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With each technological leap, John Deere has solidified its reputation as a pioneer in motor grader technology, leading the charge in efficiency, performance, and operator comfort. The integration of automated blade control, telematics, and connectivity has revolutionized the industry, enabling precise grading, enhanced productivity, and optimized machine performance.

As we look to the future, one can only imagine the groundbreaking innovations that lie ahead for John Deere and the motor grader industry. The commitment to technological advancements ensures that John Deere will continue to be at the forefront of the construction industry, shaping the landscapes of tomorrow.

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ON THE COVER

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Recently the Department of Public Works and Infrastructure announced that a call centre will be established through which disruptions at construction sites caused by the construction mafia, can be reported.

However, Consulting Engineers South Africa (CESA) CEO, Chris Campbell questioned the effectiveness of a call centre as a solution for this very serious problem.

His main concern is a practical one. The government's track-record for operating a call centre has not exactly been a good one. Such call centres have, historically, faced challenges when having to deliver timely and efficient services. His concern is that, this time around, these call centres will face the same challenges for this time sensitive issue.

Another major concern is how the individual reporting the disturbances at a specific construction site will remain anonymous. "It is crucial to ensure that those who come forward with information are protected and that their concerns are addressed promptly," he says.

Those affected by the construction

mafia agree that progress has been very slow to address such disruptions from when it first started in 2018. The establishment of a call centre addresses the symptom but does not address the root cause. CESA makes it clear that disruptions caused by the construction mafia will persist if the origin is not addressed.

Also of concern is that the announcements of initiatives often align with political cycles, so this may just be to further support for the ruling party. However, there are far bigger issues at stake.

Disruptions at construction sites will negatively impact the development of infrastructure to foster economic growth and national development. In the bigger picture it is of greater significance than getting a few more votes next year. Sadly, in the political game, the short-term is often more important than the long-term.

In this issue

The construction mafia is by no means the only challenge that faces the industry. An article by Koketso Shabalala from SHA Risk Specialists identifies these risks and explains how they can be mitigated (page 7).

On a more positive note: One of the articles in this issue focuses on how urban living in South Africa is being transformed by the rise of managed precincts. Such areas are thoughtfully designed and has a focus on safety, sustainability and community. Turn to page 16 to read about how one developer have managed to set new standards for urban living in Kempton Park.

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ADVANCING GLOBAL CONSISTENCY IN CONSTRUCTION COST MANAGEMENT

The Association of South African Quantity Surveyors (ASAQS) was proud to be represented by Karl Trusler, Executive Director of the ASAQS and Secretary General of the ICMS Trustees Coalition, at the recent International Cost Management Standards (ICMS) event held in London. This significant gathering took place from 15 to 17 June, at the prestigious Royal Institute of Chartered Surveyors (RICS) offices on Parliament Square, Westminster.



Executive Director of the ASAQS and Secretary General of the ICMS Trustees Coalition, at the recent International Cost Management Standards (ICMS) event held in London.

Hosted by RICS and supported by the European Council of Construction Economists (CEEC), the event centered around the theme "Next Steps – Digitising Construction." It provided a platform for industry leaders and experts to exchange insights, discuss future developments, and strengthen international collaborations.

The event's itinerary featured a thought-provoking seminar on digitisation in the construction industry, exploring innovative approaches to drive efficiency and productivity. Additionally, the ICMS Trustees Coalition Meeting offered an opportunity for key stakeholders to shape the future direction of cost management standards. The event concluded with the CEEC Annual General Meeting, fostering a sense of unity and cooperation among construction economists from Europe and beyond.

Karl Trusler, a respected authority in the field, expressed his gratitude for the productive relationship between ASAQS, RICS, and CEEC. He emphasised the value of collaboration in areas of mutual interest and the exchange of knowledge and resources. This partnership not only benefits the ASAQS members working in the United Kingdom and Europe but also contributes to the growing diaspora of South African quantity surveyors making their mark globally.

