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FEATURES

04 Economic importance of engaging Civil Engineering companies

This registration signifies a commitment to wage agreements.

05 Construction transforms through sharing skills, experience

Concor is committed to social and economical transformation.

07 Winner of the 2024 Baker Baynes Women in BIM competition

Prinell Naicker has an unwavering commitment to transformation in SA.

08 Franki returns to local ownership

After 10 years as part of Keller, this company, established in 1946, is back as Franki.

10 Innovative evaluation techniques to overhaul SA's infrastructure network

To meet government's development goals, current infrastructure must be carefully evaluated.

22 Inclusive leadership in real estate: pathway to better cities

How does the country mirror its rich diversity?

24 Zutari and 4Sight collaborate on sustainable smart infrastructure

Refining the unique service offerings by working on large mega projects in EMEA.

28 Africa's first precast-concrete water tower

At the cutting-edge of precast-concrete water services.

32 AECOM showcases its digital design capability on Malmesbury bypass

Using the full suite of digital tools to get the project up to speed.



REGULARS

- 04 MARKETPLACE
- 20 ENVIRONMENT & SUSTAINABILITY
- 22 PROPERTY
- 24 CONSULTING ENGINEERS
- 28 DAMS & RESERVOIRS
- 32 CIVIL CONSTRUCTION

ON THE COVER

At GEOCIV's 25th anniversary celebration, it coined the phrase 'top of the pile'. As the company marked its quarter-century milestone, it celebrated everyone that has been part of its story – from the dedicated GEOCIV team to its clients. It is dedicated to continue delivering innovative geotechnical solutions. From its modest beginnings in Durban in 1996, the company has grown to a staff of 180 and a national footprint that includes Gauteng, Western Cape and Durban.

Read about this company's journey on page 16.





COMMENT

At a press briefing at the end of August, Public Works and Infrastructure Minister, Dean Macpherson gave an update on the progress his Department has made to 'turn the country into a construction site' (the minister's words), grow the economy, and create jobs.

Central to the Department of Public Works and Infrastructure's strategy for increased infrastructure investment is to expand the capacitation of Infrastructure South Africa (or ISA as Macpherson refers to it). The Department wants to ensure that ISA functions as "the single point of entry for all priority infrastructure projects, streamlining processes, and reducing inefficiencies that have previously hampered project delivery".

For the department to realise this dream of increased Infrastructure investment, it has identified eight pillars in urgent need of reform.

Address institutional arrangements

At the moment infrastructure development has dual reporting lines to both the Presidency and the Department, and the new administration aims to establish one for Infrastructure South Africa under the Ministry of Public Works.

Centralised planning and prioritisation

The second pillar involves streamlining the planning, identification, and prioritisation of infrastructure

projects through a centralised system.

Accelerated broader budget reforms

Broader budget reforms must be accelerated by collaborating with the National Treasury to streamline the Public-Private Partnership (PPP) process and establish an Infrastructure Fund that reports directly to the National Treasury.

Address regulatory bottlenecks and red-tape

In an effort to remove obstacles that cause the delay in infrastructure projects, approval processes will be streamlined – especially for Independent Power Producers (IPPs).

Address municipal bulk infrastructure constraints

The capacities of municipalities to prepare and package infrastructure projects must be increased while the lack of municipal infrastructure such as water, sanitation, roads, and electricity must urgently be addressed.

Unlock other sources of funding

The Department aims to diversify the sources to fund infrastructure

projects through a renewed focus on PPPs, blended finance, and social infrastructure programmes.

Economic regulation in the construction industry

A more competitive and transparent construction industry must be established by strengthening the regulatory framework governing the construction industry through bodies such as the cidb and the National Home Builders Registration Council.

Cancellation of tenders, social unrest, damage to infrastructure, and crime

The impact of the cancellation of tenders, social unrest, damage to infrastructure, and crime must be addressed – and the Department will have a special focus on the construction mafia.

Wilhelm du Plessis
Editor

T W E N T Y - T H I R D

BEST
PROJECTS

2024

Update: Best Projects 2024

Despite what is arguably the toughest year yet for the local construction industry, *Construction World's* annual Best Projects awards received 75 entries that range from infrastructure projects to smaller projects, showing the depth and excellence that exist in the construction industry. The winners will be announced on 6 November and the December issue will cover the winning projects and entrants in depth and so reflect the activity in the South African construction world over the past year.

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Economic importance of engaging Civil Engineering companies **AND CONTRACTORS REGISTERED WITH BCCEI**

When it comes to infrastructure and civil engineering projects, the importance of selecting companies registered with the Bargaining Council for the Civil Engineering Industry (BCCEI) cannot be overstated. This registration signifies a commitment to adhering to established wage agreements, fostering fair labour practices and ensuring a stable and ethical industry. Prioritising those companies that are in good standing is crucial for the economy for several compelling reasons.



When selecting companies for infrastructure and civil engineering projects, choosing those registered with the Bargaining Council for the Civil Engineering Industry (BCCEI) is crucial.

All civil engineering companies and contractors, including many of those working within the surface mining sector, are bound by the wage agreements set forth by the BCCEI, and are furnished with a Letter of Good Standing by the Council. This ensures that employees receive fair compensation, aligned with the legislated minimum wage standards. By maintaining these standards, companies that are in good standing help to ensure fair compensation, enhance worker morale and productivity, and reduce income inequality. “Fair wages contribute to higher job satisfaction, which in turn boosts productivity and overall project quality,” says Lindie Fourie, Operations Manager at the BCCEI.

The adherence to wage agreements by registered and compliant companies ensures that contracts are not secured through unethical cost cutting measures, such as underpaying employees. This is critical for creating a level playing field where companies compete based on the quality of their work and efficiency rather than exploiting labour costs.

“Ethical labour practices lead to sustainable business models, which benefit the industry in the long run and help stabilise the market, ensuring that all players have an equal opportunity to succeed,” she says.

When projects are awarded to companies that are in good standing with the BCCEI, it drives the entire industry towards higher standards. This encompasses not only fair wages but also compliance with safety regulations, investment in training and development and quality assurance. These companies are more likely to adhere to safety standards, reducing workplace accidents and promoting a culture of safety, and such compliant companies significantly reduce the risk of job stoppages and unnecessary delays on a project.

Further, Fourie says, ensuring fair wages allows companies to invest in their workforce through training and development, leading to a more skilled labour force. Higher standards in labour practices often translate to higher



Ethical labour practices lead to sustainable business models, which benefit the industry in the long run and help stabilise the market.

quality in project execution, benefiting clients and the community at large.

The positive impact of engaging companies that are compliant extends beyond the industry itself. It contributes to broader economic growth by creating more job opportunities and reducing unemployment rates, especially at a time when South Africa needs this most. It also increases consumer spending as workers receiving fair wages have more disposable income, which stimulates demand for goods and services in the economy.

A stable, ethical industry is also more attractive to investors, leading to increased investment in infrastructure and development projects. “By prioritising companies that are registered with the BCCEI and adhere to BCCEI regulations, we not only support fair wages but also drive economic growth through job creation and increased consumer spending,” Fourie emphasises.

“Lastly, choosing companies that adhere to BCCEI regulations reflects a commitment to corporate social responsibility, and demonstrates the industry values ethical practices, community engagement and long-term viability,” she continues. “These companies are seen as responsible employers who value their workforce, strengthening the relationship between companies and the communities they operate in, and such ethical companies are more likely to be viewed as long-term partners in development, fostering ongoing economic collaboration.” ©

Construction transforms through **SHARING SKILLS, EXPERIENCE**

Despite difficult market conditions in South Africa's construction sector, Concor has never shied away from its commitment to social and economic transformation, which includes the strengthening of small businesses in areas where the company has projects underway.



Developing the skills of local communities where Concor is constructing infrastructure is an important focus for the company.

According to Sheldon Mayet, Senior Transformation Manager at Concor, the procurement, skills development and recruitment process are valuable ways through which the company can empower small businesses in the communities where it works. This is particularly important in and around the country's smaller towns, where business opportunities are more limited.

"When we embark on any project through or near a town, we always engage with local communities and businesses, firstly to inform them of who we are and then to provide them with information about selected project requirements and opportunities which are available to them during the construction phase," says Mayet.

"In fact, the whole procurement process is carefully planned and managed, not only to give small businesses fair access to work but also to grow them with the relevant skills so they can become more viable in the long run."

Among the first steps in each of these projects is for Concor to engage intensely with local structures of government and community members, to understand more about the area where the project will be located, he explains. This paves the way for compiling a database of skills availability, local businesses and for Concor to understand the dynamics of the community to ensure the company develops a trust relationship which is critical to the success of the project.

"In addition to the small businesses from which we procure, we also draw our general workers for each project from the area we work in," he says. "We talk to representatives from the nearby towns and villages to ensure that there is an equitable distribution of opportunities, while we also seek out the best available skills."

At the same time, there is usually the need for work site

training – such as health and safety, first aid and induction – which to a certain extent upskills these workers and makes them more employable when they seek their next jobs.

In balancing its social contribution with its professional reputation and workmanship, Concor must ensure that the quality of its project deliverables is in no way compromised. Mayet highlights how the company focuses on the close and systematic supervision of all subcontractors, through its permanent team of experienced site managers, foremen and artisans.

"Supervision is in fact an important aspect of the mentoring that we provide to small businesses who partner with us," he says. "We help them to hone their construction-related skills, so they can participate more competitively in their markets." An important building block of any business in the construction sector, for instance, is its grading with the Construction Industry Development Board (CIDB). As a business moves up the nine CIDB grading levels, it can tender for projects of increasing value. Vital to any business's progress to the next grade is its ability to improve its track record of actual projects competed.

"We work constructively with emerging subcontractors to improve their profitability, systems and expertise, and to successfully complete their scope of work with us," he says. "They are often able to achieve a better grading on the strength of our collaboration."

Mayet emphasises the challenging but positive role of the Community Liaison Officer on each of its projects. The CLO is a community-based person appointed by Concor to help ensure that the company and community can work together and meet their common goals. "On every project, we upskill people and allow small businesses to gain more experience – which are the basic steps toward economic transformation," he concludes. ☉

Bell Equipment and SAME Foundation launch **REFURBISHED SCIENCE LABORATORY**

There were many smiling faces and great anticipation at the Forte Secondary School in Dobsonville, Soweto on 7 August 2024 when a newly refurbished science laboratory sponsored by Bell Equipment under the auspices of the South African Medical and Education Foundation (SAME Foundation) was officially taken into use.

Bell Equipment, South Africa's world-renowned manufacturer of mining, construction, and agricultural equipment had, through its Socio-Economic Development (SED) initiative, committed to getting involved in the project when it was approached by the SAME Foundation during a Mandela Day event, painting a school in Gauteng in 2023.

SAME Foundation is a non-profit organisation which raises funds and manages socio-economic development allocations to improve the health and education environment in South Africa. The Foundation boasts a track-record of completing well over 150 high-impact projects in the last 20 years, investing hundreds of millions of Rands and positively influencing millions of South Africans. Its sole aim is to improve healthcare and educational facilities in poverty-stricken communities.

"We as a foundation were heartened when Bell Equipment showed its eagerness to become involved in this very worthwhile project at the Forte Secondary School," says Tyrone Pols, spokesperson for the SAME Foundation. "The science laboratory at this school was in a dilapidated state and with Bell Equipment's generous funding, we could oversee the replacement of the floor, ceiling, windows, doors and security gate as well as several coats of durable paint.

"We could then order new laboratory benches, stools and cupboards before new laboratory equipment applicable to the curriculum was acquired. Advanced technology has been added with a touch-screen white board and digital projector."

Speaking during the function to mark the unveiling of the refurbished laboratory, Bruce Ndlela, Bell

Equipment's Director: Business and Public Sector Development, urged the learners to set their personal education goals high and reminded them that no goal was too high to attain. "We as Bell Equipment employ around 4 000 people worldwide and, as we've assisted in the refurbishment and equipping of many similar laboratories and centres of learning in South Africa, it shows that we believe in our youth and the potential that they show," he said.

All the work to refurbish the laboratory was completed during an eight-week period spanning April and May 2024. Bell Equipment's donation covered the entire construction, fixtures and equipment expenses.

The Forte Secondary School fulfils a vitally important role of educating 2 400 learners from Grade 8 to 12. ☺



PPC PARTNERS WITH STURDEE ENERGY

PPC Limited, South Africa's top cement manufacturer, has partnered with Sturdee Energy to construct and manage 10 MW solar plants for PPC's Slurry and Dwaalboom Plants. This partnership is a step towards decreasing PPC's reliance on traditional energy sources and moving towards a greener future.

Sturdee Energy is a prominent developer of renewable energy projects in sub-Saharan Africa, specialising in sustainable renewable energy solutions to promote economic growth and socio-economic development.

Ernesto Acosta, PPC's Chief Operating Officer, stated, "The Power Purchase Agreement with Sturdee Energy is a significant milestone in PPC's business transformation journey. By utilising solar energy, we are not only reducing our carbon footprint but also progressing our efforts to rebuild a profitable and sustainable PPC. This partnership reflects PPC's commitment to responsible manufacturing."

This initiative demonstrates PPC's dedication to operating in an environmentally efficient manner while working towards sustainability goals. ☺

Winner of the 2024 Baker Baynes **WOMEN IN BIM COMPETITION**

Baker Baynes is thrilled to announce Prinell Naicker as the winner of the 2024 Extraordinary Women in BIM nomination competition. This prestigious award recognises Naicker's remarkable contributions to Building Information Modelling (BIM) in industry, her leadership within the organisations she has worked at, and her unwavering commitment to advancing digital transformation in South Africa.

