across the continent.

For healthcare in Africa to contribute to achieving net zero, without losing sight of the urgent need to provide access to quality healthcare for all, it's about harnessing the opportunities in digital transformation to address shifts in expectations of how healthcare should be provided, both in wealthier urban environments and in more rural areas where infrastructure in general is lacking.

At other times, it's about finding sustainable energy solutions that do more than save on the client's running costs and improve their facility's carbon footprint. These solutions must also allow them to remain accessible to their patients during rolling blackouts, as a common problem in Africa.

And always, it's about working towards net zero, on a continent with limited infrastructure but an abundance of resilience and optimism. ☺

SAICE ACADEMY AND PEIKKO SA TO HOST INFORMATIVE ROADSHOWS IN NOVEMBER

The South African Institution of Civil Engineering (SAICE), in collaboration with Peikko South Africa, will host three seminars in November. The seminars will be held in person and online and feature a mixture of in-person and virtual speakers.

The SAICE Academy and Peikko Systems Design and Construction Roadshow will be held on the 8th of November at the Cape Peninsula University of Technology Bellville Campus, in Cape Town, on the 10th of November at Tshwane University of Technology Main Campus, in Pretoria Gauteng and on 11 November at UNISA Florida Campus, in Roodepoort, Gauteng. The roadshow, facilitated by Tom McKune, SAICE's Head of Training, will feature local and international speakers presenting state of the art concepts on fast, safe and cost-effective ways to design and build using Peikko's

systems and products. Some of the speakers and module topics include:

- About Peikko products and systems already in use in South Africa and Africa by Daniel Petrov from Peikko SA.
- Petri Suur-Askola from the Peikko Group, Finland, will talk about Peikko Bolted Connections – Endless possibilities.
- What if You use Peikko products and systems instead in your projects?
- Questions and Answers session with local professionals.
- Winston Visser from Peikko SA and Juha Kinnunen from Cadeon, Finland, will discuss Peikko design and detailing coupled with other products design programs.
- Nirajuthan Selvarajah from Peikko Gulf will provide insight into Pipe Racks Solutions with Peikko.

- Undine Vitola from Wind Energy Applications will blow away the audience discussing Turbine Foundations Optimizer for the Winds of Africa.
- Anna Stirane from the Peikko Group will speak on Tall Building solutions with Peikko - How to make Your next Tall Building more efficient to design and build?
- Value Engineering Project Showcases - Daniel Petrov and selected precasters and contractors will discuss the Traditional vs Peikko Technology ways to design and construct

The roadshow promises to be inspirational and filled with knowledge from industry experts, customers, local engineers, and architects. Interested parties are requested to register for one of the workshops by visiting the following link. ☺

FUTURE-PROOF ARCHITECTURE AT THE NEW R140M WATERKLOOF HILLS COMBINED SCHOOL IN RUSTENBURG

Face brick and paving from Corobrik played a prominent role in the future-proofed design of the new state-of-the-art Waterkloof Hills Combined School in Rustenburg, North West. The 11 500 m² project was built by Royal Bafokeng Platinum (RBPlat) in partnership with the North West Department of Education (NWDoE). Mzansi Wealth was the lead consultant and project manager.



The Waterkloof Hills Combined School was officially opened by Minister of Basic Education Angie Motshekga and Minerals and Energy Minister Gwede Mantashe in a high-profile unveiling ceremony on 5 August.

“Face brick is durable, long-lasting and keeps its appearance for an extended period. In addition, there is the added benefit of no maintenance, which is important in the context of a school,” comments Floris van der Walt from Olivehill Architects.

The school can accommodate 2 155 learners, with 1 280 learners in the primary school (with four streams) and 875 learners in the secondary school (with five streams). A feature of the school is that there are 32 ‘smart’ classrooms equipped for remote learning and teaching.

A total of 180 000 Onyx Satin FBX and 480 000 Ruby Light FBS face bricks, 27 000 Nutmeg pavers and 110 000 plaster bricks for the internal walls were supplied from Corobrik’s Midrand and Springs factories, according to Gary Westwood, Sales Manager for Mpumalanga, North West and Botswana.

“A key requirement from RBPlat and NWDoE was durability,” notes van der Walt. This resulted in choosing face brick for all high contact and high traffic areas. For example, in the classrooms themselves, only the front and back walls are plastered brick to cater for the necessary internal services, while all the side walls are face brick.

Face brick was a natural choice in terms of its price point and aesthetic contribution, highlights van der Walt. The architects opted for the combination of Onyx Satin face

brick, a dark brown high-end product, contrasted against the lighter orange Ruby Light face brick.

Westwood adds that Onyx Satin is the ‘Rolls Royce’ of Corobrik’s face bricks, used extensively for detailed highlighting work. “Onyx Satin is a simply stunning face brick that we used in very specific focus areas and feature walls,” adds van der Walt.

Commenting on the thoughtful design that went into the project, van der Walt says simply that even a school building can be inspirational and, in turn, inspire its eventual end users. “Even though we had a limited budget, face brick allowed us to heighten the aesthetic appeal of the project and also to future-proof it.”

Westwood says that Corobrik’s collaboration with Olivehill Architects on this project is typical of the extra mile it goes for its architectural clients. Its business development team discussed various options for the school, with husband-and-wife design team Floris and Irma van der Walt eventually selecting their final combination based on various samples.

Full-size sample walls were then built on-site to give the architects a better impression of the end product in terms of quality, sizing and colour.

Corobrik also supplied a bricklayer trainer to train local bricklayers, thereby assisting with skills development and empowering local communities. “Not only does this translate into better quality at the end of the day, but it means a project that all stakeholders can take pride in,” concludes Westwood. ☺

CONCOR FAST TRACKS APEX STUDIOS FOR NEW ACADEMIC YEAR

In the busy and space-constrained urban context of Braamfontein, Johannesburg, Concor is making rapid progress on Apex Studios, soon to provide 899 rooms of much-needed student accommodation.

Apex Studios, initially known as The Groove, is an ambitious 13-storey building comprising two adjoining blocks. Conveniently situated across the road from Wits University, the site presents various space challenges which Concor deals with in its daily programme. These constraints, combined with the tight completion schedule, have meant that there is activity around-the-clock on the project.