At the seminar, Trusler delivered a compelling presentation on "ICMS 3 & Future Mapping to National Standards." He showcased how the Elemental Method of Estimating, a familiar local system in South Africa, could be seamlessly integrated with the ICMS 3 coding library.

By mapping the Elemental method to the ICMS framework, professionals can confidently prepare accurate Bill of Estimates (BOEs) using the familiar system and easily generate reports in either Elemental or ICMS formats, catering to their clients' specific needs. This approach mitigates the risks associated with implementing entirely new systems and facilitates the smooth transition from the "familiar" to the "new."

While the ICMS 3 presents a global standard for reporting on construction life cycle costs and carbon emissions, Trusler acknowledged that not all countries have existing local systems that can be readily mapped to ICMS. In such cases, alternative means, including partnerships, would need to be explored to achieve adoption. The ASAQS is committed to fostering such collaborations to accelerate the worldwide adoption of ICMS 3 as the global standard.

The ICMS 3 also provides a comprehensive solution for consistent reporting on carbon emissions, making it an invaluable tool for organisations worldwide committed to pursuing Net Zero targets. It is worth noting that ICMS 3 is freely available for use by all interested parties.

The ASAQS remains dedicated to advancing the profession of quantity surveying, promoting global best practices, and driving international standards for cost management. Through its active involvement in events like the ICMS gathering, the association continues to contribute to the growth and development of the construction industry on a global scale. ☺

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FACTORS THAT ENSURED ARCHITECTURAL FIRM'S 80-YEAR LONGEVITY

GIBB subsidiary and architectural firm, SVA International's 80-year celebration comes at a time of unprecedented turmoil, both locally and globally. Not only is the business thriving within this challenging milieu, it's passion, agility and willingness to embrace change and the spirit of Ubuntu, have seen it weather many a storm over the years.

The firm was established in 1943 as Stauch and Partners by influential Ittenschulle-trained (an offshoot of the Bauhaus) architect, Hellmut Stauch, who was a leading teacher and practitioner in the Pretoria Regionalism movement (architecture that takes the context and customs of making buildings in a particular region into account) during the 1940s and '50s.

Stauch's output initially focused on residential developments, but in 1959 he was joined by Robin Vorster. They changed the company's name to Stauch Vorster Architects and began operating as a franchise business, with offices in Johannesburg, Pretoria, Durban, Cape Town, Port Elizabeth and Mauritius.

The firm was well positioned to take on projects in the retail, commercial and industrial spaces and larger commissions followed. With projects influenced by Modernism, the Brazilian movement, a strict concern for local conditions, economy of materials and efficient function, Stauch Vorster Architects grew into a leading national practice.

In 2014, the firm merged with GIBB Engineering and amalgamated all franchise operations into one business: SVA International (SVAi).

SVAi Managing Director, Bheki Vilakazi, says the two entities merged with a view to leveraging off one another to explore opportunities in South Africa and further afield on the continent.

"Our success today is not only measured by the projects we have successfully completed, but by the lasting relationships we have established with many leading developers, built environment specialists, project financiers and contractors over the past 80 years."

GIBB CEO, Richard Vries, says that when the business first welcomed SVAi into the Group, the synergies were evident. "They shared our values, our vision for the future, and a passion for excellence, which we knew would benefit our clients, consultants, and employees. Over the past 13 years, SVAi has proven to be an invaluable part of our organisation, and we are proud to have them as a member of our family of companies.

"By working together, we have been able to combine our strengths and expertise, leading to innovative solutions and better outcomes for our stakeholders. We have been able to share resources, best practices, and knowledge, enabling us to tackle challenges that we could not have done on our own," he adds.

Today, the business boasts several flagship developments for many key clients, such as Shoprite Checkers and Radisson Blu Hotels, amongst others. It is financially viable



"Our success today is not only measured by the projects we have successfully completed, but by the lasting relationships we have established with many leading developers, built environment specialists, project financiers and contractors over the past 80 years."