Prinell Naicker (**pictured**), a Structural Engineer and BIM Leader at Bosch, has emerged as a standout figure in a field traditionally dominated by men. Her dedication, innovative approach, and passion for BIM have not only transformed the way her organisation operates but have also inspired many within the industry to embrace digital technologies.

Prize details

As the winner of this year's competition, Naicker will receive a trip to Autodesk University 2024 in San Diego, USA, valued at R100 000. This user conference is a significant platform where industry professionals converge from around the world to share knowledge, learn about the latest technological advancements, and network with global leaders in BIM.

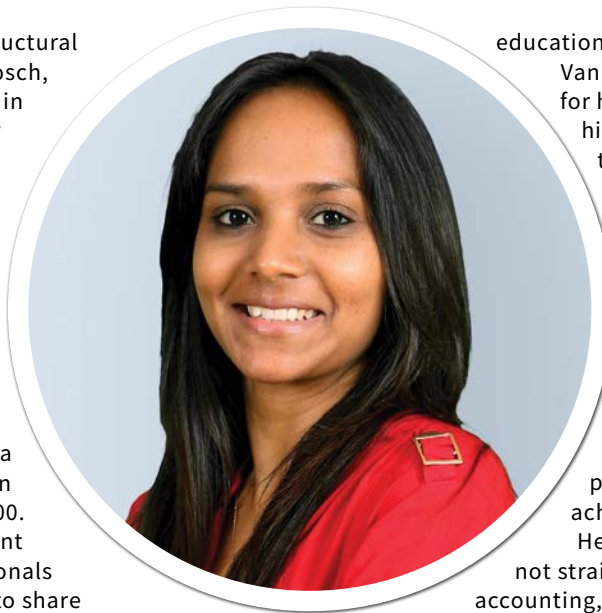
Judges' insight

Naicker's selection as the winner was unanimous among the judging panel, which included industry leaders such as Elna van der Merwe - Engineering Digital Manager from DRA Global; Anien Nauta - Senior BIM Model Coordination Manager from AECOM; Jani Viljoen - BIM Counsellor and Professional Services Director at Baker Baynes and Nikki van der Walt - Technical Solutions Executive at Autodesk.

Van der Merwe, one of the judges, highlighted Naicker's exceptional ability to support, train, and involve others in their BIM journey. "Actions speak louder than words, and Prinell's actions in teaching new ways of working are commendable. She has a deep understanding of BIM, which is evident in the processes she has developed to streamline, gather, and represent information effectively". She also praised Naicker's adept use of technology, managing large file sets under unique timeframes, and ensuring that the diverse technological tools were applied correctly and effectively.

Nautoa from AECOM added, "Prinell Naicker is a remarkable professional in the BIM industry, with extensive experience and impactful contributions since 2018. Her leadership is evident in her mentoring efforts, where she fosters a collaborative environment that empowers her team to leverage BIM technologies effectively."

Jani Viljoen from Baker Baynes echoed these sentiments, emphasising Naicker's commitment to advocating for BIM



education within her organisation.

Van der Walt praised Prinell Naicker for her comprehensive submission, highlighting her strong leadership in the BIM space.

Naicker's journey and aspirations

In her own words, Naicker reflects on her journey: "I never imagined that I would be recognised in this way. Winning this competition is a defining moment for me, both personally and professionally. It has reinforced my belief that with passion and dedication, anything is achievable."

Her journey into the BIM world was not straightforward. Initially drawn to accounting, she later shifted to engineering, where she found her true calling. Her passion for BIM grew during her tenure at WSP, where she was mentored and encouraged to explore and implement BIM processes. Today, at Bosch Projects, she leads the structural division in Cape Town, driving innovation and pushing her team to embrace digital transformation.

Advice to future BIM Champions

When asked about her advice to other women considering a career in BIM, Naicker emphasised the importance of perseverance and continuous learning. "Don't be afraid of the challenges. Embrace them, ask for help, and always strive to learn and grow. The possibilities in this field are endless, and with the right mindset, you can achieve greatness." ☺

ABOUT BAKER BAYNES

Baker Baynes, an Autodesk Gold Reseller, is a renowned niche consulting company at B-BBEE Level 1, representing leading technology brands in South Africa's manufacturing industry. With an unwavering commitment to excellence, they have earned a reputation for delivering top-notch products and services that cater to the evolving needs of their clients. The Baker Baynes mandate is clear: It solves customer problems through digital transformation, helping clients design and make a better world. Learn more: www.bakerbaynes.com or <https://tools.bakerbaynes.com>

FRANKI RETURNS to local ownership

Franki was incorporated into the world class Keller Group in 2013 and operated as Keller Geotechnics within Southern Africa for the past 10 years, providing innovative and sustainable geotechnical solutions. Keller Holdings, based in London, made a decision to disinvest from the South African market and in so doing, gave the opportunity for FRANKI AFRICA's return to local ownership under the same management team. Construction World spoke to Devendra Lalbasanth, a director and shareholder of Franki Africa (Pty) Ltd.

Established in 1946 under the name Frankipile, the company has been operating in Sub-Saharan Africa for the past 78 years. In 2013 it joined Keller, the world's largest independent geotechnical contractor. From 1 July 2024, the company returned to local ownership, operating under the familiar name of Franki.

"Keller's priority was to sell the company to the current management team to preserve jobs of the existing employees." The Knowledge gained from Kellers strength in soil improvement techniques has complimented the local piling and lateral support world class expertise for the benefit of our client base and competitive advantage."

He says that local staff had training and experience on the Keller products, but did not receive operational support from Keller. "Operationally, no changes are envisaged," he says.

"Franki has an almost 80 year history in Southern Africa and because of this it has a wealth of knowledge of geotechnical construction and conditions in the region.

It continues to be at the forefront of innovation both in the design and product range that it offers," says Lalbasanth.

Apart from conventional piling, lateral support and grouting products, Franki has the full offering of ground improvement products such as dynamic compaction/replacement, stone columns, rigid inclusions, soil mixing and vertical drains.

"Our experience and strong connections with Keller and international players give us insight into current technology. With our in-house design team, we assess these technologies and align them to our client's needs.

This often results in cost and time savings on the project," says Lalbasanth.



Building on a history of success and innovation

"We build on the knowledge that we have and together with our engineers we continually search for better and improved products to suit the client's needs," Lalbasanth adds. "Through Keller we have gained vast knowledge of various ground improvement techniques that will save a client time and money."

Franki's work on the Clairwood Logistics Park (when it was still under the Keller brand), is an example of this. "We provided rigid inclusions for ground improvement to support the 360 000 m² warehouse development in soft hippo muds. It was, at the time, the single largest project on rigid inclusions in the world and the first time the solution had been used in South Africa. The development would not have been financially viable had traditional piles or a raft solution been used," says Lalbasanth.

In addition to rigid inclusions, Franki has also introduced vibro stone columns to the market and has applied these products successfully on numerous projects. "We are constantly looking for more cost effective and innovative solutions," Lalbasanth reiterates.

Standing the test of time – 78 years and counting

"Franki has always believed in a strong internal design team to innovate and find solutions that ultimately make

the client's project viable. Negotiated design and construct projects provide the optimal solutions and cost effectiveness as we are able to engineer the best solution together with the professional team – obviously also translating to cost and time saving," Labasanth explains.

He says that many consultancies are seeking advice from Franki's team on geotechnical solutions which used to be offered by industry professional bodies. "Franki is stepping in and making a meaningful contribution to the industry by sharing knowledge and expertise where we can negotiate projects, and so assists future engineering teams with our niche skills set."

Franki has a world-class Integrated Management System which covers safety, environment and quality. "The system is well managed by the team and the results show this. We will maintain the high quality standards synonymous with the Keller organisation, whilst having the agility to adapt to local market requirements," he says.

Franki offers sustainable geotechnical solutions such as dynamic compaction/replacement, vibro stone columns, rigid inclusions and soil mixing which are both cost effective and sustainable. "We analyse the carbon footprint of our projects and in some cases, our solutions can save up to 90% of the carbon emissions on the project," Lalbasanth concludes. ©



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Innovative evaluation techniques to overhaul **SA'S INFRASTRUCTURE NETWORK**

South Africa's infrastructure is ranked among the top 50 in the world, offering a solid framework for further development. But, to meet government's development goals and support a growing population, we must also carefully evaluate our current infrastructure, including roads, railways, water systems, and wastewater facilities. The goal is to ensure that our current networks can effectively provide the necessary services, and are appropriate to the changing needs of modern society.

Roelof van den Berg, CEO of the Gap Infrastructure Company (GIC) notes, "There's no growth without infrastructure development. Infrastructure is the silent driver of economies, creating suitable spaces for essential human and business activities. So, when key structures underperform or don't function well, this has a ripple effect, disrupting other industries, businesses, and value chains, and affecting thousands of people's lives.

"We're fortunate that South Africa's core infrastructure is generally of a fairly high standard. But infrastructure inevitably becomes less reliable over time, largely due to high usage and prolonged exposure to the elements. This, in turn, requires maintenance and restoration, which may involve major repairs, upgrades, or modernisation."

So, as the country announces ambitious plans for infrastructure-led growth, van den Berg states that one of the first steps must be a critical assessment of existing infrastructure networks, noting any weaknesses or challenges, and considering how best to bridge the gaps and resolve any issues to improve service delivery.

To ensure the viability and success of such a complex project, Van den Berg suggests five innovative approaches.

Real-time infrastructure monitoring

A national network of sensors and Internet of Things (IoT) capable devices could provide real-time data on the health and performance of key infrastructure elements. This system could monitor factors like traffic flow, structural integrity, and water quality, providing early warnings about potential failures or inefficiencies. For this, current infrastructure, such as older pump systems, will need to be upgraded to support these kinds of devices, making the overall system future ready.

Furthermore, drones can access hard-to-reach areas like tall bridges, rooftops, or remote locations, capturing data on structural integrity, material wear, and potential hazards. Advanced drones can also be equipped with thermal imaging to detect problems like water leaks or electrical faults, providing accurate and comprehensive assessments.

By leveraging big data analytics and AI, this information

could then be used to predict and prevent issues long before they reach crisis-levels.

Crowd-sourced maintenance and reporting

Engaging the public in infrastructure maintenance can be a game-changer. A purpose-built mobile app could allow citizens to report issues such as potholes, broken streetlights, leaking pipes, overflowing sewers, road cracks, and bridge corrosion in real-time directly to the relevant authorities. Data analysis can further be automated with the use of machine learning algorithms to ensure that only relevant issues are directed to a human inspector for final examination and sign-off.

Crowd-sourced data could help identify patterns and prioritise areas for further inspection by professionals, making the evaluation process more comprehensive and responsive. GIC already successfully integrates community participation in infrastructure development projects, believing that this input is integral to the project's ultimate success, and to ensuring that infrastructure is responsive to the community's needs. However, this approach would require the support of technology to be effectively scaled to evaluate infrastructure across the entire country.

Adaptive infrastructure design

In addition to embracing technology and sensors, introducing a modular approach to infrastructure design for future projects could lead to more flexible and scalable systems, as well as improved

long-term evaluation capabilities.

In a modular design, each unit can be individually assessed for performance and maintenance needs, allowing for targeted interventions. For example, by placing sensors at regular intervals across the segments of modular bridges, experts can effectively monitor structural health on an ongoing basis and perform repairs or replacements of singular modules instead of large portions of the affected structure.

“South Africa needs to embrace new technologies and methodologies to set priorities and enhance maintenance processes, improving outcomes and the cost-effectiveness of any interventions – especially as our infrastructure networks grow.

“By integrating innovative solutions into our monitoring, evaluation, and repair practices, we can maximise efficiency for the benefit of public service delivery and infrastructure budgets,” concludes Van den Berg. ☺

“A purpose-built mobile app could allow citizens to report issues such as potholes, broken streetlights, leaking pipes, overflowing sewers, road cracks, and bridge corrosion in real-time directly to the relevant authorities.”

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Celebrating collaboration and excellence at the 2024 **CESA AON ENGINEERING EXCELLENCE AWARDS**

The 2024 CESA Aon Engineering Excellence Awards celebrated and honoured the outstanding contributions of South Africa's consulting engineering sector to infrastructure development locally and internationally. Celebrating its 52nd year, this event, supported in more recent times by platinum title sponsor Aon South Africa, highlighted the crucial partnerships and collaborative efforts driving the industry forward.

Reflecting on the evening's significance, CESA CEO, Chris Campbell, remarked: "The CESA Aon Engineering Excellence Awards celebrates not just the achievements of our industry, but also the spirit of collaboration, innovation and partnership that defines our profession."

He drew a parallel to the Olympic Games, emphasising the importance of teamwork and the relentless pursuit of excellence. "Just as our athletes push their limits to achieve gold, we too must aim for excellence in our projects and endeavours." Campbell noted that the awards recognised more than just successful projects; they represented a commitment to contributing to enhancing the quality of life for all citizens.

Aon South Africa CEO, Dr Nolwandle Mgoqi, added that the awards honoured and celebrated the exceptional achievements, hard work and unwavering determination in the various infrastructure projects that are fundamental to shaping the world and livelihoods for the better. "Aon has had the privilege of witnessing and supporting the critical role that infrastructure plays in the sustainable development and delivery of basic services to society."

As the industry continues to evolve, the 2024 CESA Aon Engineering Excellence Awards serve as a reminder of the impact that collective efforts have in building a sustainable future for all South Africans.

Winners of the 2024 CESA Aon Engineering Excellence Awards

In the Young Engineer of the Year category, Dr Andries Nel from Spoomaker & Partners was the winner, while Erika Braune from AECOM and Istiaan Lubbe from Zutari both receiving a commendation in this category.