Built on pile caps of up to three to four metres in depth, Apex Studios is an L-shaped structure with the two blocks joined on each floor. Short outdoor bridges and balustrades between the blocks let in fresh air and sunlight. During construction, three loading platforms have been deployed on each building to facilitate the safe delivery of materials by crane. Designed and approved by structural engineers, each platform takes up to 2,3 t of material and is load-tested before use.

“Having two tower cranes – one 60 m jib crane and one 40 m – on site has helped us expedite the safe movement of material,” says Concor site agent MacDonald Ngobese. “The 40 m crane works two 12-hour cycles, including the placement of material by the night-shift team on the respective levels of the building for the following day’s activities.”

Use of readymix concrete is helping to speed up the construction and bricklaying process, while also ensuring a consistent colour of concrete in the jointing. Three readymix deliveries of 6 m³ each keep the site supplied, says Ngobese, with retardant admixtures extending the setting time and reducing wastage.

The building includes 16 sheer walls comprising Class 2 off-shutter concrete, completed to a high standard, he notes. New formwork is being utilised along with oils to prevent sticking, creating an attractive and durable finish. While the formwork was contracted out, Concor completes the columns and sheer walls in-house, placing concrete from a bucket conveyed by the tower crane.

“Concrete slabs have been constructed in partnership with a supplier who provides and fixes the rebar, and another who pumps the concrete to where it is required,” he says. Concrete is moved from ground to Level 8 with a mobile boom pump, and from Level 8 to the roof with a static pump. The slab on each level – for both block 1 and 2 – consumes about 300 m³ of concrete. The whole project will use around 6,200 m³ of concrete, with 2,300 m³ being dedicated to the slabs and the bulk for the vertical elements. The mass of reinforced bar being used totals 160 t.

The face brick finish makes for an attractive surface while needing no plastering and minimising long-term maintenance. About 1,5 million bricks will be used during the project, including internal brickwork and the face brick façade. Ngobese explains that steel frames have been used for the window apertures, as this speeds up the work of the window installers.

Bricklayers build these frames into the brickwork, so

that no measuring up of each frame is required later. “This approach has allowed all the aluminium window frames to be manufactured in advance, to be ready for a rapid installation schedule of about 40 frames a day,” he says. “All the necessary tolerances have been built into the measurements, so no time is lost.”

An interesting aspect of the project is the heritage value of the existing buildings, which are being preserved as part of the Apex Studios precinct, and repurposed as the common area space of the development.

“We are working according to a comprehensive heritage report that specifies what aspects of the buildings need to be conserved,” he says. “For the original slate roofing, for example, we have contracted a specialist to advise on the cleaning and restoration.”

As usual, says Ngobese, safety is always a priority – both for workers on site and for the public. This is particularly the case on this site, which is closely bounded on three sides by roads. The M1 highway, perhaps Johannesburg’s busiest north-south route, is just 1,2 m from the building’s western edge.

“Safety measures are stringently applied while keeping deliveries streamlined within the limited available space around the buildings,” he says.

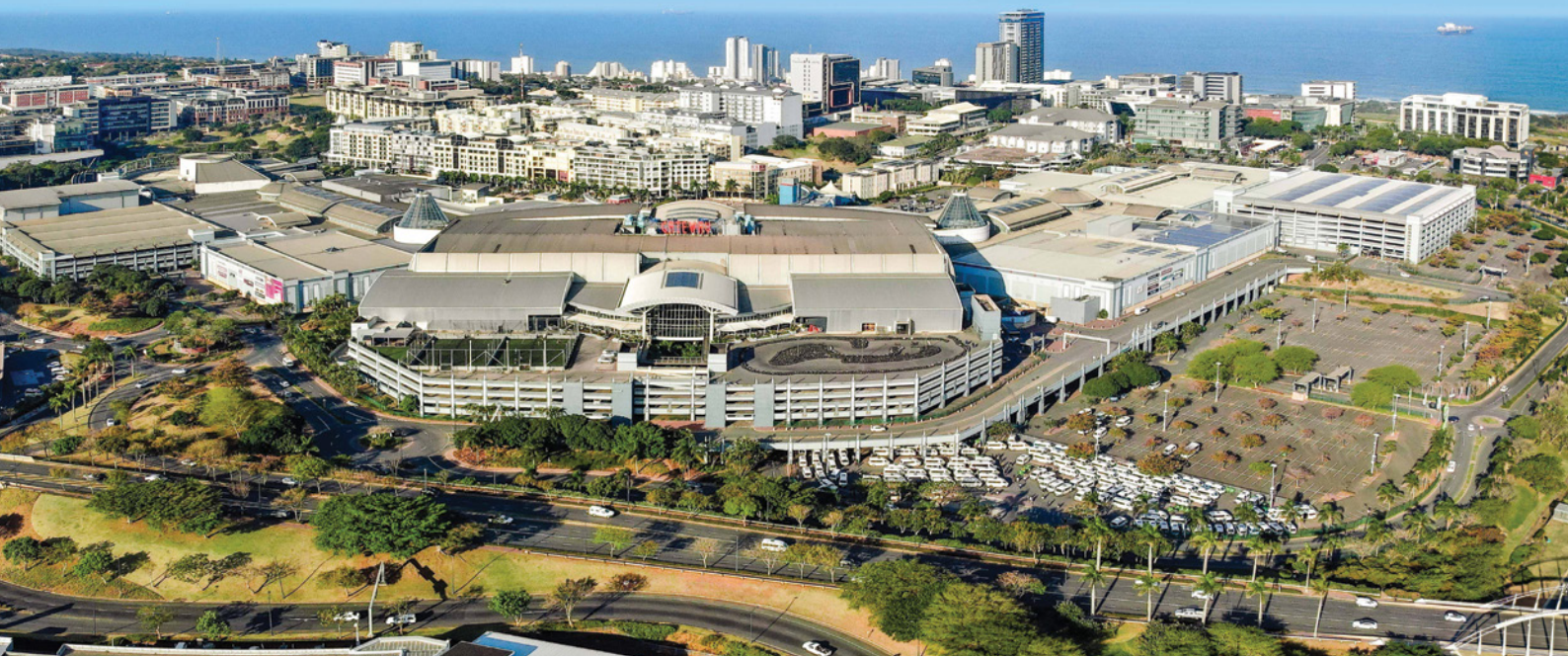
Concor was able to secure wayleaves on Enoch Sontonga Avenue and De Korte Street for off-loading and laydown of materials. Managing the busy traffic is therefore vital, and four flagmen have been ensuring safety on this front. Cranes are also not permitted to slew any load above the roadways.