SVAi Managing Director,
Bheki Vilakazi.

and incorporates timeless designs, and functionality. Looking forward, Vries says SVAi is well placed to continue thriving in a rapidly changing world. "SVAi complements the GIBB Group in our ability to provide multi-disciplinary solutions across the property, mining, power, transportation, and water sectors. We are committed to investing in its growth, supporting its innovation, and ensuring it has the resources it needs to continue to be a leader in the industry."

Vilakazi concludes: "I would like to thank everyone who has been a part of SVAi over the past 80 years. Their dedication and commitment to excellence are inspirational and we look forward to many more years of success and making a positive impact in the industry." ©



SA'S CONSTRUCTION SECTOR: IDENTIFYING AND MITIGATING THE KEY RISKS

Despite high expectations for South Africa's Economic Reconstruction and Recovery Plan, which was issued out by President Ramaphosa on 15 October 2020, delays in the roll-out of these initiatives have restricted the growth prospects of the local construction industry. This, coupled with factors such as the tangible impact of the economic slowdown and the loss of skilled labour, represents some of the biggest risks facing the construction sector.

This is the view of Koketso Shabalala, Underwriting Head of Construction and Single Projects at SHA Risk Specialists, a division of Santam, who has found that client forecasts have remained relatively conservative in 2023. Many of SHA's clients have estimated lower turnovers compared to 2022, or similar projections, despite actual results coming in at above turnover. In his experience, this conservative cautious approach typically reflects a notable decline in project pipelines, most likely as a result of a lack in new infrastructure projects.

These findings correspond with the latest results of the Afrimat Construction Index (ACI), which saw the sector take a dip in the first quarter of 2023 in comparison to the same period in 2022. For 2023, a positive trajectory resulting in year-on-year growth was forecast, given the performance of the industry in the third quarter of 2022. The expectation, however, was eroded by the lull experienced across the sector with the onset of the December holidays.

Economic turbulence takes its toll

Like countless other sectors, construction has been hard-hit by the economic downturn, amidst a range of other contributing factors. As Shabalala explains: "these factors include the prevalent shortage of new infrastructure projects – a reality that has seen an increased number of contractors bidding for a limited number of projects." This has driven prices down to nearly unsustainable levels.

Added to this is the increasing cost of construction materials, which in turn has a negative effect on the availability of employment opportunities. The result has been a price war on the employment front, with more workers competing for a limited number of jobs at lower rates of compensation."

The loss of skilled labour and its impact on the sector

The loss of skilled labour has created a skills vacuum, not just with regards to the current operations of construction companies and the execution of projects, but also in terms of the developmental prospects of graduates. The increasing rate at which skilled veterans of the trade are exiting the industry, has undermined the ability of experts to transfer knowledge and expertise to graduates and interns entering the construction space. "The loss of skills and the resultant

knowledge and expertise gap will continue to have a marked impact on the construction industry, which will face losses related to the quality of work and a reduction in the resilience and structural integrity of end products," says Shabalala.

How insurance can mitigate the unique risks facing the industry

Faced with the turbulence of the current environment, construction companies need to hone their focus on effective risk management and mitigation strategies. A major part of such an approach should involve obtaining insurance cover that can protect companies from litigation and liability exposures, which can be crippling from a cost perspective, should an incident arise.

In particular, and as a direct response to the emerging risks presented within the current climate, products such as public liability insurance could provide a much-needed safeguard against any damage caused to a third-party or their property during the execution of a construction project.

As Shabalala explains: "At a time during which many construction companies are facing excessive financial strain, the legal costs and repercussions related to third-party incidents could simply be too much for a company to absorb. During tough financial times, having a buffer against these kinds of risks can make all the difference."

Furthermore, professional indemnity cover, which provides protection against an alleged breach of professional duty – ranging from the design phase to the supervision and implementation of designs – is a vital vanguard in sectors where formal qualifications are required. When an error or oversight is identified, incurring the relevant costs and remedying the defects can cut into company profits and threaten business continuity.