SCIP Engineering Group was the winner in the category of Projects with a value less than R50-million for the Monaghan Farm Road Bridge Remedial for the Clewer Development Trust. A commendation was awarded to Naidu Consulting for the SANRAL N.002-270-2022/1: For Repairs to B999A Mhlali River Bridge on National Route 2, Section 27, km 15,42.

The Lifetime Industry Achievement award recognised Alan Chemaly's lifelong dedication and substantial contributions to dam engineering and safety, spanning over 50 years.

Bigen Group was the winner of the Mentoring Company of

the Year Award. Isak Frederik Malherbe from AECOM was the winner in the Mentor of the Year Award. This year's winner in the Business Excellence Award is the BVi Group, while Bigen Group received a commendation in this category. The winner of the Small/Medium Company of the Year was AvenirHoldings.

SMEC South Africa was the winner in the category for Projects ranging from R50-million to less than R250-million for the N4 Montrose Interchange Upgrade project for Trans African Concessions. While WSP Group Africa received a commendation in this category for Rejem-Linton JV's MediMix Ancillary Building.

In the Engineering Technology and Innovation category, Knight Piésold won the Renewable Energy Systems Design Excellence Award for the Kikagati Hydropower Plant for Kikagati Power. Zutari received a commendation for the Water Sanitation and Hygiene Design Excellence Award for the Coegakop Water Treatment Works project for the Mandela Bay Municipality. In the Smart Building Systems Design Excellence Award, a commendation was awarded to Spoomaker & Partners for the NuMeRI Main Centre.

MPAMOT & WSP JV were the winners in the category for Projects with a value ranging from R250-million to less than R1 billion for the Southern Corridor Phase 1 – Farm 694 Kosovo Housing Development for the Western Cape

Department of Infrastructure. The Publisher of the Year – Trade was awarded to Creamer Media, while Independent Online received the Publisher of the Year – Daily News award. The winner of the Job Shadow Initiative & Poster Competition was Mariswe, with Zutari as the first-runner up followed by BVi Consulting Engineers and Ensync Engineers both as second runners-up. In the Best International Projects category, Zutari was the winner for the PAIX DKR1 Senegal 21 project in Senegal for PAIX. The company also won in the category for Mega Projects greater than R1-billion for the Upgrading of the Zandvliet Wastewater Treatment Works project for the City of Cape Town.

“On behalf of Aon, I congratulate all of the winners and entrants for the tremendous accomplishments they have achieved. Stay committed to excellence, raise your business resilience, invest in building a better society through your deliberate actions,” said Dr Mgoqi.

Campbell concluded: “Congratulations to the finalists and the winners of the 2024 CESA Aon Engineering Excellence Awards. Each award reflects your success in delivering projects that make a difference in enhancing quality of life and the value of infrastructure development in driving economic growth in South Africa and beyond. We celebrate your achievements and the standard you have set for engineering in this country.” ☺

SACPCMP VOICES SUPPORT IN PROTEST OF GOVERNMENT TURNKEY TENDERS

The South African Council for the Project and Construction Management Professions (SACPCMP) has voiced its support of the South African Architectural Profession's (SACAP) recent protest to government's release of a turnkey tender.

The SACPCMP has supported a statement by SACAP President, Charles Nduku, which warned against the approach taken by the Free State Department of Human Settlements' turnkey tender pertaining to a multi-billion Rand housing project.

“Such procurement avenues will negatively impact on built environment transformation. It is important to ensure that the sharing of economic opportunities, especially within the Construction Sector, will enable the growth and development of all the professions in our industry,” said SACPCMP President, Lufuno Ratsiku.

“Complex work can always be treated differently and yet, still be accommodative economically. As a Council, we note that turnkey projects have their place as dictated by circumstance, although these should not be adopted as a general practice. This can remove accountability in projects, as well as result in a separation of responsibilities, checks and balances, thus impacting on good governance. Projects such as the one recently announced by the Free State Department of Human Settlements can make a substantial, positive impact on our Construction Industry as well as the country's economy. But this will not happen should such a project be coordinated by only one person or contractor in particular.”

Ratsiku added that turnkey opportunities should be reserved for extremely complex and specialised projects where the client department could dedicate the necessary specialists to manage such projects on their behalf. “It is unacceptable

for built environment professional service providers to end up at the mercy of appointed turnkey contractors and remain disadvantaged,” he said. “It is imperative to ensure accountability in projects. Where government does not have the necessary capacity to monitor projects in terms of professional service providers, the situation can lead to the creation of a ‘player and referee on the same field’ situation. The interest of the appointed contractor may not necessarily be in the interest of the client. This can lead to issues in terms of liability and impact on governance.” ☺



Best practices for managing risk **AND ALIGNING COMPLIANCE**

*The tragic collapse of an apartment building in George earlier this year, which resulted in the loss of 34 lives, serves as a stark reminder of the critical importance of adhering to best practices in construction to manage risk and ensure compliance. The incident underscores the need for stringent regulatory oversight, robust risk management, and unwavering commitment to safety standards in the construction industry, writes **Wynand Botha, Associate Director at BDO South Africa.***

Before initiating a project, it's critical to ensure that construction adheres to the South African National Standards (SANS) 10400. These regulations ensure the safety, health, and sustainability of buildings. Compliance to these standards begins with a clear understanding of regulatory obligations, ensuring that the construction entity and individuals involved are competent and qualified.

SANS 10400 mandates that buildings must be structurally sound and capable of withstanding various forces, including wind. The regulations also emphasise space requirements, accessibility, and ceiling heights to ensure the building's intended purpose is achieved efficiently and comfortably. Public safety, particularly fire safety measures, is key here, along with proper demolition procedures to prevent accidents and minimise environmental impact. Safe construction site practices, including security, waste disposal, and erosion control, are also considered essential.

By diligently applying these regulations to a project, structures can meet the highest standards of quality and safety while minimising their environmental impact.

Ensuring compliance

To ensure compliance throughout the construction process, companies must stay abreast of regulatory changes. They must also communicate the importance of compliance to their employees and designate a compliance champion, who can bridge the gap between the teams and legal advisors while constantly monitoring compliance using appropriate tools.

By implementing a robust quality management system, companies can stay on top of this process. This would involve effective document control, and comprehensive training programmes. It also means being prepared for regulatory audits and operating in a validated environment to ensure compliance.

One of the most common compliance issues in construction is poor documentation management. With numerous parties involved in a construction project, communication issues and slow response to change orders can arise. Implementing appropriate policies and procedures, and leveraging construction management technologies, including paperless operations, can mitigate these issues.

Primary risks and how to manage them

Construction projects face a variety of different risks. Common issues include construction delays and late

delivery of projects to poor quality of infrastructure, lack of skilled labour, material availability and general quality issues. Underpinning these risks is inadequate planning and project management.

Delays can result in financial penalties and poor quality, which can lead to defects and, in the case of the George, collapse and tragedy. Effective risk management involves comprehensive risk assessments, clear definition of scope, roles, and responsibilities, and detailed mitigation plans for known or potential risks.

Comprehensive risk assessments should be conducted and integrated into a project's planning phase to prioritise significant risks. Project managers and directors must prepare detailed mitigation plans and ensure all stakeholders understand their roles and responsibilities.

Technology can play a vital role here. Accurate measurement and monitoring of the exposure and vulnerability of infrastructure systems can assist in making informed decisions, while data analytics can spot risks early and mitigate them. Wearable technology can also be used to track ergonomics, movement, and environmental conditions on construction sites to prevent injuries and monitor workers' locations in real-time.

Ensuring due diligence

Due diligence is a key part of minimising risk, enhancing project outcomes, and ensuring informed decision-making. This includes thorough investigation and assessment before committing to a project, taking into account location-based risks, construction challenges, regulatory and commercial risks, as well as financial health, and management team experience. Comprehensive due diligence involves evaluating the construction company's business status, financial performance, organisational structure, workforce, and legal compliance.

Stakeholder engagement is also crucial to this part of the process. Engaging with stakeholders ensures project goals align with community needs, environmental concerns, and economic priorities. Early detection of potential risks and transparent communication with stakeholders not only builds trust but can also facilitate informed decision-making.

Designing for long-term durability

To ensure long-term durability and minimal maintenance, a project must integrate operations and maintenance goals early in the design process. Durability planning should

address material deterioration mechanisms. Life cycle performance modelling can help with predicting structural performance over time. Thoughtful design decisions directly influence infrastructure longevity and maintenance requirements.

The most significant challenges in construction or infrastructure development today include ageing infrastructures, climate change, extreme weather events, and underinvestment. These challenges can be overcome through resilience, investment, and innovation. Adopting resilient designs, adaptive strategies, and innovative technologies can ensure infrastructure projects are sustainable and capable of withstanding future demands.

The George building collapse serves as a poignant reminder of the critical importance of adhering to best construction practices, managing risks effectively, and aligning with regulatory compliance to prevent such tragedies in the future.



Sustainability

There must be consideration of long-term impacts of projects on the environment by creating resilient, efficient and responsible infrastructure that meet the requirements without having an impact on future generations. ©

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THE **GEOCIV** GROUP - FEATURE



GEOCIV
GROUP

“DELIVERING **INNOVATIVE**
GEOTECHNICAL SOLUTIONS”

“TOP OF THE PILE”



At our 25th Anniversary celebration, held on November 25, 2022, at the Focus Rooms in Modderfontein, Johannesburg, we proudly coined the phrase “Top of the Pile.”



The event was a spectacular evening, with glamorous guests gracing the red carpet and enjoying a pristine summers night. Barry Hilton provided entertainment while guests savoured delectable canapés, food, and drinks.

Reflecting on our journey, it's clear that the path of business mirrors that of life: it's about surrounding yourself with supportive people, striving to be your best, rising after setbacks, and celebrating victories. As we marked our quarter-century milestone, we celebrated with

everyone who has been part of our story—our dedicated GEOCIV team and our exceptional clients who set the highest standards.

Looking ahead, we are excited about continuing to “Deliver Innovative Geotechnical Solutions,” as Greg Whittaker, our Group Managing Director, puts it. Your support has helped us achieve our vision of becoming the most efficient piling and geotechnical company in Southern Africa. GeoCiv Group stands proudly as “Top of the Pile.”

From our modest beginnings in Durban in 1996, we have grown to employ over 180 staff members and expanded our national presence with branches in Gauteng, Western Cape, and Durban.

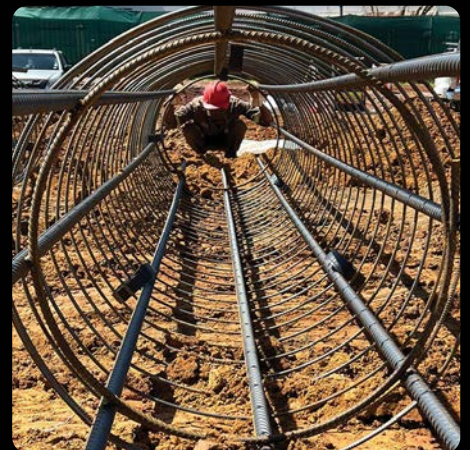
Jean Breedt, our Operations Director, emphasizes that our core values are the foundation of our unity as a team. These values define us as a Group and guide us in our daily operations, whether it's Piling, Lateral Support, or any specialized geotechnical work. They make us the proud GEOCIV Group.



Our Core Values

- ▶ **Accountability** ▶ **Honesty**
- ▶ **Excellence** ▶ **Pride**
- ▶ **Teamwork** ▶ **Innovation**
- ▶ **Commitment**
- ▶ **Entrepreneurship**
- ▶ **Tenacity** ▶ **Domination**
- ▶ **Integrity** ▶ **Proficiency**

As the leading experts in CFA (Contiguous Flight Auger) piles in South Africa, the GEOCIV Group proudly owns the largest fleet of BAUER piling rigs in the country. We also utilize other top international brands like Comacchio,



Casagrande, and Putzmeister for our projects, ensuring that we use the “best of breed” equipment for unparalleled efficiency and production, as Jean Breedt notes.

NEX-LEVEL

SHOWCASE: Construction Innovation - The Lateral Support System at 'The One'

In constructing the 508-unit student accommodation building, 'The One,' in Stellenbosch, we faced challenging soil conditions. Our approach required innovative thinking and flexibility.

We designed a lateral support system that considered both temporary and permanent conditions to meet with our client's needs.

to the site's conditions, ensured cost-effective and swift installation, enabling the successful construction of a basement in the most challenging of soil conditions.



For drilling through a layer of cobbles in a collapsible matrix, we used percussion techniques and incorporated I-Beam sections within micro piles to enhance bending moment capacity and reduce the number of piles needed. After installing the first row of Self-Drilling Anchors (SDAs), we consolidated the unstable cobble matrix with grout, minimizing water ingress and local collapse.

Our hybrid system of grouted and steel lateral supports, tailored



NEX-LEVEL

SHOWCASE: Construction Innovation - Devin Properties - Super Basement

Background

GeoCiv Group was selected to construct a super basement for Hollywood Bets' new head office in the Umhlanga Ridge precinct.



The project demanded a comprehensive geotechnical solution, including bulk earthworks, civil works, retaining structures, and piled foundations.

With a scope including 90,000m³ of excavation, 17m-tall lateral support walls, and 550 structural foundation piles, GeoCiv Group emerged victorious in the tender process. Burger Rust, Business

Development & Special Works Director, credits this win to our design ingenuity, innovative approach, and advanced construction technology.

Design Innovation

The Umhlanga Ridge area features Berea Red Sands, which present low bearing capacity. Our approach included soldier piles, post-tensioned anchors, and shotcrete arches to form a robust lateral support system. However, our innovative twist involved creating a passive system without post-tensioning, using Self-Drilling Anchors (SDAs) with flowable cement grout to stabilize the soil effectively.