“Scaffolding with shade netting is installed continuously behind the top level of the building, about a floor below the live deck,” he said. “That is an important way of preventing the possibility of a falling object landing on a road or highway.”

The priority of safe working is implemented through the constant reinforcement of an on-site safety culture, he says. This is driven home by three full-time safety officials, and multiple safety inspections each day. This has ensured that – even with 40 contractors and over 300 workers on site – there have been no lost time incidents on the project. By late-August, this meant over 500,000 LTI-free hours.

Alongside safety, the site has also implemented health strategies including dealing with dust. Among the typical causes of dust is the use of angle-grinders to chase into walls for services installation. Ngobese explains that this is minimised through the use of vacuum-bags on grinders, as well as pre-dampening of walls.

Concor will take the building through to fit out stage, which will include furniture and a fridge in each room. When completed, Apex Studios will offer 325 units, each comprising a combination of one, two, three or four bedrooms. The project is aiming for handover to the client in November 2022. ©



GATEWAY CELEBRATES 21 YEARS OF GROWTH AND INNOVATION

Since Gateway's launch twenty one years ago, it has flourished as both a retail hub and a catalyst for economic development along the KZN North Coast. At its inception, Gateway played a fundamental role in the broader R3,5bn plus development of the KZN North Coast. The R1,4bn Gateway Theatre of Shopping was the 'anchor tenant' to the New Town Centre and remains one of the largest malls in the southern hemisphere and the top 100 largest malls in the world.

Chief executive officer of Old Mutual Properties (OMP), Sakina Nosarka said "Gateway has proven to be one of the biggest retail success stories in the country. OMP's bold decision in 1998 to build a super-regional mall in a field of sugarcane came with significant risks."

Informed by the thinking behind the likes of the Mall of America and West Edmonton Mall, Gateway was designed to open out onto Palm Boulevard and integrate with the evolving Umhlanga New Town precinct. Gateway has grown from 118 000 m² when it opened in 2001 to 176 000 m². The centre opened its doors with 117 tenants and has grown to 370 retailers today, 54 whom have been trading since the onset.

Gateway provides a base for over 7 500 formal jobs as well as seasonal work and supports a supply chain that is integral to the KZN economy. Nosarka added, "Gateway has set an important example when it comes to growth and retail innovation as well as investment in sustainability, social inclusion and community."

The centre continues to consciously dedicate a large portion of its space to entertainment. This investment in the shopper experience not only introduced the concept of 'shoppertainment' to South Africa but also helped build a vibrant tourism industry in the region. Gateway is currently seeing excellent growth year-to-date with turnover at 34% ahead of 2021 figures. Compared to pre-Covid levels in 2019, the centre is showing positive growth of over 21%.

With the shifts in retail trends and shopper behaviour during Gateway's 21-year history, adjustments to tenant mix and the

development of new spaces around the mall are key to its performance. The centre has intentionally evolved over the years and continually responds to market demands to remain relevant and a major contributing factor to the property's success.

Stores like Zara, Skins Cosmetics, Mango, Dior and many others have chosen Gateway as the platform from which to launch their brands into the KZN market. "We believe our tenant mix is true to our customer needs. We host many "first and only" stores in KZN and attract desirable international brands. Many of our retailers invest in flagship stores at Gateway and offer an experiential store design," Norsaka says.

Gateway's 21st birthday celebration comes on the back of the announcement of a multi-million-rand upgrade of the Great Hall around its entrance axis as well as the two adjacent vaulted wings. This will be completed in two phases before and after the festive break.

In 2022, Gateway has decreased its energy consumption by 30%. This is in line with OMP's aim for carbon neutrality within the next 20 years resulting in the replacement and upgrades to incorporate latest technologies and efficiencies - including lighting, sanitary ware, escalators, lifts and air conditioning chillers. Norsaka concluded, "Gateway believes in partnerships and good business. Our successes are our retailers', entrepreneurs', suppliers' and partners' successes too. We aim to create sustained outcomes that drive growth, whilst strengthening our environment and the communities of which we are a part." ©

SA'S REGIONAL SHOPPING MALLS BOUNCE BACK

Flanagan & Gerard Property Group's quality portfolio of shopping centres recorded strong mid-year trading, achieving double-digit turnover growth in June and July, despite a challenging economic environment.

Across all the Flanagan & Gerard shopping centres, turnover growth in June 2022 was up 12% year-on-year, notwithstanding SA's retail sales moving backwards 2% in the same month.

The portfolio showed even bigger improvements from July 2021 to July 2022, delivering 20% turnover growth. However, this includes the impact of the July 2021 unrest that hampered trading at some malls.

"Regional malls are bouncing back. Footfalls are up year-on-year and moving higher than pre-Covid numbers for the first time, while spend-per-head has increased significantly," reports Paul Gerard, Managing Director of Flanagan & Gerard.

The trends in the Flanagan & Gerard retail property portfolio paint an exciting and encouraging picture indeed. They also point to a welcome comeback from the trading categories and retailers that were hardest hit by pandemic-related restrictions.

"Our restaurants are trading well and ahead of pre-Covid levels. Cinemas have rebounded and are displaying a similar pattern. Liquor stores are showing massive growth in trading. In our portfolio, we are seeing great results from Edgars' new management and from Game's new strategy. It is particularly exciting to see national retailers bringing new brands to market," says Gerard.

The positive trading metrics in the Flanagan & Gerard retail portfolio speak to the strength of its tenants and its retail centres' tenant mixes and catchment markets. This is a team that works hard to keep its shopping centres fresh, appealing and relevant for their customers. The portfolio has a low vacancy rate of 0,45%.

The portfolio's trading strength is also reflected in the

financial health of the Flanagan & Gerard shopping centre tenants, leading to a very low level of arrears.

The continued reality of load shedding has given malls with backup power a competitive edge in attracting shoppers and reinforced the abundant opportunities for solar-powered shopping malls in South Africa. Flanagan & Gerard aims to have all its retail properties function fully during power disruptions, for which it employs a combination of solar energy and backup generation. Empowering improved trading outcomes, promoting carbon reduction by decreasing fossil-fuelled energy consumption and lightening the load on the national power grid, Flanagan & Gerard will continue to increase the solar power generation capacity at its shopping centres.