Shabalala concludes: "Partnering with the right Insurer and broker can prove invaluable in choosing the most appropriate insurance and risk mitigation strategies to prepare for the unexpected. SHA, however, remains confident that in the medium- to long-term, the rollout of the Economic Reconstruction and Recovery Plan will provide the industry with the buoyancy it needs to regain traction and become more resilient to navigate the current economic climate and emerging risks in the near future." ☺



SRK Principal Geotechnical Engineer, Linda Spies.

Interviewed during Women's Month, three experienced professionals from SRK Consulting, a global firm of engineers and scientists, offered their nuanced insights into the entry and progress of women in industry over recent years.

Unintimidated

With her mother in a respected role as a successful teacher, SRK Principal Consultant Livhuwani Lautze was not intimidated by the prospect of entering the professional environment. In fact, as a strong academic performer at school, many expected Lautze to become a doctor. Her preference, though, combined with the need for scholarship support, took her in another direction: geology. With a Master's degree in geology, she has worked in the mining sector at operational and corporate level before joining the consulting field.

"The mining sector is certainly more accommodating of women than when I started work in mining operations over 15 years ago," she said. "Then, women senior officials didn't even have their own changing facilities for underground – although there has been noteworthy improvement in the industry."

Implicit support

Both SRK Principal Geotechnical Engineer Linda Spies and SRK principal environmental geologist Lindsay Shand had fathers in the engineering field – so there was implicit support for a similar career in science or engineering.

WOMEN SURGE AHEAD IN TECHNICAL FIELDS, DEFYING TRADITIONS

Women are increasingly finding their way into engineering, scientific and other professional careers in industry, with less prejudice in traditionally male sectors like mining; but how can organisations retain and advance women in their ranks?

In short, there were few limitations on their choice of occupational fields, and none of these women felt in the least drawn to historically female jobs in administration. "It is true that I was one of just a few women in our geology classes at university, and there were occasions early in my career when I realised that I was the only woman in a meeting of 10 or 20 men," said Shand. "But this is not necessarily a drawback – although there could be the expectation that you have to do more to prove yourself at first; importantly, I wanted to be recognised as a scientist – not just because of being a woman in this field."

Gender expectations

Spies also noted that breaking into fields that have in traditionally been male-dominated is perhaps not the most challenging aspect of transforming the workplace. Even though the professional levels of companies are increasingly filled by women, there are still underlying gender expectations regarding women's roles outside of the workplace.

"It is undisputed that women perform as competently as men in these engineering and scientific professions, but they tend to still be expected to assume primary responsibility for child care and other domestic roles," she said. "This places an added burden on what they have to 'juggle' while wanting to give their all to a fulfilling career."

Lautze added that mainstream social norms reinforce these expectations, making it the professional women's role to keep a 'tidy home', for example, even while assuming the same work responsibilities as their spouses.

Redefining relationships

The evolution of the workplace and the growing opportunities for women in industry was also redefining relationships between mothers and their children, Shand pointed out. While many mothers in a more privileged class environment could choose not to work while raising children, many women valued their professional life and achievements while not detracting from their commitment and affection for their family.

This raises the issue of retaining women in these high-powered careers while other responsibilities beckon and, significantly, when couples choose to start a family. She highlighted how some women must, or choose to, relinquish their career trajectory when having children, however resuming this work at the appropriate level can be difficult, while fulfilling family commitments too.

Exposure

On the question of what would foster career opportunities for young women today, Lautze felt that exposure to opportunities was the key.

“There is a focus on science and maths these days, but your choice of study and career really needs to align with your aptitude,” she explained. “Without an aptitude and love for these subjects, you are unlikely to find fulfilment in them.”

Both Lautze and Spies encouraged women in the professional space to encourage younger entrants and talk about their strong points to colleagues. This would help address the reticence among women from certain cultural environments to promote their abilities more openly. Mentoring is also a powerful strategy to nurture women in professional roles; Spies said she has benefitted greatly from SRK’s sponsorship and involvement in the International Women in Resources Mentoring Programme (IWRMP), an annual cross-company programme to promote and empower women to progress their careers.