Project Highlights

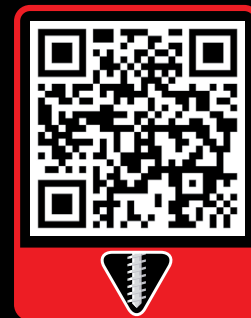
Upon completing the Hollywood Bets Super Basement, we had removed 90,000m³ of Berea Red Sands, installed 500 lateral support piles, and completed extensive concrete and shotcrete work - all within 5.5 months and approximately 60% of the cost of conventional systems.

Greg Whittaker, Group Managing Director, highlights that this achievement underscores nearly



30 years of successful geotechnical contracting in the KZN region. The Hollywood Bets head office will feature one of the largest and deepest basements in Umhlanga, showcasing our expertise and commitment.

Thank you to our clients and professional teams for their trust and collaboration. We are proud of our contributions and look forward to many more successful projects in the future.



GEOCIV
GROUP

“DELIVERING INNOVATIVE
GEOTECHNICAL SOLUTIONS”

GROWTHPOINT GEARS UP FOR certified renewable energy rollout to offices

Pioneering a greener future for South Africa, Growthpoint Properties, the country's leading real estate investment trust (REIT), is set to transform the commercial real estate landscape by introducing a clean, green energy benefit scheme called e-CO₂ at 10 of its properties in Sandton, Johannesburg. This significant milestone is the next step in the rollout of its innovative renewable energy transition – a first for South Africa.



With all major elements already in place for the groundbreaking scheme to debut in July 2025, Growthpoint will deliver the first green energy to its office buildings through wheeling, reducing carbon footprints and generating Renewable Energy Certificates (RECs) for tenants using the latest blockchain technology. The move establishes Growthpoint as a trailblazer in the renewable energy field by introducing a new offering for the commercial real estate sector in South Africa.

The Growthpoint e-CO₂ green energy benefit scheme (e-CO₂ is short for electricity minus carbon dioxide and pronounced “eco two”) is an innovative solution that will deliver green energy through wheeling from multiple renewable sources — water, wind, sunshine — directly to commercial properties. It is made possible by Growthpoint’s Power Purchase Agreement (PPA) with Etana Energy.

At the end of 2023, Growthpoint signed the landmark PPA with licenced electricity trader Etana Energy to wheel electricity generated by independent power producers to its buildings in several locations across the country. Wheeling involves the buying and selling of sustainably sourced electricity between private parties, using the existing transmission or distribution network.

Since this can be done over long distances, it gives more users greater access to renewable energy, which is an especially scarce commodity for offices in central business districts. Buildings in these areas, almost without exception,

have insufficient roof space for meaningful on-site renewable energy production.

Through the agreement with Etana Energy, Growthpoint has secured exclusive rights to purchase all of the roughly 30 GWh that will be generated annually by a hydroelectric power plant developed and operated by Serengeti Energy. The hydroelectric project, which will effectively generate 24/7 baseload power, is located on the Ash River within the Lesotho Highlands Water Scheme (LHWS) near Clarens in the Free State. Construction of the plant is well underway as it is readied to commence operation officially on 1 July 2025.

Following this, the majority of wind and some solar production from Etana’s signed generating portfolio will be added to the grid from 2026, and further sources could be added in future.

Paul Kollenberg, Growthpoint Properties Head of Asset Management: Offices, says: “This agreement secures us a significant 195 GWh of clean electricity annually for Growthpoint and our tenants at specific buildings, and represents an important step forward in our sustainability journey. Over the past decade, we have prioritised the advancement of environmental, social and governance (ESG) strategies, and we understand how important it is for our clients to do likewise.”

Commitment to sustainability across its supply chain and for SA Inc.

Environmental sustainability is at the core of Growthpoint’s business, which has been at the forefront of integrating green buildings as an accepted practice in the commercial property sector. It is committed to creating sustained value by integrating ESG into corporate strategy. Growthpoint’s climate commitment target is being carbon neutral by 2050. By committing significant resources to drive this within its operations and across its supply chain, Growthpoint is setting a precedent for sustainable business practices, enabling other businesses to do the same, and supporting long-term cost savings for its clients.

Delivering savings and ESG benefits to users

Being part of the e-CO₂ green energy benefit scheme makes it easier for businesses consuming clean, wheeled power to achieve their ESG targets because at least 70% of their electricity will be from renewable sources such as wind, hydro and solar. Depending on availability, a select few businesses will also be able to elect to receive 100% renewable energy. Growthpoint has already started registering businesses eager to receive clean, green energy to meet their environmental goals.

Werner van Antwerpen, Head Corporate Advisory at

Growthpoint, explains, “Opting into e-CO₂ gives users access to certified RECs that can be used for annual emission reduction in ESG reporting to contribute towards tenants’ environmental goals or can be traded in the open market.”

Consuming electricity in this way can significantly reduce a company’s Scope 2 emissions (as outlined in the Greenhouse Gas Protocol), which include indirect carbon emissions from electricity used by a company. Scope 1 involves direct emissions, while Scope 3 covers associated and indirect emissions in the supply chain. All three are essential to address in the journey to net zero carbon emissions. Building occupants also benefit directly from e-CO₂ in terms of a reduction in the cost of occupation. The tenants’ monthly renewable electricity allocation is used to calculate the benefit, and the longer a tenant stays in a building, the greater the savings.

“Growthpoint is also passing on cost benefits it receives from signing the PPA to the tenant. The cost benefit for a tenant opting for e-CO₂ is the difference between the full increase in the electricity price applied by the local municipal authority or Eskom approved by NERSA annually and a fixed escalation rate for the renewable energy part of their electricity cost over the duration of the lease. This

guarantees long-term savings. The longer your lease, the more the cost benefit saving becomes each year,” says Kollenberg.

Users at qualifying properties will receive their power as they always have, through the existing power grid. While this does not directly shield them from load shedding, Growthpoint is increasing generating capacity in the larger South African electricity network, reducing the likelihood of load shedding in the long term

e-CO₂ is initially available for new leases or renewals only in specific jurisdictions and to select buildings within the Growthpoint portfolio, but this will be expanded over time. The first buildings part of e-CO₂ – all located in Sandton – are 138 West Street, The Annex, The Place, Fredman Towers, The Towers, Grayston Office Park, Sandown Mews, 12 Alice Lane, Advocates Chambers and Pinmill Farm.

“We are incredibly proud of this innovative initiative, made possible by a visionary team, dedicated partners and many passionate and talented people over a number of years. It not only benefits the immediate occupants of Growthpoint’s properties but helps to create a brighter and more sustainable future for South Africa,” concludes Kollenberg. ☺

CANAL WALK SHOPPING CENTRE awarded 5-Star Green Star Award

Canal Walk Shopping Centre has again been awarded the prestigious 5-Star Green Star Existing Building Performance Award by the Green Building Council of South Africa. This accolade affirms Canal Walk’s unwavering commitment to environmental sustainability and positions it as a leader in the property industry for sustainable practices.

The property industry holds a unique capacity to drive significant long-term environmental advancements through a variety of strategies which can drive behavioural changes across all levels of the supply chain, essential for building a sustainable future. Canal Walk’s commitment to sustainability is demonstrated through a variety of initiatives that contribute to its high environmental performance. Key achievements include:

- **Energy Efficiency:** Canal Walk has reduced its energy consumption by 34% compared to a 2009 baseline, setting a benchmark for energy efficiency in the industry.
- **Water Conservation:** The shopping centre’s water usage is 44% more efficient than the industry average, thanks to a series of innovative water-saving measures.
- **Waste Management:** Canal Walk has significantly reduced its waste sent to landfill by implementing sustainable waste management practices, including the installation of a 40-ton In-Vessel Composter to handle food waste.
- **Sustainable Operations:** The replacement of hazardous cleaning chemicals with environmentally friendly products ensures that the shopping centre not only protects the environment but also enhances the health and well-being of its visitors and staff.

The Green Star SA rating system is a comprehensive

evaluation that assesses the environmental performance of buildings across several criteria, including energy efficiency, water conservation, indoor environment quality, and resource management. Achieving a 5-Star rating is a testament to the exceptional standards upheld by Canal Walk in its ongoing efforts to minimise its environmental impact.

Gavin Wood, General Manager of Canal Walk Shopping Centre, recognised this exceptional achievement, stating, “This 5-Star Green Star rating is a significant milestone for Canal Walk and a reflection of the dedication and hard work of our entire team. We are extremely proud to be recognised for our on-going efforts in creating a safe, green space where people can connect and be part of a community.”

The Green Star SA rating system, established by the Green Building Council of South Africa, aims to set a standard of measurement for green buildings, promote integrated whole-building design and operation, and raise awareness of the benefits of sustainable practices. By achieving a 5-Star rating, Canal Walk has not only met but exceeded these standards, demonstrating environmental leadership in the retail sector. Canal Walk, co-owned by Hyprop Investments Limited and Ellerin Bros., continues to lead by example in the transformation of the built environment, reducing its environmental impact and entrenching a culture of sustainability within the community it serves. ☺



Inclusive leadership in real estate: **A PATHWAY TO BETTER CITIES**

*As conversations surrounding Women's Month transition to those about heritage, the pressing question remains: How do we maintain the momentum of gender inclusivity, ensure the sustainability of our achievements, and continue to build a South Africa that genuinely mirrors our country's rich diversity? **By Bathobile Chime, Divisional Director, Client Solutions, Cushman & Wakefield | BROLL***

Inclusivity becomes a systemic reality when our cities, infrastructure, and buildings are deliberately designed to promote it. An inclusive city fosters social and economic development, creating environments where everyone can thrive.

Considering that approximately 57% of the global population resides in urban areas, which contribute around 80% of the world's GDP, inclusivity directly impacts the lives of nearly five billion people and a staggering USD17-trillion.

Our role in shaping cities

At Cushman & Wakefield | BROLL, we are more than just real estate advisors. We are city shapers, and we recognise the significant role we play in influencing the lives of urban inhabitants.

Cushman & Wakefield has developed the industry's first Inclusive Cities Barometer, a powerful tool that fosters a data-driven dialogue on how real estate activities impact urban inclusion and the social fabric of our cities.

The Inclusive Cities Barometer assesses the inclusiveness of 44 cities in EMEA and 35 cities in APAC, based on nearly 9 000 data points, 110 metrics across four dimensions, and 12 subdimensions. It serves as a guide to inspire cities and industry stakeholders to create more inclusive, vibrant, and sustainable urban environments.

The essence of inclusive cities

Inclusive cities prioritise diversity, equity, and accessibility for all residents, regardless of their background, identity, or socioeconomic status. They embody principles of spatial justice, ensuring that all citizens can participate independently and productively in all aspects of urban life. This includes measures such as close connectivity between housing and work locations to support families and promote gender equality, as well as mixed-use development schemes that enhance the urban experience and contribute to reducing crime at night, making our cities safer and more secure. It is essential to remember that no two cities are

alike. Cities are dynamic ecosystems shaped by various factors, including the needs of the diverse groups of people who inhabit them.

Inclusivity as an asset

Inclusivity is a valuable asset. More inclusive cities tend to attract talent and innovation, leading to investment and growth that benefits both organisations and individuals through increased social mobility and entrepreneurship. They are more adaptable to the changing needs and expectations of their citizens and stakeholders.

Through collaboration between urban planners, government, design, and real estate industries - the stewards of the built environment - we can create flourishing environments where everyone prospers.

Categorising inclusive cities

Many cities are advancing towards greater inclusivity, and measuring their progress is crucial to understanding how to create social value through responsible real estate activities.

The Inclusive Cities Barometer acknowledges that not all cities "start from the same starting line," allowing for a more nuanced and constructive approach to supporting increased social value through urban inclusion. This is a vital consideration for South Africa, where many cities were, in the past, designed for exclusion.

In the report, cities are grouped into four categories based on their progress towards inclusive urban environments. Mature Urban Centres have a long history of social inclusion, prioritising citizens' needs, aiming for equal wealth distribution and balanced economic growth.

Social Drivers show strong social inclusion across many areas but are still working to reduce wealth and lifestyle inequalities. Rapid Risers were previously less focused on equitable economic and social development but are now rapidly advancing their urban inclusion initiatives. Emergers are just beginning their journey towards urban inclusion, with strong ambition and eagerness to improve.

South Africa's progress

Notably, Johannesburg, Cape Town, and other key African cities, including Cairo, Nairobi, and Lagos, fall into the Emergers category.

For both South African Cities, the top three factors contributing towards their inclusivity are access to parks and green public spaces (and beaches in Cape Town), increasing efforts through community-led movements to empower and support the progression and integration of marginalised communities, and increasing efforts to provide social infrastructure to all residents by building connectivity between previously segregated communities.

This progress is promising, but more needs to be done. However, as the barometer points out, achieving greater inclusivity involves addressing complex and interrelated factors. Are there high-quality jobs for all skill groups? Can people travel safely and cost-effectively on public transport to reach these jobs? Are they safe in all parts of the city at night? Do they face discrimination or isolation in certain areas? Creating inclusive cities requires collaboration between communities, policymakers, and organisations that design and manage physical spaces.

The impact of female leadership

The real estate and construction sectors, alongside government, are among the most critical custodians of

the built environment. Every day, our industry makes decisions about what gets built, for whom, and the form and function of amenities and spaces. These decisions carry the obligation to ensure that what gets built serves all citizens.

When the property sector - both public and private - is inclusive, it follows that it is more likely to create inclusive built environments.