Flanagan & Gerard develops and invests in dominant regional shopping centres that retain dominance within their trade areas and high-end niche community centres. It co-owns Ballito Junction Regional Mall in KwaZulu-Natal as well as Morningside Shopping Centre, Springs Mall and Vaal Mall in Gauteng, together with Highveld Mall and Middelburg Mall in Mpumalanga, and Thavhani Mall, Musina Mall, Great North Plaza and Mall of the North in Limpopo. Its esteemed track record also includes numerous retail properties developed for other leading investors.

Flanagan and Gerard's new shopping centre, the 24 000 m² Boardwalk Mall, is due to open on 22 September 2022, to become the new home of world-class convenience and entertainment in Summerstrand, Gqeberha, Nelson Mandela Bay Metro, Eastern Cape. Boardwalk Mall is a major development by Flanagan & Gerard Group and Emfuleni Resorts, a subsidiary of Sun International. ☺





MERINO MALL OPENING IS A RESOUNDING SUCCESS

Introducing unmatched one-stop shopping to the community of Ermelo and surrounds in Mpumalanga, the 28 600 m² Merino Mall opened on 27 October to become the first mall of its substantial size in a 100-kilometre radius.

Merino Mall is a major development owned by Moolman Group and Abland and located on the landmark 11-hectare site that has always been central to community life in the area, the former Ermelo Showgrounds.

The small regional mall has been developed with the promising future of this mining and agricultural area in mind and with family and community at its heart.

Sönke Moolman-Pautz, Retail Director at Moolman Group, comments, “When you add such an impressive mall to a great community, you have the perfect recipe for sustainable mutual success. We look forward to serving our shoppers and providing a safe and enjoyable place where everyone can meet and socialise.”

Merino Mall’s carefully curated retail mix includes many of today’s best-loved and most popular brands. Anchors include Checkers, Pick n Pay, Woolworths and Clicks, as well as the first Crazy Plastics and Dis-Chem in the area. Other retail firsts for Ermelo include, Cape Union Mart, PNA, @ home, Queenspark, Old Khaki, Crazy Pets, and Refinery.

Merino Mall’s 90-strong store line-up comprises an impressive fashion node, banking facilities, restaurants and many more compelling offerings.

Designed by award-winning MDS Architecture, the exterior of Merino Mall is inspired by the original showground barn structures, with the barn shape becoming a key design

feature. Adding authentic flair to the local experience, the existing barn structure was retained and incorporated into the new building. The sandstone found on the site has also been used for several building features, including facades, reflecting its unique setting.

While the architecture and design features pay tribute to the site’s history, the mall is as modern as you can get and incorporates answers to today’s big environmental and social challenges. Merino Mall has its own solar photovoltaic (PV) plant that produces green energy and the mall can trade during load shedding. The property even has a sewer treatment plant that will recycle grey water back into the building to achieve water savings. The mall also has a fast fibre Wi-Fi network, which shoppers can access.

Weaving local culture into the fabric of the mall, it features several artworks from local artists who participated in an art competition held by the developers.

After a 15-month construction period and an even longer development process, Merino Mall’s opening gave all involved a reason to celebrate. Construction of Merino Mall began in July 2021, led by the main contractor Mike Buyskes Construction. Boosting the local economy, the mall’s construction phase created 750 jobs, primarily for local contractors and workers.

The vision for the mall includes making a meaningful

contribution to the local economy on an ongoing basis. In this regard, it has also created 450 permanent job opportunities. As part of the development process, the mall's owners opened an online jobs portal where local job seekers could register, and their applications were made available to the mall's retailers. The portal was also used to employ within the centre management team and created a platform for service providers to tender for various contractual opportunities in and around the centre.

During the construction period, a considerable challenge was the steep slope of the mall's site, which required extensive bulk earthworks but resulted in the mall's superb visibility and accessibility. Improvements were also made to its surrounding roads for all road users, making the mall especially easy to access. It offers 1,743 parking bays in an on-grade, safe and secure parking area, with reserved parking for shoppers with special needs close to entrances. It also includes a taxi rank.

Perfectly positioned for its local shoppers, as well as the many



commuters travelling to and through Ermelo from surrounding rural and small towns in the region, Merino Mall is located on the corners of the N2 and N11 freeways, close to the N17 and within walking distance of the bustling Ermelo CBD.

"We are delighted to open Merino Mall for the community of Ermelo. It is beautiful and convenient, with

an exciting variety of retail and restaurants, a fun play area for children and a great experience for all. It complements, enhances and supports the retail offering in Ermelo, and we are confident it will be an excellent asset for its community," says Merino Mall General Manager Morgan Lee van der Walt. Merino Mall is managed by the Moolman Group. ©



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SOUTH AFRICAN STEEL CONSTRUCTION SECTOR TRIUMPHS OVER ADVERSITY OF RECENT YEARS

Innovation, ingenuity and a sense of community within the steel construction industry were showcased on the evening of 13 October, when participants across the local steel value chain gathered to attend the highlight of the annual steel industry calendar – the 2022 Steel Awards, presented by the Southern African Institute for Steel Construction (SAISC) and held at Emperor’s Palace, Gauteng.

This event, which demonstrates excellence in the use of steel in construction, was the first in-person Steel Awards held since 2019, prior to the COVID-19 pandemic. The 2022 Awards very effectively highlighted how the local steel sector has triumphed over adversity in the past two years; as well as showcasing a typically South African ‘can-do’ approach to the challenges endured during this time.

The annual SAISC Steel Awards

provide an opportunity for stakeholders across the industry – including engineers, fabricators, designers, architects, processors, merchants and fabricators – to present their work and be honoured for their outstanding achievements. The evening – known in the steel sector as the ‘Oscars of the steel industry’ – was an elegant gala-style gathering with a ‘red carpet’ feel and a growth-related theme this year of ‘green shoots’.