Women adding value

This kind of support is part of the foundational work that opens up opportunities for the next generation. Lautze talked about her success in helping to grow young professional women into more senior roles in resource geology within the corporate environment – adding significant value to the business. Assuming similar levels of responsibility, a highlight in Spies’s career has been tackling a highly demanding tailings dam project from planning through to maintenance phase. Shand has recently been tasked with driving a key strategic priority for SRK in the form of a Global Water Summit – to reinforce the central importance of water stewardship across the range of SRK’s engineering and scientific interventions.



Left: SRK Principal Consultant, Livhuwani Lautze. Right: SRK Principal Environmental Geologist, Lindsay Shand.

The experience of these three successful professional women is testament to considerable transformation in the opportunities for women to enter highly skilled roles in industry. Time will tell how such an evolution will continue, and whether it will be supported by more equitable social norms and business accommodation of the many other valuable roles that women still carry outside of the workplace. ☺

“It is undisputed that women perform as competently as men in these engineering and scientific professions, but they tend to still be expected to assume primary responsibility for child care and other domestic roles,” she said. “This places an added burden on what they have to ‘juggle’ while wanting to give their all to a fulfilling career.”

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KNOWLEDGE SHARING – A SOLUTION TO THE AGING WATER INFRASTRUCTURE CHALLENGE



*A recent Memorandum of Understanding (MoU) signed by the South African and UK governments, and which will see the two countries share experience, expertise and best practices in the prioritisation infrastructure projects, bodes good news for the country. **Hennie Colyn, Direct Sales Executive, Process Automation at Schneider Electric***

Importantly, the MoU will focus on energy, hydrogen, and water, especially the construction of dams, transport especially logistics and road-to-rail initiatives, as well as the construction of bridges.

The timing is serendipitous, South Africa's water infrastructure, like many of our counterparts across the worlds, is aging and to add insult to injury, taking quite a beating with the country's relentless load shedding.

Knowledge sharing can become an invaluable tool in taking the world one step closer to solving its water infrastructure crisis. There are numerous successful projects that pave the way for similar application without reinventing wheel.

Realistically, we have no time to waste, aging and failing water infrastructure leads to water scarcity. Water is crucial to hygiene and health; households deteriorate when water is removed from the equation. Also, water scarcity increases food prices, which again disproportionately affects the most vulnerable members of our society.

The wheels are already turning

The Willingboro Municipal Utilities Authority (WMUA) based in New Jersey, US had been facing the drawbacks of an aging water and wastewater (WWW) infrastructure. The system, dating as far as back as 1950, could no longer adequately supply WWW to Willingboro's 34 000-strong community.

Township leaders recognised that the increasing cost of maintaining and operating aging assets, paired with the need to mitigate future risks, meant that improving infrastructure to be resilient and energy-efficient would provide the greatest value to residents.

The project, among others, replaced the outdated and inefficient manual metering system with 13,000 new Advanced Metering (AMI) smart meters. The metering system benefit both township and residents as it provides leak alarms, therefore saving time and costs.

The metering system also provides real-time measurement readings for improved data analysis that delivers a more accurate reflection of how water is being used and where it is coming from. Subsequently, personnel are freed up from manual meter reading to respond to faults in the system faster and keep up with routine system maintenance. The WMUA rolled out in partnership with Schneider Electric

included the following infrastructure improvements:

- Installation of 13 000 AMI water meters.
- Improved Pollutions Control Plant (PCP) processes including a Combined Heat and Power (CHP) plant.
- Microgrid which includes battery storage and cogeneration.
- Real-time data and reporting to monitor controls and equipment.
- PCP plant process optimisation including a digester mixing system to the improve circulation and consistency of sludge thickener.
- Energy-saving LED lighting throughout the authority's facilities.

It is estimated that the project will save the WMUA approximately R127m over twenty years and will have a minimal impact to the rate structure, primarily due to significant savings from process and operational improvements.