Female leadership is nothing new; history is replete with examples from Egyptian pharaohs to English queens.

Here in our high-performance, outcomes-driven environment at Cushman & Wakefield, four of eight divisions are women-led.

Yet, in general, male leaders have historically outnumbered female leaders and still do today.

Looking at South Africa's broader national empowerment strategy, its objectives include changing the racial and gender composition of ownership and management structures of existing and new enterprises and in skilled occupations. Essentially, according to the Sanlam Transformation Gauge 2023, the intent is for economic inclusion and the business sector to broadly reflect the country's demographics.

Women make up 51% of the population, but their representation in positions of leadership is less than 24%, with African women at less than 4%.

Focusing on the property sector specifically, the gauge notes that management control is an area where the sector has the least diversity; in fact, numbers have regressed from 39% of its target in 2021 to 32% in 2023.

Black women remain the most marginalised group in management.

Overcoming systemic challenges

This is despite the proven advantages of gender-diverse leadership. Studies on private firms highlight that managerial gender diversity is linked to positive performance outcomes, among other benefits.

There is also no shortage of skilled, qualified, and ambitious women. Women have made significant progress in education and the workplace.

Taken together, it indicates a systemic challenge that needs to be overcome.

We also know that diversity is crucial, particularly in leadership, as gender parity benefits everyone by allowing individuals to pursue their goals regardless of gender. Leaders hold substantial influence, and including women in top leadership enables them to contribute significantly to the world and our cities.

Effective leaders pave the way for others and open doors to new opportunities. Women in the C-Suite enrich our collective culture, thought processes, strategies, and priorities. When their leadership is felt in real estate, it directly impacts our cities' economies and the lives of their inhabitants.

Inclusive real estate for inclusive cities

Inclusive cities rely on an inclusive real estate sector, and those real estate organisations that are diverse and inclusive are best positioned to drive more relevant, inclusive and better outcomes.

At Cushman & Wakefield | BROLL, we are proud to be in this position. We embrace the opportunity with our clients to create environments that are not just inclusive by design but are also vibrant, resilient, and reflective of the rich diversity that makes South Africa so wonderfully unique. ☺



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ZUTARI AND 4SIGHT COLLABORATE on sustainable smart infrastructure

Since announcing a partnership in 2022, leading consulting engineering and infrastructure advisory firm Zutari and AltX-listed 4Sight have refined their unique service offering by working on some of the largest and most complex mega projects in the Middle East, as well as major projects in South Africa.

“We offer a differentiated service not found in any typical consulting engineering practice. Bringing our two companies together really complements our capabilities. We can address aspects that others cannot. Obviously, when we started, we needed to understand each other. We knew what we wanted to do, and we have come a long way since then,” comments Martin Smith, Design Director, Expertise Leader, Zutari.

“Zutari brings parallel domain expertise to the table within the design and optimisation of the built environment. 4Sight is strong in technical systems and data analytics and pushes the envelope in terms of what we can do. All traditional services joining the two companies give us that new ‘blue ocean’ approach, meaning we believe there’s no other company in the world that can actually provide such a partnership as a viable business model,” comments Jeandré Du Randt, BE Innovation Lead, 4Sight.

“Our philosophy is that you can have the best technology in the world, but if you do not have the expertise, you cannot implement it. We have proven that with our specialist engineers and technical people in the mining environment. We do not have that in the built environment. Zutari puts us in a position where we can really differentiate ourselves in this market sector,” highlights Rudi Dreyer, Chief Business Environment Officer, 4Sight.

The company brings to the technology table an enterprise data management layer that is sustainable, scalable and robust, affording clients the opportunity to upgrade their ICT

as more cost-effective technology becomes available. “By applying that to the built environment, with Zutari’s domain expertise, we can go many steps further once we have created that single version of the truth and all its attendant data,” says Du Randt.

“Zutari has extensive experience in developing sustainability strategies. 4Sight closes the loop by providing the analytics that show the customer where they are precisely in terms of their sustainability strategy’s performance. This is where we introduce smart technology and take it to the next level, which is essentially a cognitive leap in applying AI to understand individual clients and their requirements and preferences,” explains Du Randt.

“Combine that with all the data over the entire building, city or asset, and we can make specific recommendations to a single project, while understanding the entire data landscape. This is groundbreaking, and we are collaborating with some of the best companies in the world on these mega projects. It is a positive demonstration that Zutari and 4Sight have truly created a ‘blue ocean’ value proposition,” says Du Randt.

The approach is applicable to both smart buildings, cities, and infrastructure, says Dominic Collett, Expertise Lead: Land Infrastructure Built Environment, Zutari. “Within the realm of land infrastructure, our focus extends beyond mere construction; it centres on enhancing traffic flow and mobility. Herein lies the significance of intelligent traffic management systems, shaping the future of transportation



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1. Dominic Collett, Expertise Lead Land Infrastructure Built Environment at Zutari. 2. Jeandr  du Randt, BE Innovation Lead at 4Sight. 3. Martin Smith, Design Director, Expertise Leader at Zutari. 4. Rudi Dreyer, Chief Business Environment Officer at 4Sight.

efficiency. Collett emphasises the importance of the partnership engaging in globally renowned projects, akin to tackling ‘Rolls Royce’ projects. “These endeavours epitomise technological advancement and innovative implementation. He underscores that participating in such ventures is essential for elevating how technology is implemented in the African context. Without involvement in these international initiatives, the drive to adopt and adapt such technology locally would be compromised.”

Partnerships such as that between Zutari and 4sight play a vital role in transport systems, facilitating the modelling of people’s movements to enhance efficiency and connectivity. As Collett highlights, without such collaboration, leveraging technology to address challenges becomes significantly constrained.

“We may be targeting some of the most iconic projects around the world, which from a technology point of view are going to be more advanced, but that does not mean there is no local application. Locally, there are many clients not necessarily designing new infrastructure but wanting to optimise existing assets,” says Smith. Therefore, the partnership focuses not only on design and implementation but the overall lifecycle of assets.

Developing a digital strategy for physical assets ticks all the boxes for improving sustainability performance, asset lifecycle and introducing automation. “We start upfront with advisory and strategy development before embarking on detailed designs. Whether new or optimising existing infrastructure, we consider different approaches during the initial planning stage, so clients are assured of having optimal solutions and complementing technology to maximise output,” says Smith.

“The heart of all of this is how we manage data and how can we use data to deliver the best service to the customer and make visible to the customer what’s happening right now, so they understand how everything fits together,” says Du Randt. “We then progress from real-time insights to actual full site implementation in terms of what will happen in the future and what we need to do now to make sure the future is what we want it to be.

That is the real key to enable our combined strategy.”

Zutari’s relationship with 4Sight is successful because both are technology-independent and ensure that the technology they use is fit-for-purpose. Unlike many software applications developed for a specific purpose, and then expanded to try and incorporate everything, binding the client to a specific product, both believe that every product must be best-in-class or already used by the client to allow for seamless merging.

“Hence, we are technology independent, and the solution must be capable of swapping out technologies when needed,” says Smith. Du Randt concurs: “It is critical not to lock the client into a single ecosystem because that affects future adaptability and changes in technology. Then the client owns their data, but the advantage for us is we also have access to that data for real-time performance monitoring and improvement.”

“We need to assist new clients to maximise their return on investment. They might start the journey to Net Zero by selecting the correct software applications to manage their systems and business processes. Here we can advise on what should be best for them, but if they standardise on a particular technology, we must be able to accommodate that in support of their overall strategy,” says Dreyer.

4Sight, a company with a proven track record of successful proprietary IP products across all three tiers, possesses a deep understanding of these nuances. “Our expertise positions us uniquely to assist with the development of new offerings. This insight is a testament to the importance of market-specific solutions and the role of experienced players like 4Sight in shaping the future of the industry,” says Dreyer.

“Zutari and 4Sight support a true technology-independent strategy from sensors to control systems, applications and infrastructure. We then supplement it with a data methodology that allows us to obtain data from every application across that landscape and swap out those applications when the client has the resources or when more cost-effective applications become available,” concludes Dreyer.  

CELEBRATING EXCELLENCE IN THE South African stainless steel industry

The 2024 Sassda & Columbus Stainless Awards Gala Dinner marked a significant showcase of innovation, sustainability, and excellence within South Africa's stainless steel sector. Attended by 200 industry professionals, including manufacturers, suppliers, fabricators and designers, the event heralded the return of these prestigious awards after a five year hiatus.



The evening culminated in ND Engineering being awarded the Overall Winner award.

Celebrating 60 years of stainless steel excellence in South Africa, the awards honoured individuals and companies that have made significant contributions to the industry. The night saw top achievers across several categories recognised exceptional work.

Welcoming guests, Sassda Executive Director Michel Basson remarked, "The 2024 Sassda & Columbus Stainless Awards mark a triumphant return after a five year hiatus. We are proud not only to honour the companies and individuals who have made exceptional contributions to the stainless steel industry, but also to highlight the crucial role our industry plays in supporting people, the planet and the South African economy."

Key winners of the 2024 Sassda & Columbus Stainless Awards:

Sustainability Awards

Winner: Eco Clarity - Innovative technology in recovering fats, oils, and grease from food service establishments, converting waste into biodiesel using 304L stainless steel components.

Runner-up: Mpumatech - Recognised for its sustainable solution in mining, replacing corroding mild steel split sets.

Special Merit Award

Venter Consulting Groundbreaking work in manufacturing closed vane impellers, raising standards of innovation and manufacturing excellence.

Duplex Stainless Steel Awards

Winner: ND Engineering - Work on the multipurpose pulp tank for Sappi Ngodwana, highlighting the benefits of duplex stainless steel in production efficiency.

Runner-up: ND Engineering - exceptional use of duplex stainless steel in Sappi Saiccor's Project Vulindlela.

Business Excellence Awards

Winner: ND Engineering - Acknowledged for its relentless focus

on creating customer value through innovation and leadership in the stainless steel industry.

Runner-up: Anderson Engineering - Recognised for its quality, innovation, and customer engagement in the food, pharmaceutical, and personal care sectors.

Ferritic Stainless Steel Awards

Winner: Mpumatech - For its innovative use of stainless steel split sets in underground mining, improving safety and efficiency in challenging environments.

Runner-up: Guardiar - For reducing complexity and environmental impact through innovative use of ferritic stainless steel.

Export Achievement Awards

Winner: Ener-G-Africa - Advanced biomass stove and eCO2pot, providing sustainable energy solutions to millions across Sub-Saharan Africa.

Runner-up: ND Engineering - For its contributions to global energy saving technologies and the supply of complex stainless steel components to Europe.

Austenitic Stainless Steel Awards

Winner: Fabrinox - Collaboration with Eco Clarity on a sustainable management system for fats, oils, and grease waste.

Runner-up: Vinco Steel - Recognised for innovative handling of grapes in the wine industry.

Lifetime Achievement Award

The gala also honoured Sakkie Nel, who was presented with the Lifetime Achievement Award for his decadeslong contribution to the stainless steel sector. Nel's leadership and vision have left an enduring impact on the industry.

Overall Winner

The evening culminated in ND Engineering being awarded the Overall Winner title thanks to its consistent excellence across multiple categories. The South African owned company was lauded for setting industry benchmarks in innovation, sustainability, and customer value creation.

Chairperson's remarks

Reflecting on the evening, Sassda Chairperson Bertus Griesel stated, "As we celebrate the 60th anniversary of Sassda, we not only honour our rich history but also look toward an exciting future filled with new challenges and opportunities. This milestone is a testament to the collective vision, resilience, and dedication of our industry. The achievements recognised tonight reflect the innovative spirit and commitment to excellence that will guide us into the next chapter of our journey." ©

Industry recognition for its mentoring and training

Globally trusted infrastructure consulting firm AECOM received major recognition for its mentorship and training leadership and achievements at the 2024 CESA Aon Engineering Excellence Awards. Associate Director Isak Malherbe won Mentor of the Year, while Erika Braune received a commendation in the Young Engineer of the Year category.

Malherbe serves a pivotal role in the Surface Water Management Department for Africa. As a mentor, he has devoted 15 years to the technical development of aspiring engineers within a structured ECSA-accredited mentoring programme. His unwavering commitment to mentoring and coaching shines through his longstanding involvement in AECOM's structured mentoring programme. Since 2009, he has guided 14 candidates, actively supporting them on their path, toward professional registration. He completed a mentoring and coaching programme with Mentors and Business Coaches International in 2018, earning accreditation as an Internationally Accredited Mentor in 2019. His understanding of the ECSA requirements for candidacy training is also illustrated by the fact that several candidates he has previously mentored have successfully obtained their professional registrations.