Local ingenuity and commendable perseverance

SAISC CEO Amanuel Gebremeskel explains: “Even before the global pandemic, South Africa’s steel industry had gone through a period of severe challenges. The ‘green shoots’ theme is an acknowledgement of the importance of continuing to navigate through troubled times. It is also a tribute to our much-loved former CEO, the late Paolo Trincherro, who did so much for



Steel Awards 2022 overall winner - the Benguela General Treatment Plant mining facility, aboard the 'Benguela Gem', the world's most advanced diamond recovery vessel (aerial view).

South Africa's steel industry.

He was a passionate proponent of the concept of promoting growth throughout the steel sector - or 'green shoots' as he put it - and that one must keep on moving forward and pushing through, even when times are tough. I know he would have been so proud of this year's entries, which are even more noteworthy because they were completed during this very difficult pandemic era."

Gebremeskel explains that many steel construction projects globally were stalled during the COVID pandemic, and yet members of the South African steel industry managed to drive projects through to completion.

"A number of high-quality,

truly excellent projects have been showcased at this year's annual Steel Awards, and I believe this is a testimony to our character as a nation - as well as the value which the SAISC brings to the local steel construction industry.

The SAISC is one of only 6 steel institutes around the world, and has a long history as a 'steel sector sage': a custodian of technical knowledge, an educational resource and a trusted authority."

Mining category 'gem' shines as overall Awards winner

"While there is tremendous merit across all of our entrants, as well as all our category winners," enthuses Gebremeskel, "the SAISC Annual Awards judges were unanimous in their praise of our overall winner - which was also the winner of the Mining category - the Benguela General Treatment Plant mining facility, aboard the 'Benguela Gem', the world's most advanced diamond recovery vessel. The Benguela



Steel Awards 2022 overall winner – members of the project team with Amanuel Gebremeskel, CEO of the SAISC (5th from the left).

Gem is owned by Debmarine Namibia, a 50/50 joint venture between De Beers Group and the government of the Republic of Namibia.”

The Benguela Gem is the product of international collaboration: designed in Norway and Poland, built in Romania and fitted out by De Beers Marine South Africa. Diamond recovery by Debmarine Namibia takes place at 90 to 150 metres below sea level. The exceptional design, fabrication and installation of the 3 000 ton diamond treatment plant on the vessel was carried out ahead of schedule by local engineers and fabricators in the midst of COVID-19 pandemic restrictions. Gebremeskel advises: “This project stood out in a number of different ways, and presented a first in the history of the Steel Awards: it operates off-shore, and is floating rather than being stationary and anchored - a truly distinctive applicant within the Awards categories. As a sea-faring structure, it is furthermore subject to unusual engineering loads from a naval engineering perspective. The vessel, built for De Beers Marine operations, is unique in Africa, being able to carry out the entire under-sea diamond dredging and treatment process. From the vessel arriving at the end of September 2021 with an empty deck, it sailed again in

December 2021 with a fully operational mine onboard.

This project was an exceptional showcase of the use and applications of steel featuring South African design, fabrication and construction for an international client.”

The treatment plant was nominated by designers PBA Projects and completed in collaboration with De Beers Marine and 3C Metal Belmet, Namibia and local fabricators Steel Services and Allied Industries.

Additional Awards categories showcase steel sector diversity

This year’s awards introduced more categories, and consequently an increased number of winning entries, than in recent years. SAISC Marketing and Management Consultant Denise Sherman explains: “The reasoning behind this was to honour a broader spectrum of Awards entrants. We wanted to cater to all possible role-players within the steel construction industry’s varied landscape.”

The Steel Awards Category winners are as follows:

Automotive

- Ford Package E - as part of a R3-billion investment by vehicle manufacturer Ford, an automotive

assembly plant was erected in Rosslyn, Pretoria as part of the company’s high-volume export programme. The project used extensive steel supplies and comprised a 12 400 m² warehouse, 14,6 m in height. The project was completed ahead of schedule, despite the COVID-19 pandemic and related supply challenges.

Agri-Industrial

- Woodridge Packhouse - this project presents an interesting form, clever use of natural light and a design which allows for natural ventilation - therefore saving on energy costs.

Mining

- Benguela Gem Treatment Plant – this project not only won the Mining category but the 2022 Steel Awards overall (see elsewhere).

Residential

- House Vingos - the innovative use of steel - combined with all the other elements of construction - delivers a statement piece of architecture and a warm, welcoming family home.

Sports Facilities

- KES Aquatic Centre - While retaining the heritage component of the previous swimming pool complex, the roof structure is

of particular interest: an apex running diagonally across the structure, requiring meticulous attention to ensure leakproof sealing.

Sculptural/Architectural

- Eastgate Solar Trees - In addition to their aesthetically-pleasing design and how this cleverly reflects a renewable energy focus, the access to the site during the construction phase was challenging, making for a complicated and challenging installation process.

Light Steel Frame (LSF) Building

- Jubilee Hospital - at the height of the COVID-19 pandemic, the innovative use of light steel framing in this field hospital in Hammanskraal, north of Pretoria, allowed for the addition of a significant number of hospital beds to increase existing capacity, using this speedy construction methodology.

Metal Cladding and Roofing

- KES Aquatic Centre - this project won both the Metal Cladding and

Roofing, and the Sports Facilities categories (see above).

Tubular Steel

- Babanango Travellers Camp - This innovative tourist accommodation is situated within the Babanango game reserve in northern KwaZulu-Natal. A number of interesting technical details included reconciling complex issues regarding the use of different materials of construction and geometrical factors, to achieve the project’s architectural objective: roofing reflecting shapes used in traditional African shields.

Community Enrichment

Gary Kirsten Sports Centre Khayelitsha - Featuring ease of construction and sustainable materials, this structure also has the capacity to extend if need be.

Regional Awards

- Best Project Gauteng - House Vingos (see above)
- Best Project Western Cape - Benguela Gem Treatment Plant (see mining)
- Best Project Eastern Cape -

Woodridge Packhouse (see above)

- Best Project Limpopo - Freshmark Polokwane (see below)
- Best Project KwaZulu-Natal - Babanango Travellers Camp (see above)
- Best Export Project - New Biox Plant in Zimbabwe (see below)

Best Project Limpopo: The project, carried out for the Freshmark distribution centre in Polokwane, made use of particularly innovative cladding: atypical of a warehouse building, and technically challenging to achieve.