Importantly, the upgraded infrastructure will ensure high quality, clean drinking water and safe sanitation that is essential for the daily lives of Willingboro and other communities served by WMUA.

The above project is one of many that illustrates that there a real and tangible solutions to overcome aging WWW infrastructure challenges. Moreover, it outlines the technologies that are making a tremendous difference to the daily management, monitoring and maintenance of the system. Schneider Electric offers a range of water resources solutions to rectify crucial challenges like the modernisation of pipelines and water treatment plants within a limited budget. Our aim is to efficiently and sustainable manage water infrastructure.

Our IoT-enabled platform, EcoStruxure, offers a wide variety of WW solutions that effectively enhance applications and processes across the water cycle by providing connected products, edge control, apps, analytics, and services. ☺

Knowledge sharing can become an invaluable tool in taking the world one step closer to solving its water infrastructure crisis.

MATATIELE SCHOOLS WIN BIG AT SANRAL CAREER EXPO

Grade 11 and 12 learners living within the Matatiele Local Municipality learnt about career options, scholarships and bursary opportunities during the South African National Roads Agency SOC Limited (SANRAL's) career and science expo in Matatiele.

Held on 19 July at the Old Rugby Fields in the Matatiele Local Municipality, the career expo hosted over 600 learners from senior secondary schools across the municipality. Exhibitors included Walter Sisulu University, Durban University of Technology (DUT), University of Fort Hare, Nelson Mandela University, the National Student Financial Aid Scheme (NSFAS), the Independent Electoral Commission (IEC) and the Industrial Development Corporation's (IDC) learning and development department.

Addressing the learners, SANRAL's Regional Stakeholder Relations Specialist, Ms Welekazi Ndika, said, "We are here to mould your future. You are our future leaders and we want you to be compatriots and change our country for the better. Corruption, vandalising of state infrastructure, abuse and violence against women and children must end with you. We are here to preach moral regeneration so that you can build South Africa into the beautiful country we know it can be."

Ndika invited the learners to take advantage of SANRAL's scholarship and bursary programme, which is intended to provide financial support to those with financial needs, as well as learners with outstanding academic merit.

Ranked in the top five universities in South Africa by the 2023 Times Higher Education World University Rankings, DUT said their high ranking was attributable to the strategic intent to improve lives and livelihoods, as well as their innovative curricular and research. The technical university also provides funding for entrepreneurs and encourages entrepreneurship.

The IDC shared information about its bursary programme but also urged aspirant entrepreneurs to approach the Corporation with business ideas for potential funding.

Learners were urged to apply to various institutions within and outside of the Eastern Cape province on time to avoid being disappointed in the new year, as space is not guaranteed.

Furthermore, learners were advised to prioritise education over fun as this was key to a better life, not only for them, but for their families and future generations. They were told to believe in their dreams and that their background does not determine their journey.

NSFAS explained that they fund learners with a combined household income of less than R300 000 per annum. The organisation encouraged learners to apply for funding timeously and not to wait to be admitted by an institute of higher learning. NSFAS funding also covers National Certificate Vocational (NCV) students, which is equivalent to the National Senior Certificate (NSC).

Ndika encouraged teenage girls to be independent and strive to work for their own money. She also urged the teenage boys to protect their female counterparts from abuse.

Representing the Mayor of Matatiele Local Municipality, Councillor Siphamandla Ntabeni said, "Civil society and academics must work together for the South Africa the late struggle stalwart, Tata Nelson Mandela, envisioned."

Deputy Chief Education Specialist: Learner Enrichment, Mpho Ngoma from the Eastern Cape Department of Education,



said, "My wish is for this day to leave an indelible mark on young minds. A lot still needs to be done in the province regarding career orientation. We need to be focusing on grades 7, 8 and 9 to counsel learners on career and subject options. Furthermore, grade 9 is the exit point to TVET colleges, therefore it is important to expose learners to these options at this point as not everyone will and must attend university."

Learners were quizzed on SANRAL's service delivery mandate and general knowledge as part of the career expo's strategic intent to plough back to schools in the area. The three winning schools walked away with prize money of R80 000, which will be invested back into the schools grappling with limited resources.