Isak's invaluable mentorship extends beyond AECOM into the wider engineering field. His reputation as an expert has led to multiple invitations as an external lecturer at the University of Stellenbosch's River Hydraulics, Floods, and Stormwater Short Course. Isak's impact as a mentor reverberates throughout the engineering community, inspiring and shaping the next generation of professionals. Braune (29) believes that civil

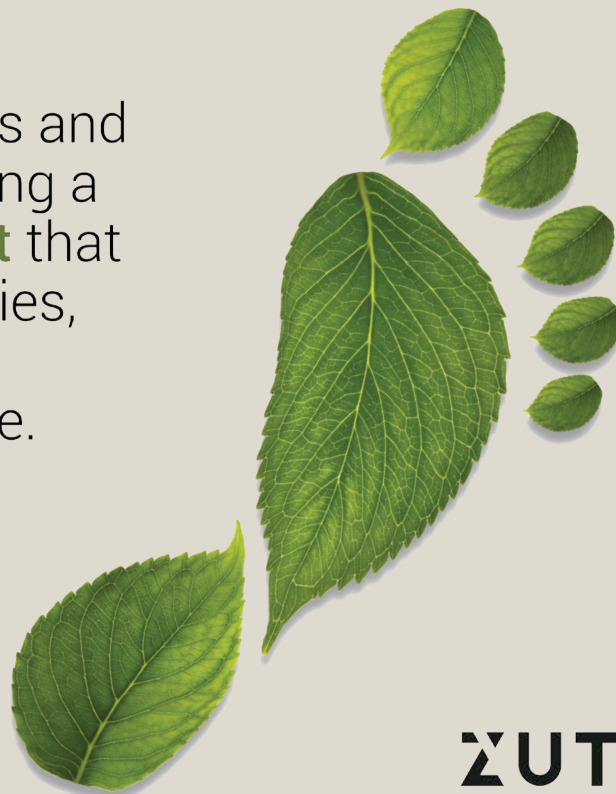
engineers leave indelible footprints of growth on the earth's surface, serving society. As an engineer, she embraces the responsibility of stewarding resources and considers it a privilege to craft solutions that uplift communities through sustainable development. Her career reflects personal growth, shaped by collaboration with exceptional engineers on legacy projects. Braune's postgraduate research yielded vital sustainable solutions tailored for municipalities, earning her industry recognition and awards from Stellenbosch University and IMESA.

Over her first four years in consulting, she tackled complex international and local projects, collaborating with multicultural, interdisciplinary teams to deliver excellence at various scales. Erika's passion extends to mentoring young engineers and active participation in professional forums. Her involvement in the SAICE Water committee and university presentations promises an exciting future. Within her community, she engages in outreach and sustainability initiatives, holding leadership positions.

AECOM offers a variety of mentorship and training programs designed to support career development at all levels. Early career programmes include summer internships and graduate development programmes. Interns and graduates are exposed to meaningful experiences and supported by a global network of experts. The programmes stress creativity, flexibility and diversity. Each graduate is assigned a mentor to guide them towards professional qualifications. AECOM also funds the cost of membership for each graduate's chosen professional institution. ©

Our projects span markets, disciplines and geographies creating a **footprint of impact** that enables communities, environments and economies to thrive.

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Africa's first precast-concrete **WATER TOWER**

The City of Ekurhuleni's Water & Sanitation Department is at the cutting-edge of precast-concrete technology. This water-services provider has already successfully completed the construction of four prefabricated reservoirs. With another precast concrete water-retaining structure nearing completion, it was just a matter of time before the Water & Sanitation Department would take its concept even further.

A new water tower is being constructed alongside one of these precast-concrete reservoirs. It too, when completed later this year, will have been almost entirely prefabricated in a state-of-the-art factory and skilfully integrated on site. The only in-situ components include the tank floor slab and the foundation.

When finalised later this year, this will be the first precast-concrete water tower in Africa. It will have a final height of 36 m and a capacity of 2,5 ML.

The municipality opted for a precast-concrete water tower because it was faster and more cost-effective to build. This while also providing a final structure of an exceptionally high quality which, in turn, will provide operating cost savings through reduced maintenance requirements.

The efficacy of prefabrication had proven itself time and again on each of the projects the Water & Sanitation Department completed. Meanwhile, its professional team had also become more proficient in executing the works, refining and honing the sophisticated method from one project to the next.

The water services provider is again being supported by Tangos Consulting Engineers, the design engineer and project manager, and Infinite Consulting Engineers, a structural engineer with an extensive pedigree in the design and supervision of precast-concrete structures. This is in addition to RSMM Construction, the principal contractor, and Corestruc, a precast-concrete turnkey contractor. Partnering Corestruc with its extensive precast-concrete know-how, which includes manufacture, transport

and rigging, RSMM Construction has earned a reputation for the exceptionally high quality of its water-retaining structures. This while building them in fraction of the time that it would have taken using conventional cast-in-place methods.

The construction of the precast-concrete water tower will be completed in only 14 months compared to between the two and three years that it would take using traditional methods. Considering that this is the first precast-concrete water tower to be built by the team, it is taking slightly longer to construct. The other water-retaining structures will be completed in only nine months, bearing in mind that the tower constructed above the footing took only six months to build.

It will also have a design life of 100 years if maintained appropriately, considering the high-performance concrete used to manufacture each individual component.

Corestruc's quality control technicians precisely calculate the moisture content of aggregates and factor in water from admixtures to make the necessary modifications to maintain the optimum water-to-cement ratio. The company is also judicious in its selection of aggregates to ensure that they are as impermeable as possible. Furthermore, admixtures are used to modify fresh or hardened concrete. All of these produce an almost impermeable concrete element that can withstand damaging chloride and sulphate ions, as well as aggressive chemicals.

The water tower design is the outcome of years of research and development by Corestruc and Infinite Consulting Engineers,



followed by a sizeable investment into the new formwork required to manufacture the various concrete elements that make up the structure. These are already being used to fabricate the precast-concrete elements for another precast-concrete water tower that is also being built in the municipal jurisdiction. Further structures are also being planned by other municipalities as they explore more efficient and cost-effective ways of augmenting water supply, a critical challenge in the country.

They include the forms used to manufacture the 12 columns and spiral beam elements for each of the three sections or 'rotations' that comprise the outer portion of the tower. These 30 interconnected semi-circular prefabricated elements wrap around the structure providing the necessary support, while also offering a striking aesthetic effect. The two columns are fixed via the protruding dowels that pass through the underside and top side of the spiral beam which is then filled with in-situ concrete. This process was repeated until the columns reached their final height.

Then there are the 15 prefabricated elements that make up the 3,6m-diameter shaft, which is constructed at the same time as the outer portion of the structure. Equipped with precast-concrete stairwells with balustrades, it leads to the underside of the prefabricated tank. Thereafter, the shaft connects with stacked precast concrete pipes equipped with a cat ladder. Cast into the reservoir floor slab, this top portion of the shaft will traverse through the water-retaining structure to a manhole on the roof.

The superstructure consists of 12 tapered beams connected to the columns of the last rotation. Resting on bearing pads, they will carry and distribute the load of the precast concrete tank and its contents.

Installed in the triangular-shaped junctions between the tapered beams, cut-to-size and shape hollow-core slabs serve as the shutter for the in-situ foundation for the water-retaining structure. Coping panels have been installed along the perimeter providing an aesthetically pleasing finish.

To ensure the very high levels of accuracy required for this precast-concrete structure, Corestruc has also invested in a robotic total station. It is also fast and highly efficient, which is precast concrete's ultimate value proposition. This technology is making the company even more efficient at what it does so well.

Meyer van Rooyen, a seasoned Corestruc Project Manager, who has supervised all precast-concrete work thus far, says that there is very little scope for error on this project. "We have achieved tight 15 mm tolerances throughout the construction of the three rotations of the substructure, starting with the placement of the first-rotation columns on the in-situ foundation. Among other factors, this is also facilitated by our precise manufacturing processes. Each element undergoes extensive quality assurance before it is dispatched and again once it has arrived on site. Once the elements have been safely transported to site and as the last component in Corestruc's precast-concrete value chain, the

responsibility rests with my team of riggers to maintain the highest levels of productivity, efficiency and accuracy," Van Rooyen says.

His team is supported by a state-of-the-art 150 t mobile crane, which has the capacity to lift the heavy precast-concrete elements and reach to efficiently place them. The 12 tapered beams, for example, each weigh a staggering 18,5 t and the columns for the second and third rotations slightly less.

While the tank is significantly smaller than the reservoirs that Van Rooyen and his team have already built, constructing it many metres above ground poses unique challenges.

Safety of employees is on top of mind for RSMM Construction and Corestruc. Therefore, the companies have contracted the services of a specialist work at height safety consultant to assist with occupational health and safety protocol. It will also provide specialist training to the team.

Four sub-contractors who have been sourced from communities located within the construction footprint will work alongside Corestruc's team to construct the floor slab. A total of 104 m³ of concrete will be placed to construct the 350 mm-thick floor slab. One of the challenges is the heavy reinforcement in the beam junctions. Therefore, the placement of concrete will have to be carefully managed to ensure that the correct compaction is achieved. This while also ensuring that the top portion of the cast-in-place shaft is water-tight.

An articulated boom lift has already been placed on top of the superstructure to assist with the installation, as well as the grouting of the 34 tank wall panels. This is in addition to the two buttress panels for post-tensioning, which will be undertaken in the same way as all of Corestruc's other reservoirs. All of the wall panels will be propped during their installation, considering the wind speeds at this height. Conventionally, only the first wall panel is propped to free up space.

Meanwhile, the roof structure consists of four columns and beams, as well as 150 hollow-core slabs. The centre portion or 'core' will be constructed first, and the outer section completed as part of the among the final aspects of the programme.

While the structure, itself, demonstrates excellence in precast-concrete design and implementation, Van Rooyen says that RSMM Construction and Corestruc have also had an opportunity to show off their extensive expertise in cast-in place concrete methods.

"Supporting this water tower is a 1m-thick and 25 m diameter foundation consisting of 500 m² of 30 MPa cast-in-place reinforced concrete. It is underpinned by 200 m² of mass concrete blinding. This took 10 hours to place, starting at 5:00 and using two concrete pumps, while also isolating an entire ready-mix concrete plant just for this purpose," he says.

Van Rooyen has all the reason to be proud, considering how well the project is progressing. He will soon be able to boast that he has again played his part in yet another project that has demonstrated the efficacy of precast concrete. ©

FUEL, OIL and lubricants

Showcasing complete lubricants range at Electra Mining Africa 2024



Dave Gons, National Manager Mining | Regional Mining Manager Sub-Saharan Africa.

Ongoing pressure on commodity prices and reduced output has seen the global mining industry focus increasingly on energy efficiency and optimising production. “There is a major emphasis on cutting costs, especially in terms of proactive maintenance, which is where our products play a key role,” comments Dave Gons, National Manager Mining | Regional Mining Manager Sub-Saharan Africa at FUCHS LUBRICANTS SOUTH AFRICA.

“Regardless of market conditions, we focus on helping our mining customers become more efficient. By using superior products, they can actually save money through improved maintenance regimes and longer component life. Even when the market is down, we believe we have a role in supporting our customers. Unfortunately, some businesses cut costs in areas like lubrication, which might offer short-term savings but lead to long-term costs,” explains Sales Director Andrew Cowling.

FUCHS had a significant presence at Electra Mining Africa 2024. “We showcased our niche or speciality products as well as our complete offering for all types of mining operations and mining clients. We have everything they need,” asserts Cowling.

Gons points out that specific products like CEPLATTYN GT 10 and TITAN UTTO PRO 102 have critical Original Equipment Manufacturer (OEM) approvals. The latter is a premium performance multifunctional oil for gears, axles, and hydraulic systems with improved wear protection and a range of application temperatures. It has been especially developed



Sales Director, Andrew Cowling.

and approved for Volvo axles with built-in wet brakes in construction machinery.

The former is a high-viscosity adhesive lubricant for heavy-duty open gears, such as on kilns, mills, and driers in the raw materials industry. A synthetic base oil, it has new types of additives and a combination of white, reaction-effective solid lubricants. This guarantees extraordinarily good wear protection and an extremely high lubricant film stability.

Gons points out that certification is increasingly important in the mining industry, both for on and off-highway equipment. “The fact that TITAN UTTO PRO 102 has specific approval for Volvo fills a gap in our portfolio. CEPLATTYN GT 10 is our flagship open gear product and is used by some major mines.”

Cowling expands: “It was about offering a complete product range and showing that we are on top of certifications and accreditations for leading OEMs. Having such niche products on display attracted interest in our broader portfolio.

“That has been our strength – offering products that some competitors might not have. Often, that is our entry point with mining customers, and then we can expand the conversation to include our services, support, and other products.”

Gons says FUCHS experts were on hand to engage with visitors about the latest trends and developments, such as calcium sulphate greases. “It is a future-proof product, especially as lithium costs fluctuate, with incredible development underpinning it.”

Calcium sulphonate is a much more natural lubricant compared to others and is more efficient and cost-effective as less product is required for improved results. This is because the calcium itself acts as a lubricant, unlike lithium, which requires additives. ☺

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Think Tanks Think TROTECH

Impact-resistant **FLOORING UPGRADE**

The Department of Basic Education has partnered with Transfrontier Projects to replace the worn-out flooring with a new, impact-resistant coating that ensures longevity and durability. The project involves the application of various high-performance products from Sika, a global leader in construction chemicals, to provide a robust and lasting solution for the department's flooring needs.



The primary goal of this project was to replace the existing worn floor coating in all high-traffic areas where examination and education materials are frequently moved with trolleys. The process began by removing the existing coating with diamond grinders, resulting in an open pore concrete surface, which is conducive to bonding the new screed to the concrete substrate. Good preparation is crucial for the effective application of all new coatings and screeds.

High traffic areas:

- **Shrinkage crack repairs:** Sikadur®-52 ZA, a low-viscosity epoxy resin with high strength, was used to repair cracks by means of gravity feed into the cracks before applying the final coats.
- **Scratchcoat and screed:** Sikafloor®-21 PurCem®, a high-performance, impact-resistant polyurethane hybrid self-smoothing screed designed for heavy traffic areas,

was used as both a 1 mm scratch coat and final 5mm screed layer. After the initial preparation process, the 1 mm scraper coat was applied to seal off the open pore surface and prepare it for the final screed application. The Sikafloor®-21 PurCem® was then applied at 5 mm thickness and finished off by spike rolling to remove bubbles and imperfections from the wet surface for a smooth, seamless finish.