The result was aesthetically pleasing, with a design element of curved bullnoses from roof to cladding. Best Export Project: Biological oxidation ('Biox') is a technology that ensures the optimal processing of high sulphur gold ore, thereby increasing the achievable gold recovery.

This technically challenging structural framing project entailed detailing, fabricating and constructing a gold processing Biox plant. The primary objective thereof was to provide access to the various areas of the Biox plant – and to its piping support system. ☺

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EVA-LAST: ENVIRONMENTAL TO THE CORE

Research has shown that the world's two largest rainforests – the Amazon and the Congo forest – are under threat. Current rates of deforestation, even from legal logging, are unsustainable and will see two of the Earth's most carbon storage zones lose their effectiveness within decades. The adoption of alternative construction materials to reduce demand for natural timber has become an environmental imperative.

A 30-year study published in the *Forest Ecology and Management* journal in September 2021 showed that the Brazilian Forest Service's programme of forest concessions initiated in 2006 will maintain the current rate of timber production for only one harvest production. The government outlined a potential concession area in the Brazilian Amazon of 35 million hectares, but research has shown that to be sustainable, logging would need to occur at just 2% of the current rate. The study recommended that alternative sources of timber be found.

In the Democratic Republic of the Congo, felled timber, including hardwoods regulated by the Convention on International Trade in Endangered Species, is exported to destinations such as Europe and the US. The trees in the Congo forest store a third more carbon per hectare than those in the Amazon and harbour endangered wildlife.

However, since 2004 the government has accelerated the extension of timber transport roads into the forest to enable logging concessions, bringing with them commercial hunting, charcoal making and slash-and-burn agriculture for

one of the world's fastest-growing populations.

Elsewhere, six environmental groups are in the processes of suing the US government for allowing the logging of old-growth forests in the Pacific Northwest, after the Trump administration amended a protection prohibiting harvesting trees of 21 or greater inches in diameter, while residents of Queensland's Sunshine Coast in Australia are attempting to stop the state government from going ahead with allocating logging concessions in the Beerwah State Forest, which is home to threatened species.

Even the Solomon Islands, a small Pacific nation made up of more than 900 islands, is at risk of losing biodiversity and ecosystems upon which citizens depend for their livelihoods thanks to aggressive logging at nearly 20 times a sustainable rate.

Legal and social challenges like these show that whether or not timber is legally logged, the world's forests are under threat and alternative materials need to be sourced. Fortunately, bamboo-plastic composite products such as those from building materials group Eva-Last

are reducing environmental impact while recreating the beauty and elegance of natural wood. Eva-Last CEO and Co-founder, Marc Minne says the company substitutes 180 m³ of composite materials for hardwoods every year in the production of its decking and cladding products. “That equates to approximately 120 000 trees that are saved annually. To provide a more practical picture, a 200 m² hardwood deck would require nearly 13 trees to be cut down for planed logs. Hardwood decks typically need to be replaced every ten years through exposure to the elements and weathering.”

The potential impact of decking on the environment is immense. However, Eva-Last’s composite building materials makes use of bamboo as a raw material, which grows up to 50 times faster than hardwood timber and releases 35% more oxygen into the air. “Planed logs for decking produce a massive amount of wastage – sometimes up to 80% of the tree – but with bamboo fibres we can bring wastage down to as little as 2%. Bamboo resources are widely available, easily replenished and naturally antibacterial,” says Minne.

In a co-extrusion process, the bamboo fibres are blended with recycled plastics to create the core of the board. Depending on the technology, various manufacturing processes add the natural timber look, in a selection of colours and textures to match any architectural design while providing the durable benefits of composite materials from the elements to pests and being exceptionally low-maintenance.

“Every year Eva-Last recycles more than 26 000 tons of plastic that would have gone to landfills or ended up in the

oceans. Recycling of just one ton of plastic results in CO₂ savings of 0,73 tons, which is the same as preventing 4 000 km of travel in a car. To date, we have prevented millions of tons of plastics from reaching and spoiling the natural environment,” Minne adds.

Recycled plastics in conjunction with bamboo fibres can be processed to create products that are not only holistically sustainable but immensely durable and strong. “To do this, we have powered what is an energy-intensive process through solar energy, installing nearly 90 000 m² of solar panels at our manufacturing facility since 2017. This means we are saving 2 000 tons of CO₂ from entering the atmosphere every single day,” says Minne.

Eva-Last has been operating with an environmentally conscious mindset since 2006, from the choices of sustainable raw materials to ensuring that renewable energy is harnessed to create sustainable building products.

“Eva-Last has been internationally recognised for our commitment to environmental sustainability and we’re proud of the work we do to promote timber alternatives that are gentle on the Earth. We don’t cut down any trees, we use no toxic chemicals in either manufacturing or maintenance of our products and we have reduced our waste impact to almost zero, ensuring our carbon footprint is minimal,” says Minne. “We believe that as people around the world become increasingly concerned with environmental sustainability, our eco-friendly credentials will be as important as the incredible technical engineering that goes into creating beautiful, durable high-performance products that enhance our living spaces,” he adds. ©



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ALPHA System

Technopol SA recently joined forces with Terraco to produce a locally available system, now being distributed by Technopol SA, that became the first South African system to pass the International Standard, BS 8414-2 façade fire test: Fire performance of external cladding systems.



This Terraco EIFS Alpha system is based on using Technopol EPS (LiteCel™) as the insulation material.

The test results give building owners, designers, insurance companies and tenants confirmation that the specified Terraco EIFS Alpha system with Technopol Insulation is in fact suitable for use on a fire related substrate

TERRACO EIFS ALPHA SYSTEM

Product Name	Description
Terraco Styrofix	An adhesive used to fix the EPS to the substrate.
Technopol EPS (LiteCel™) Insulation Board	The insulation material thickness is determined by the thermal performance required.
Mechanical Fasteners	Plastic fasteners with plastic or steel pin dowels are used to fix the EPS to the substrate, which also assists with wind shear at higher levels.
System Profiles	A range of accessories required for strengthening and finishing the system - for finishing around window and door openings, and window sills.
Terraco Styrobond DP	The basecoat that is reinforced with a layer of EIFS Glass Fibre Mesh.
Terraco Terramesh	A reinforcing EIFS Glass Fibre Mesh.
Primer	A basecoat substrate penetrating primer – Terraco P Primer.
Decorative Finish	A high performance, decorative wall coating which is sometimes finished with a clear or pigmented top coat.