First prize Magadla Senior Secondary School, represented by Khakhaza Abongwe, received R50 000. The second prize of R20 000 was awarded to Cedarville Public School, represented by Nonceba Mokoena. The third prize of R10 000 went to Khanya Naledi Senior Secondary School, represented by Kanelo Maputle.

Councillor Nathi Nqoko of the Alfred Nzo District Municipality said the district appreciated the career expo being brought to their shores. "SANRAL is investing over R20b over the next five years in our district. This means we must prepare for this investment by ensuring availability of skills that will play a critical role in the maintenance of the road network, such as engineers," he advised the learners. He also urged SANRAL to ensure the career expo covered all rural municipalities in the province to address the challenges around lack of access to information.

Kamva Rankoro of Mosa Sibi Senior Secondary School was happy with the content shared during the career expo. "My mind has been opened by this experience. I now understand my options. I appreciate the advice given, especially around throwing the net wide when applying to institutions of higher learning." ©



CONSTRUCTION INDUSTRY GATHERS TO INNOVATE, CELEBRATE AND BUILD A RESILIENT FUTURE



Minister of South Africa's National
Department of Public Works
and Infrastructure,
Sihle Zikalala.

The 10th edition of Big 5 Construct Southern Africa concluded recently with co-located events including the Big 5 Southern Africa Construction Impact Awards and African Smart Cities Summit.

“The construction industry is an engine for economic growth and prosperity and it’s through working together that we can ensure a more resilient future,” said Tracy-Lee Behr, Portfolio Director: Built Environment at dmg events.

Big 5 Construct Southern Africa contributes significantly to the economic recovery, growth and transformation of Southern Africa’s construction industry, placing a special focus on accelerating business through face-to-face engagement. The event united over 200 exhibitors, 80 speakers, and stakeholders from over 45 countries,” Behr said.

Attendees enjoyed access to 6 000+ products and technologies and 30 CPD accredited workshops, covering an array of themes from transformation to professional development, smart construction to architecture, real estate and more, offering a great selection of insights, particularly at the Stakeholders Engagement Forum.

“This is a sunrise industry, not a sunset industry. Brick by brick, let us build a better construction sector together,” were the words of the Minister of South Africa’s National Department of Public Works and Infrastructure, Sihle Zikalala as he expressed government’s commitment to lead the sector to recovery, reflecting on the triumphs and challenges, including R1b in blended finance to accelerate growth and focusing on creating a thriving and more inclusive industry. He added that improving

on learning opportunities to enter the industry, technical know-how and particularly, supporting women-owned construction firms are among the key deliverables to see the sector improve, along with promoting resilient infrastructure methods.

Among important projects like the Just Energy Transition, The Build Programme is now operational to promote large scale industry movement extending to skills- and enterprise development. Bongani Dladla, CEO of South Africa’s Construction Industry Development Board said that while we don’t have all the money to close the funding gap in the construction sector, we must still do all we can to move projects to ‘shovel ready’ status while paving the way for an industry that adequately reflects the demographics of the country.

Dr Msizi Myeza, CEO of the Council for the Built Environment, South Africa agreed that we can improve on the good work being done towards achieving a transformed industry. This includes encouraging the youth to consider a career in construction and creating real opportunities for growth.

Khulekani Mathe, Deputy CEO of Business Unity South Africa reiterated how crucial it is to improve the status quo on unemployment in the country, where the construction industry could provide many jobs and contribute to GDP growth.

Petra Devereux, Sub-Saharan Africa Regional Hub



Manager for the Chartered Institute of Building said the built environment’s contribution to the economy cannot be disputed. But beyond the rand value, buildings keep us safe, healthy, and serve many other practical purposes. It’s important to set the industry to global standards, prioritising and maintaining ethical, top-quality work with health and safety, and other relevant, modern methods measuring up globally, enabling Africa to keep up with trends and to deliver reliable work that will stand the test of time.