Medium traffic areas:

- **Passages and Offices:** For these areas, Sikafloor®-263 SL ZA, a 2-part epoxy self-smoothing coating for smooth and broadcasted flooring surfaces, was used. The same surface preparation was done, and Sikafloor®-263 SL ZA was poured, spread evenly with a serrated trowel, then leveled and any entrapped air was removed with a spiked roller. After about 15 minutes (at +20°C) but before 30 minutes (at +20°C), quartz sand was broadcast, first lightly and then to excess, and Sikafloor®-263 SL ZA was roller-applied in two coats.

Light traffic areas:

- **Storerooms and UPS Rooms:** In these areas, Sikafloor® Garage, a versatile, easy-to-apply water-based coating ideal for light to medium traffic areas, was used. The same preparation process was done, and Sikafloor® Garage was roller-applied in two coats.

Parking decks:

- **Damaged concrete:** Damaged concrete surfaces were cut out, and defective areas were primed with Sika MonoTop®-1010 ZA, a cementitious bonding primer, which was brush-applied as a prime coat. Sika MonoTop®-412 NFG, a high-strength, shrinkage-compensated repair mortar, was used to level out the primed areas using a trowel, ensuring a neat finish.

Joint sealing

All existing sealants were raked out of the joints. All joints were cleaned and then primed with Sika® Primer-3 N to ensure bonding of the new sealants to the sides of the joints. Sikaflex®-11FC Purform® was used to fill in all joints.

With the successful completion of this flooring upgrade, the Department of Basic Education now benefits from durable, high-performance surfaces designed to withstand heavy use and maintain aesthetic appeal. The partnership between Transfrontier Projects and Sika has delivered a robust solution tailored to the unique needs of various traffic areas, enhancing both functionality and longevity. This project exemplifies a commitment to quality and resilience in educational environments, setting a new standard for future upgrades. ©

“With the successful completion of this flooring upgrade, the Department of Basic Education now benefits from durable, high-performance surfaces designed to withstand heavy use and maintain aesthetic appeal.”

The deadly gap in South Africa's highway **CONSTRUCTION SAFETY**

Ten of the world's most dangerous professions are construction jobs. Highway maintenance in particular ranks alarmingly high, mainly due to the unique set of hazards it presents. In response, construction and infrastructure development companies and partners in the public sector urgently need to engage to actively seek and implement solutions to protect the public and our workers. By Olebogeng Manhe, Chairman of the Gap Infrastructure Corporation (GIC)

For example, motor vehicle accidents (MVAs) at construction sites represent around 40% of all accidents industrywide in South Africa, accounting for nearly half of all construction-related deaths. Additionally, beyond being exposed to the typical risks associated with using heavy machinery and working at heights, construction workers also work in close proximity to fast-moving traffic. The threat of being struck by vehicles is very real, and is further amplified when working at night or in poor weather conditions with low visibility.

Meanwhile, road construction zones, intended to enhance safety and decrease travel times for commuters, often become hotspots for accidents, endangering both drivers' and workers' lives.

With this in mind, there are three critical areas that require greater attention to advance progress in highway construction safety.

Bridging gaps in traffic law enforcement

South Africa's regulations for highway construction are extensive, but enforcement often falls short. This gap between policy and practice can result in tragic outcomes and needless loss of life, leaving families devastated. The solution is a greater commitment from traffic law enforcement, ensuring that officers are present and actively involved in managing traffic flow at road construction sites, especially those identified as high-risk.

Another major issue is the inconsistent application of safety measures across different construction zones. While some sites are well-regulated with clear signage, proper lighting, and active monitoring, others lack even basic safety provisions. By standardising enforcement practices at a regulatory level and ensuring that every site meets the highest safety standards, we can create a safer environment for both workers and motorists.

Promoting public awareness and responsibility

While construction companies and regulatory bodies play a crucial role in ensuring safety, the responsibility also extends to the public. Motorists must be made aware of the dangers posed by construction zones and the importance of adhering to speed limits and traffic signs.

Public awareness campaigns can play an important role in this, educating drivers about the risks and emphasising the human cost of accidents in construction zones, and instilling a sense of urgency and responsibility among drivers.

Stricter penalties for traffic violations near construction zones can further act as a strong deterrent to reckless road behaviour.

Higher fines and the possibility of licence suspension would also encourage drivers to take construction zone warnings seriously.



Olebogeng Manhe, Chairman of the Gap Infrastructure Corporation (GIC).

Creating a dedicated safety fund

To improve safety at high-risk roadwork sites, the public sector, with assistance from private institutions, could introduce a dedicated safety fund. By investing in the latest safety equipment, advanced technologies, and infrastructure improvements, this fund could play a pivotal role in reducing the number of accidents and fatalities in dangerous zones.

There are many types of advanced technology that could help lower road accident risk. The use of automated flagger assistance devices (AFADs) and real-time monitoring systems, for example, could be installed at all highway construction sites, providing an additional layer of protection for both workers and drivers.

Ultimately, improving safety in highway construction zones requires coordinated efforts from all stakeholders in both the public and private sectors. In response, public-private partnerships (PPPs) and engagements can offer a powerful means of pooling resources and expertise to enhance safety standards. These collaborations could facilitate the required policy changes, ensure effective regulation management, and secure funding to make these improvements a reality. ☉

“Let’s rebuild South Africa’s INFRASTRUCTURE”

South Africa finds itself at a crossroads in its infrastructure development journey. In recent years, mismanagement, neglect, a lack of skills and construction standards not being adhered to, have impacted the industry. By Chalmers Pagiwa, MD of Lubisi Consulting



“The development of South Africa’s infrastructure sector further relies on the continued growth of skills and expertise in the engineering sphere.”

Chalmers Pagiwa,
MD of Lubisi Consulting

However, there is hope for transformative change, particularly as the Government of National Unity has made renewed promises in infrastructure investment. The newly appointed minister of infrastructure Dean Macpherson has noted that South Africa will be turned into a “construction site”, while in a recent address, President Cyril Ramaphosa committed to enhancing South Africa’s infrastructure to align with the National Development Plan, the African Union’s Agenda 2063, and the United Nations Sustainable Development Goals.

He noted that this strategic alignment was crucial for addressing South Africa’s social realities and efficiently using resources. As Ramaphosa and Macpherson emphasised, a sustained focus on infrastructure investment is not just ambitious, it is essential to drive economic growth and to support inclusive growth, job creation and poverty reduction.

Consulting engineers should continue to support government and private sector infrastructure projects with innovative solutions. As we move forward, our mission aligns with the broader national goals of rebuilding with purpose, ensuring quality, and optimising existing resources.

Accelerating development

The current pace of infrastructure development in South Africa has been notably slow. To meet the nation’s needs and aspirations, we must accelerate this process while maintaining a steadfast commitment to quality, integrity, and accountability. Macpherson’s call to “maximise the use of existing resources” reflects a critical shift towards leveraging what we already have, while pursuing new developments. This approach not only ensures efficient use of funds but also addresses the pressing need to combat corruption and inefficiency.

Certainly, this is an opportunity for consulting engineers to reaffirm our dedication to transparent and accountable practices. We understand that the effectiveness of infrastructure projects hinges on a procurement process that is both transparent and rigorous – our role, therefore, is to ensure that every project we undertake adheres to the highest standards of quality and integrity, thereby setting a benchmark for the industry.

Addressing challenges

The decline in the South African construction sector’s contribution to gross domestic product, from 4% in 2016 to 2,6% in 2023, underscores the urgent need for strategic intervention and highlights how the sector continues to face several entrenched challenges, including a sluggish development pace, corruption, and rising costs. The construction mafia and accompanied extortion have led to delays and incomplete projects, while the

rising costs of materials, labour and equipment have further squeezed industry margins. This would be a key area that the Department of Infrastructure would focus on, noting that there is “no room for such mafias or people who will halt our projects”.

Cost overruns and project delays can be mitigated by implementing innovative solutions, leveraging technical expertise and navigating the complexities of infrastructure development. This will ensure that projects are completed on time and within budget.

Investing in skills and innovation

The development of South Africa’s infrastructure sector further relies on the continued growth of skills and expertise in the engineering sphere. Beyond this, we need to build an industry that will retain these skills. Having started from a small team of two to a dedicated workforce of more than 10, we have also committed to nurturing an ongoing talent pool that can contribute to the industry.

With a continued focus on innovation and improvement, the South African consulting engineering society can ensure that we remain at the forefront of infrastructure development and become a country that is exemplary in its processes.

The transformation of South Africa’s infrastructure landscape requires a collective effort from all stakeholders, including consulting engineers, which will play a crucial role by upholding the principles of quality, integrity, and efficiency. As the country embarks on this new era of infrastructure development, the industry should be committed to delivering solutions that drive progress, support economic growth, and enhance the quality of life for all South Africans. ©

Two-stage tendering in SA's construction sector is beneficial but **NEEDS A COLLABORATIVE APPROACH**

Construction projects in South Africa are often concluded in a single stage - designs (usually incomplete) are used by the main contractor to provide tenders for constructing the project. Two-stage contracting is a growing trend, where engineers work in concert with the preferred contractor to finalise the design, typically from an early stage in the project life cycle, according to construction and mining law specialist MDA Attorneys.

“**T**he combined effort upfront allows for quicker finalisation of the design and ultimately results in an improved construction process. Instead of dictating to the contractor, who then must execute the project works, two-stage tendering allows for practical and realistic pre-qualification based on the contractor's preferred method of working. Any changes can be ironed out early, reducing the likelihood of variations during project execution,” says Euan Massey, MDA Attorneys Director.

Two-stage procurement in South Africa's public sector

The concept of two-stage procurement has been in place in South Africa for a while. An example is the two-envelope system used in public sector projects. This system involves an initial technical proposal without costs, aimed at establishing that tendering companies have the necessary skills and capacity to undertake the project. Once the bidders have been narrowed down to those with the skills and capacity, the second 'envelope' containing costs is considered, providing the ability to rule out contractors who are not proficient.

Experienced contractors can make suggestions to improve designs to suit constructability, saving money and time, which is always attractive in construction projects.

MDA Attorneys is seeing another benefit particular to South Africa in examples where contractors have developed relationships with local communities and subcontractors. Two-stage procurement can enable the adjudication and negotiation of contracts based on the contractor's track record in uplifting these local communities.

Speed, accuracy and price certainty

In single stage contracting, a main contractor bids on the work based on plans which have been drawn up by the client's team. This traditional method gives clients a quick route to starting their project but all too often these designs are incomplete and require design finalisation.

Any steps that can be taken to firm up the scope of work and allow for accurate pricing before the primary construction contract is awarded is an advantage to clients and they will pay a premium to have that certainty as soon as possible.

Better scoping, lower risks

On a two-stage contract, a contractor or group of contractors is brought on board to determine and cost works while carrying out preliminary activities (usually confined to the client's design team). They do this while collaborating with the client and supply chain. The same contractor is not guaranteed to win the second stage, but it is usually in the best interests of both parties for it to continue with the contract.

Two-stage contracts allow the contractor to properly



Euan Massey, MDA Attorneys Director.

understand the scope, raise questions regarding constructability and other risks such as ground conditions, and to price the work before it starts on site.

Under two-stage contracts, clients will pay more up front before appointing a main contractor. However, this additional cost should be seen in context – without the early contractor involvement, tendering contractors will include contingency in their prices for the perceived risks in the project, resulting in additional costs to the client.

Thus, advocates of two-stage contracts say it is in everyone's interest to work closely together, citing the fundamental principle that planning ahead can usually save costs later on.

This applies to construction more than most businesses because the costs of delay are so high. As with all relationships it will work far better if the parties work in a genuinely collaborative and trusting way.

Narrow margins, greater risks

Depending on the nature of the works, contractors on a single-stage tender are unlikely to get more accurate pricing than around 10% of the final price. Overheads and profit will be priced at between 5-10%, making this a high-risk strategy. You'll be happy if you get it right, but if you get it wrong, it's a disaster.

With two-stage contracting, clients run the risk that contractors are unrealistic in their initial pitch during the first stage to get into the second stage and then hike up their prices. ©

AECOM showcases its digital design capability ON MALMESBURY BYPASS

Globally trusted infrastructure consulting firm AECOM has used the latest digital tools to fast-track the final design of the new R45 link between the N7 and R46 at Malmesbury for the Department of Infrastructure in the Western Cape. “The advanced design process commenced in 2022. Our full suite of digital tools played a major role in getting the project up to speed,” explains Nabeel Omar, Technical Director: Highways and Transportation Lead, Western Cape.



The Malmesbury Bypass is a critical infrastructure project for the Western Cape.



Left: Danie du Plessis, Technical Director, Highway Geometry, AECOM. Right: Nabeel Omar, Technical Director, Highways and Transportation Lead, Western Cape, AECOM.

AECOM deployed a full 3D model to optimise quantities and ensure accurate construction cost estimates, which has rolled over into the project management of the actual construction to ensure what was designed is built accordingly.

“The project has the hallmarks of any typical complex engineering project with various interfaces,” comments Danie du Plessis, Technical Director, Highway Geometry. Challenges included the topography, the relocation of fibre and telecoms lines, power transmission lines and pylons,

plus the fact that the project crosses the major water source for the town of Malmesbury, which necessitated additional protection measures.

The project has been a major testament to AECOM’s digital capabilities. “That is exactly what our client required, as it had a specific budget and timeframe. Given our capacity and expertise to complete such complex works, we were ultimately the consultant selected for the project,” highlights Omar.

A critical infrastructure project for the Western Cape, it forms part of a larger 170 km road network between the Port of Saldanha in the West and the N1 and N2 in the East. The so-called Malmesbury Bypass falls under the Strategic Integrated Project 5 of the National Infrastructure Plan 2050, the Saldanha-Northern Cape Development Corridor.