PLASCON'S NEW-GENERATION FLOOR COATINGS SEAL THE DEAL



A leader in the coatings business for more than 130 years, Plascon continues to set the benchmark for quality and performance. The company has reimagined some of its trusted products through the use of advanced floor coating technology, bringing to market brand-new coatings with a wide variety of applications.

The versatile floor coatings range currently consists of a range of products. These products deliver seamless finishes for everything from hospitals and vehicle showroom floors to warehouses, processing plants, commercial and residential buildings.

Fabulously fit for purpose

Floortect 7 SB, formerly Plascon Gehopon Sealer 7 SB, is a fast-drying epoxy used as a system primer. It can seal off concrete to achieve a dust-free surface and currently comes in transparent green. The clear sealer will soon be available.

The glossy, non-skid Floortect 1000 SB, previously named Epoxy Floor Coating (EPD), is resistant to oils, grease and chemicals and is ideal for floors that are frequently cleaned with detergents. The grey, tintable

product is best used in commercial and residential buildings, in both living spaces and garages, as well as warehouses and industrial units.

Two high-gloss products complete the range. Floortect 2000 SB, formerly Plascothane Purecoat (PUC), is a moisture-cured urethane that is best used on counter tops and wooden floors, or in workshops, process plants and industrial units. A clear, tintable product, Floortect 2000 SB does not require mixing and dries quickly, which means up to three coats can be applied in a single day.

Finally, Floortect 4000 SF, previously known as Plascoguard 4000 HB, is an epoxy coating that will cope admirably with foot traffic in factories and warehouses, food processing plants and process areas, hospital theatres and labs, cold rooms, and aircraft hangers. Resistant to a wide range of chemicals, this light grey product can be applied in a single coat.

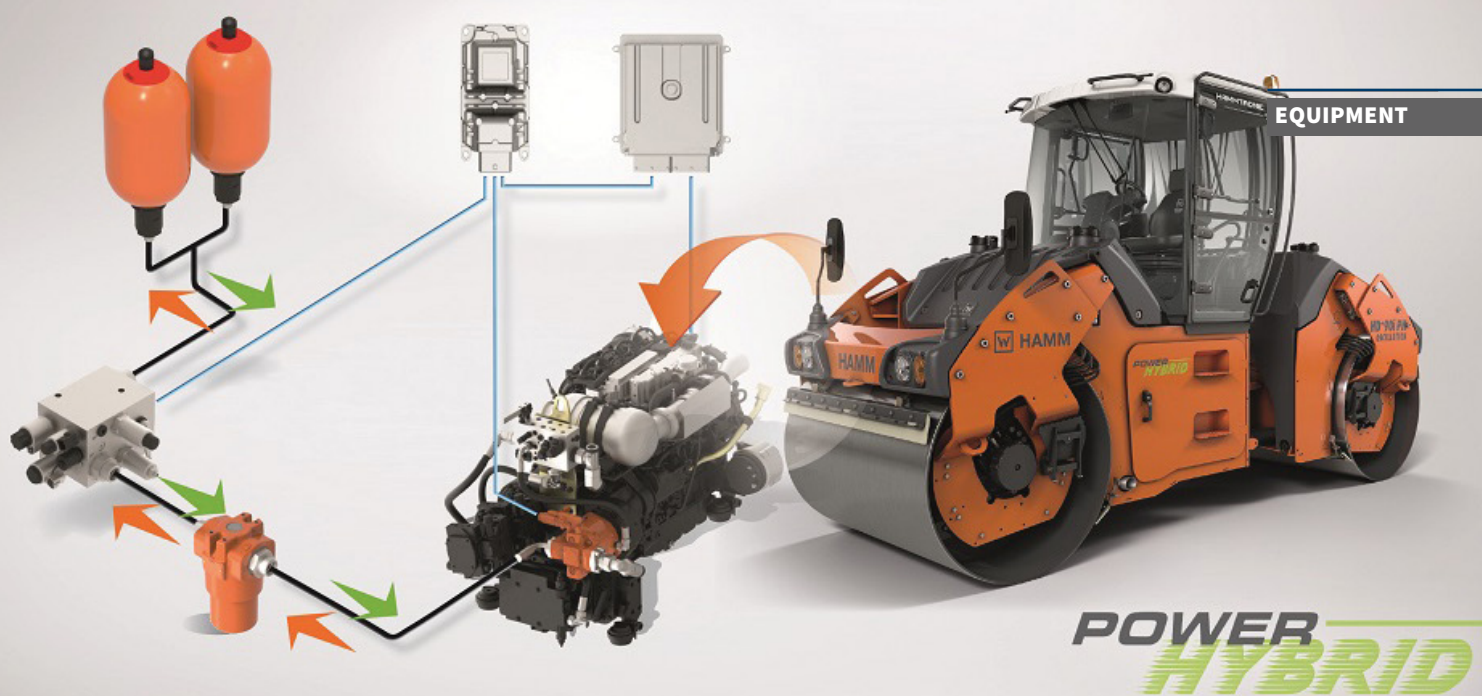
Friends with benefits

Purchasers will love the fact that the Plascon Flooring range of products repel dirt and dust – which is always an advantage, particularly in settings requiring high standards of hygiene.

The Floortect range has further benefits – it's a pleasure to use, with its smooth application and excellent adhesion, and Plascon's investment in superior quality means the coatings will protect and extend the lifespan of whatever surface you're applying them to.

You'll have hardy, beautiful finishes at your fingertips with these exceptional products. ©

These products deliver seamless finishes for everything from hospitals and vehicle showroom floors to warehouses, processing plants, commercial and residential buildings.



HAMM: LOW-EMISSION COMPACTION WITH ENVIRONMENTALLY FRIENDLY SOLUTIONS

For many years, Hamm has been developing fuel-efficient machine technology in order to achieve an efficient and, in turn, resource-conserving workflow on the construction site. One milestone included the Power Hybrid roller from the HD+ series. With eight electrified tandem rollers, Hamm is now entering the segment for fully electrical construction machines.