The Port of Saldanha was identified as a national growth point in terms of the government’s then adopted infrastructure plan. To support and initiate this growth, both national and provincial governments are making significant investments to expand the port and establish an Industrial Development Zone.

The East-West link has long been in the planning stages, with AECOM subsequently working on additional sections, reveals Omar. The N2 is the major route for freight transport

between South Africa and Mozambique and the N7 to Namibia. “It is also crucial for the successful operation and capacity of provincial roads in general in the region, as previously freight traffic had to pass directly through Malmesbury, hence the need for the bypass,” says du Plessis.

The new Malmesbury Bypass, a 6,7 km Greenfield link, consists of 2 x 3,7 m wide lanes and 2 x 2,4 m surfaced shoulders. It includes two road-over-road underpass bridges, a river bridge, a bridge spanning an environmentally sensitive wetland and an interchange bridge. Various stormwater structures are included given the recent flooding and to ensure resilient future-proof infrastructure, and an agricultural underpass for access for a landowner.

The project is anticipated to generate about 45 000 worker person days and over 290 work opportunities. About 25% of the project budget is being allocated to local service providers, either in the designated area or the broader Western Cape, as well as 60 work packages for the upliftment and empowerment of local subcontractors. “There is a significant social investment in upskilling and training the local communities,” notes Omar.

This includes awarding works packages to up-and-coming local subcontractors and training being provided by the main contractor and the site team to assist these subcontractors to achieve their CIDB grading. AECOM has a Community Liaison Officer on-site while the municipality maintains a database of eligible subcontractors.

The training ranges from financial management to scarce skills like carpentry or scaffolding erection to ensure future work opportunities. “It is sustainable, and not just for the duration of the project. It must generate meaningful employment in the long term,” adds Omar.

Health and safety are key, with audits being conducted

regularly and AECOM’s Lifeguard and IndustrySafe safety management software being used to track any issues, which are resolved within 20 to 30 minutes. “We also have professional engineers on standby to address any queries quickly and efficiently. To date, there have been no major issues or incidents on what is essentially quite a fast-track project,” says Du Plessis.

The timeline to date has been preliminary, with detail design commencing in January 2022 and a hard deadline for the latter by end May 2022. AECOM achieved this successfully, with the project going out to tender in October 2022. H&I Construction was appointed for the construction works, starting in May 2023 and expected to be completed by November 2026. ©



AECOM fast-tracked the final design of the new R45 link between the N7 and R46 at Malmesbury in the West.



The Malmesbury Bypass project has been a major testament to AECOM's digital capabilities.

Capitalising on Africa's **DATA CENTRE BOOM**

*Data centres undoubtedly represent enormous opportunity in Africa as demand for seamless network connectivity continues to rise on the continent and around the world. Advances in engineering, technology and sustainability make it possible to overcome some of the historical barriers to growth and capitalise on this trend, says **Craig Blankers, Director: Acting Sector Lead, WSP in Africa.***



On the African continent, urbanisation, population growth and the ongoing expansion of 3G, 4G and 5G networks are major drivers of the data centre boom, as more and more people connect to the Internet. Internationally, the speed of change in the industry and the catalytic advances in artificial intelligence (AI) and other high-density technologies demand a vast amount of processing power to run – and that's changing how data centres are designed and built.

Revenue in Africa's data centre market is projected to reach USD6,7-billion within this year and is expected to show a compound annual growth rate (CAGR) of 7,18% by 2029, resulting in a market volume of USD9,15-billion. Though impressive, this growth is minimal when compared to global market predictions of 8,45% CAGR and a market volume of USD624,10-billion by 2029.

Factors including limited infrastructure, slow digital transformation, and lack of awareness about the benefits of data centres, and advances in engineering and technology play a role in these slow growth predictions. Yet, according to the Africa Data Centres Association, Africa alone needs 1000 MW and 700 facilities to meet growing demand. And investment is starting to come through.

Despite recent investments in data

centre infrastructure in Sub-Saharan Africa, much of the continent's capacity remains in South Africa, where the market comprises of 408 MW. Nigeria and Egypt follow with 140 MW and 118 MW respectively. Kenya is making strides as well, with 79 MW, while Morocco closes out the top five with 65 MW of supply.

With traditional data centre hubs like Amsterdam and Dublin now facing acute land and capacity constraints, and increasingly restrictive policies for data centres development, hyperscalers and operators are beginning to expand into different regions, presenting an opportunity for African locations like these.

The energy conundrum

The reliability of municipal power supplies remains a big challenge. The higher computing power needed – and therefore additional cooling power required – by facilities running AI demands reliable energy supply, not to mention flexible innovative solutions for reliable operations and enhanced performance.

Many African countries have unstable, coal-intensive grids and strategic power outages intended to reduce peak demand. Because data centres need power to stay operational 24/7/365, reliance on onsite back-up generation is often the (expensive) norm. More public

and private sector investment in renewable and sustainable energy technologies, driven in many cases by the adoption of green economy policies and growth strategies, is beginning to have a positive impact on the availability of reliable energy.

Solutions such as onsite solar power plants and energy wheeling are gaining traction – enabling data centres to be powered by solar facilities built nearby.

Other advances in engineering design and technology, such as distributed uninterruptible power supply (UPS) systems providing back-up power at rack level, to specialised mechanical systems distributing stable liquid cooling direct to AI processors, are on the rise, too. WSP's Mission Critical experts are constantly adapting client designs to keep pace with the rate of technology change and speed to market demands.

Committing to responsible water use

With Africa on the frontline of the global water crisis, and as water conservation policies become global mandates to tackle it, WSP's water and data centre design experts are working with hyperscale and colocation data centre operators to minimise freshwater use. From rainwater collection, onsite treatment plants and recycling local wastewater, to reusing cooling tower runoff and converting waste heat back into useable resources, advances in engineering are meeting the challenge of efficient and responsible water use.

Though on-the-ground skills can be a challenge in such a specialised and rapidly developing industry, these can be off-set through a digital approach to engineering that allows local and international experts to collaborate and share knowledge. WSP uses Building Information Modelling (BIM) and cross-regional collaboration to support knowledge transfer and skills development

between our own teams and our local counterparts. Consulting with in-country contractors on local nuances, such as the availability of resources and materials that meet the standards that multinational brands and investors expect, allows us to leverage our international technical expertise in a way that understands the local context. A data centre that

is built around the core principles of sustainability and being locally fit-for-purpose is not only modern in today's context, but future-proof by design. Data centre owners looking to invest in Africa are largely drawn by the geographical space available and the enormous potential of the continent's market.

Building for sustainability not only

makes good operational business sense, but it also aligns with responsible corporate citizenship and meets environmental, social, and governance (ESG) best practices.

These are significant value adds to the end-user, which also contributes to the marketability of the data centre. What benefits the end-user also benefits the data centre owner. ©

BOVA: Superior safety wear, engineered with purpose

When you're working in harsh environments, your safety should be your top priority. BOVA knows that safety wear isn't an accessory – it's a vital tool that directly impacts the performance and safety of workers across various industries.



With a relentless commitment to the wellbeing of its customers, its core mission is to design, manufacture and deliver innovative safety wear that provides the uncompromising protection you needed to get the job done. Through a careful analysis and understanding of the various risks involved in specific industries, Bova is able to purpose-engineer a comprehensive range of safety products that meet and exceed industry standards for a reliable and long-lasting solution.

This enables it to provide an extensive range that not only caters to different industries, but also to the unique levels of protection each worker within that industry requires. Bova's deep understanding of its customers' work environments allows it to supply the ideal product for the protection level needed. Rather than taking a one-size-fits-all approach to safety, it dedicates itself to providing

appropriate safety wear that strikes the perfect balance between comfort, performance and protection. Whether it's construction, manufacturing, mining or any other industry, BOVA has mastered the art of crafting superior safety wear that provides unparalleled protection, with specific features to improve performance in the workplace.

At the heart of the company's success is its unwavering commitment to using only the best quality materials for each and every one of its products. It knows that compromise is not an option, and ensure that every component of its safety wear meets international quality and performance standards in order to deliver maximum protection and durability. Unlike cheaper alternatives that are constantly flooding the market, Bova refuses to cut corners when it comes to quality

That's why all BOVA products are manufactured in ISO 9001-accredited

facilities, using state-of-the-art technology and innovations. By focusing on quality at every step of the manufacturing process, it can ensure that everything delivered performs at the upper limits of the purpose for which it was engineered. Taking things a step further, its safety footwear proudly meets SANS 20345:2014/ISO 20345: 2011 for personal protective equipment – safety footwear, and SANS 20347:2014 / ISO 20347:2012 for occupational footwear.

The true cost of a bad purchase isn't reflected in the price tag alone; it is felt in the compromised performance, reliability and, ultimately, safety of those who use it. When you're choosing safety wear, it is crucial to carefully consider the performance and longevity of the products, not just the price tag. Settling for anything less than the best not only compromises on durability and performance, but ultimately jeopardises the safety and wellbeing of the workers who use them. ©



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SANRAL completes upgrades on the N2 FROM GREEN RIVER TO QONCE

The South African National Roads Agency SOC Limited (SANRAL) has announced the completion of a R500-million upgrade of the N2 section between Qonce and the Green River, following three-and-a-half years of construction.



Motorists travelling along the N2 between Qonce and Ngqushwa in the Eastern Cape will be able to benefit from what promises to be a safer and congestion-free road. The N2 Green River road development project, west of Qonce, boasts three new modern bridges to improve safety.

The 9,2 km project is named after the river that runs between the villages of Nonkcampa and Qhaga. The scope of works included extensive road widening, construction of the Tshoxa 1 bridge, the Tshoxa 2 bridge over the Tshoxa River, a new wider bridge over the Buffalo River, a cattle underpass as well as pedestrian walkways. This is in line with SANRAL's strategic pillar of road safety which provides for safe road infrastructure.

Two new traffic roundabouts were constructed at the N2/R63 intersection and N2/Engen access way to minimise congestion while geometric safety improvements were undertaken at intersections.

The man behind ensuring its timely delivery is Qumbu-born SANRAL Southern Region Project Manager, Athi Kiviet. He obtained his B.Tech in Civil Engineering from the University of KwaZulu-Natal and is looking forward to pursuing studies in management programmes so that he will be able to manage projects and people better.

The project was designed by GIBB Consulting Engineers and was contracted to WBHO for construction. It is set to reduce travelling time between Qonce and centres in Makhanda and Gqeberha while addressing the Eastern Cape's infrastructure backlog. Construction began in January 2021 over a period of 33 months which included a three-month mobilisation period.

Kiviet is proud to talk about the award-winning 140 m long Tshoxa bridge, standing 18 m above Tshoxa River and a railway line with a railway bridge, an accolade for SANRAL which also forms a crucial part of broader road improvement.

The Tshoxa 1 bridge's sustainability is highlighted by

its innovative concrete mix design which reduced the environmental impact by eliminating dune sand from the mixture, saving approximately 13 800 tons of sand. It blends into its rural surroundings while boasting an elegant concrete finish that enhances its visual appeal.

This SANRAL project is not just about enhancing road safety, it's a catalyst for socio-economic development in the Buffalo City Metropolitan Municipality. A significant portion of the project's budget is dedicated to empowering local labour and targeted enterprises.

"In terms of the socio-economic impact, we have done very well. We've exceeded the targets set for the project, both on labour and SMMEs. We've employed about 340 local labourers and subcontracted more than 65 SMMEs," said Kiviet.

Although it faced some challenges sourcing labour from designated groups especially military veterans and people with disabilities, Kiviet said they did not despair.

"Through stakeholder engagements we managed to get help from the relevant departments so that we were able to achieve the set targets," said Kiviet. "In terms of packages for SMMEs, they include the erection of guardrails, gabions and walkways, and were created in such a way that upon completion, the SMMEs could grow to higher CIDB grades."

SANRAL also provided training to locals and SMMEs to capacitate them to sustain themselves even beyond the project. A few jobs are linked to the Ginsberg Community Development (CD) project, a beneficiary of the SANRAL Green River contract located on the west bank of the Buffalo River.

The CD project includes the tarring of the 3 km Ginsberg Road, which begins where the R63 and N2 merge and stretches past the Steve Biko Centre to Sompunzi Street, a stone's throw from the home of the late Black Consciousness Movement leader, the late Stephen Bantu Biko. ☺



**FEATURES
FOR 2025**

Editorial calendar **AND FEATURES**

JANUARY, MAY*, SEPTEMBER

ROADS AND BRIDGES

- Asphalt technology
- Rollers and compaction
- Earthmoving
- Readymix
- Equipment incorporating Trucking
- Admixtures

FEBRUARY, JUNE, OCTOBER

CIVIL CONSTRUCTION

- Cranage and heavy lifting
- Geotechnical engineering
- Fuel, oil and lubricants
- Dams and reservoirs
- Consulting engineers
- Water engineering
- Equipment incorporating Trucking

MARCH, AUGUST, NOVEMBER**

GENERAL CONSTRUCTION

- Readymix
- External finishes
- Alternative power solutions
- Architects

- Telescopic and access equipment
- Formwork and scaffolding
- Equipment incorporating Trucking
- Demolition
- Flooring and waterproofing

APRIL, JULY

CONSTRUCTION MATERIALS

- Cement and concrete technology
- Precast concrete products
- Crushing, screening and reclamation
- Admixtures and construction chemicals
- Wood construction
- Steel construction
- Equipment incorporating Trucking

DECEMBER

- A dedicated issue featuring entries and winners of our Best Projects awards

- In May* we have a focus on the top 20 construction firms in Southern Africa
- In November** we have a focus on the top 20 developers in Southern Africa

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