Resource-conserving power train

In all current series, the power train has been continuously optimized and designed for operation at reduced speeds. The operating companies therefore save fuel each day. The automatic engine stop also reduces consumption: It automatically switches off the engine after a few minutes of downtime, while also taking into consideration the requirements for the exhaust gas cleaning systems. The ECO mode, which is integrated into all series, also helps the driver to compact in a way that they can easily save fuel.

Quiet Power Hybrid rollers save CO₂

Back in 2016, Hamm was already the first manufacturer in the world to combine a diesel engine with a hydraulic accumulator for the development of alternative drives. With this Power Hybrid roller from the HD+ series, it was possible to reduce the fuel expenditure by around 15% – all without having to compromise on compaction power. This was also coupled with a reduction in noise emissions.

Emission-free compaction with electric tandem rollers

More and more municipalities are demanding low-emission or completely emission-free construction machines. In future, wherever compaction must be carried out free of emissions, the electrically powered tandem rollers in the HD CompactLine series can take over the compaction. When operating the electric tandem rollers, there are no differences to the diesel-powered models, and even the compaction power is identical.

Fully electrical solution

Conceptually, Hamm is relying on a fully electric solution:

Thanks to a high degree of electrified components, the compaction specialists achieve an optimal energy yield. A maintenance-free Li-ion battery with a capacity of around 23 kWh supplies the components via a 48 V on-board power supply. Furthermore, the energy released from the drive engines and vibration motors when braking is used via recuperation. The bottom line is that the battery can be used to tackle an entire working day. To charge the permanently installed battery, plugs for 230 V and 400 V mains power are included on-board.

Electric combination roller with oscillation: Quiet, low-vibration and emission-free

The electric drive also drastically reduces the noise emissions since there is no longer any noise from the engine. This makes the electric tandem rollers ideal for all areas in which you want to compact with as little noise as possible.

Since, in these environments, a low load with vibrations is often required, the compaction specialist is presenting electric vibration and oscillation rollers, as well as an electric combination roller with oscillation. This means that Hamm is the only manufacturer in the world to offer a tandem roller that works quietly, with low vibrations and free from emissions.

Operating with biodiesel and HVO

Most of the Hamm rollers that are currently on the market can already be operated with non-fossil fuels. This includes biodiesel, i.e. diesel fuel that is derived from plants, as well as HVO (Hydrotreated Vegetable Oil). These can be mixed in with the diesel fuel or can replace it entirely. This also includes biodegradable hydraulic oils for the standard product range. ☺

DAIMLER TRUCK SOUTHERN AFRICA REVEALS 60 FUSO CANTER FE7-136 LIMITED EDITION MODELS

The year 2022 has been a monumental year for the Daimler Truck Southern Africa (DTSA) assembly plant in East London as it celebrates 60 years of manufacturing excellence in South Africa - a milestone that will stay forever etched in the company's history. In its continuance to mark the occasion, recently, the company once again pulls out all the stops as it unveils 60 FUSO Canter FE7-136 special edition models for the local market.



Maretha Gerber, Vice President Sales and Marketing.

Commenting on the diamond anniversary year Michael Dietz, President & CEO Daimler Truck Southern Africa: "I am proud to say that this year has been nothing short of amazing for us as DTSA. We kick-started our diamond anniversary celebrations on a high note and, now what better way to culminate it than to introduce the FUSO Canter FE7-136 60th edition range, a product we proudly deem kingpin within our FUSO brand. As we cast our eyes into 60 more years of revolutionary production in South Africa. The future of our acclaimed plant lies in our continuous endeavour to produce ground-breaking trucks and buses, our highly skilled people, and motivated by one single vision – to fulfil the evolving business needs of our customers".

The FUSO Canter FE7-136 is one of the most popular and top performers in the FUSO stable, and it is for this reason that it is the first-line flagship model to celebrate the milestone. The 60th edition range has been adorned with eye-catching accessories that are reminiscent of the style and essence that is 'Simply Better Trucks'.

On the exterior, the new exclusive trucks proudly feature sporty red stripes that represent the FUSO brand's striking colours, which further reinforces the dominance and strength that the product stands for. Furthermore, the spacious and functional interior has also been kitted up; the seatbelt pads are branded with a red FUSO logo, giving them a clean and sleek finish. In addition to this, the open plan floor for easy cabin movement has also been enhanced with floor-branded mats on both ends.

Affectionately known as a 'light gallop' a term that associates the vehicle's character with the agility and endurance of a horse, the Canter has a long and illustrious history worldwide.

It made its first market entrance in 1963 under Mitsubishi

Nippon Heavy Industries Ltd as a compact front-wheel-drive two-tonner in a variety of body styles, with both 90 hp petrol and 68 hp diesel engine. Since then, it has deservedly earned its respect as a reliable workhorse in the light-duty distribution segment and carved itself an important place in the FUSO brand as it continues to enjoy its growing popularity worldwide.

This highly regarded light truck comes with a bumper-to-bumper 4 years/240 000 km warranty and can be configured for almost any light-duty application. It was designed to maximize efficiency and protect the bottom line by allowing you to focus on the most important task at hand - running your business.

Re-engineered from the wheels up

It is arguably the most forward-thinking light-duty commercial truck ever, with each vehicle specifically designed for the small-to-medium business and for those whose livelihood depends on a vehicle being dependable, rugged, and reliable. The chassis cab design allows flexibility for the fitment of different load body types to suit all applications.

Powertrain

With a capacity of 3908cc and a power output of 100 kW/370 Nm, this engine offers excellent low-speed flexibility, quick acceleration, and exceptional fuel efficiency. This engine is both economical and dependable. Engine access for service requirements is quick and easy with a forward-tilting cab on all models.

Cab and Interior

Interior enhancements include a fully adjustable driver's seat and a front passenger bench seat with integral headrests and a redesigned easy-clean dashboard. In addition, there is a fully rake and reach adjustable steering column. The in-dash gearshift lever falls easily to hand and has been ergonomically designed for maximum comfort, featuring a short throw shift mechanism and precise selector gate, this makes working life more productive.

Safety

Safety is at the forefront of the cab design, featuring the FUSO Canter RISE (Realized Impact Safety Evolution) impact system, where all crash protection aspects have been addressed. The cab floor has been strengthened, the steering column is collapsible and the doors feature a cross-doorframe protection bar. In addition, the dashboard features an impact-absorbing frame and is manufactured from shatter-resistant material. ©

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