Among other speakers at the events were Dr. Nicol Chang, Technical Director at Keller on reducing carbon in geotechnical construction and Ryan Woodward, Operations Manager of CAD4ALL Institute of Applied Architecture on upskilling architecture professionals, equipping them for working in the Fourth Industrial Revolution. Increasing professionalism within the industry was a definite call to action, along with fighting corruption and improving tender and job completion processes.

The Real Estate Talks were new to the programme this year, hosted by Broll Property Group, covering green innovation, technology and a range of property considerations given the current market. The winners at the Big 5 Southern Africa Construction Impact Awards celebrated while the African Smart Cities Summit delegates delved into how these innovative urban spaces can enhance quality of life. A clear message was that

you can’t build a smart city without a smart grid, so priorities need to match up accordingly and all industries must work together to make smart cities a reality on the continent.

The shortage of reliable, affordable energy is among the biggest challenges with a lot of work to be done to see improvements. Integrating sustainable solutions into industry best practice is the way forward and these events served as a platform for exchanging knowledge, fostering collaboration, and promoting inclusivity and sustainability across construction and infrastructure.

“It will take time and ongoing commitment to see further positive progress but as the saying goes; if you want to go fast, go alone. If you want to go far, go together,” Behr concludes.

The Big 5 Southern Africa Construction Impact Awards

The Big 5 Southern Africa Construction Impact Awards celebrated project owners, consultants, developers, contractors, and engineering- and architecture firms to recognise top talent across categories from transformation to sustainability. ©

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SA VINYL ASSOCIATION RECEIVES CAROLINE REID AWARD

The Southern African Vinyls Association (SAVA) is thrilled to announce that it was one of the recipients of the 2023 Caroline Reid Award for Clean-Up Champions of the Year. The certificates were awarded by Plastics SA on 18 July 2023 over as part of the 2nd Annual Mandela Day activities and the official launch of Cleanup & Recycle SA Week 2023, the that took place at Constitution Hill in Johannesburg.



Douw Steyn, Sustainability Director of Plastics SA, explained that the Caroline Reid Award was launched three years ago to recognize and reward excellence in South Africa by individuals and organisations who have made significant contributions to waterways, marine, and coastal clean-up initiatives.

"These annual awards acknowledge outstanding efforts in preserving South Africa's environment, particularly in addressing plastic pollution. SAVA's long-standing commitment and support for our clean-up and recycle activities over the past 11 years have earned them this esteemed honour and made them a worthy recipient," Douw said.

Monique Holtzhausen, Chief Executive Officer of SAVA, expressed her gratitude for the recognition, stating: "As an industry association representing the local vinyls industry, SAVA wholeheartedly supports Plastics SA's sustainability projects that focus on removing plastic litter from the environment. Because less than 2 % of PVC is used in packaging applications, it is the plastic that contributes the least to visible litter in the environment. Moreover, most

vinyl products are used in long-term applications that have a life span of 50 years or more, such as water pipes, cables, flooring, windows, fencing, and decking. Nevertheless, we recognise the importance of supporting all Plastics SA's efforts to coordinate clean-ups in neighbourhoods, on beaches or along rivers and streams, as well as to educate the public about proper waste disposal and the importance of recycling".

Concludes Douw: "SAVA has played a significant role in promoting sustainable practices and environmental responsibility within the industry. Their dedication to supporting cleanup initiatives and keeping the environment free from plastic waste has been unwavering. We are grateful for their financial support and the PVC gumboots which help shield the teams of volunteers from insect or snake bites while cleaning up the rivers. We are immensely grateful for the loyal support of the vinyl industry. Plastics are valuable and serve as an essential part of modern life, but it is crucial that they never end up in rivers, streams, or oceans, unless they are in the form of gloves, gumboots, or rubbish bags being used to keep the environment clean and litter-free." ©

TOTAL BLACKOUT: FORCE MAJEURE AND SUPERVENING IMPOSSIBILITY IN A GRID COLLAPSE

If South Africa were to experience a total grid collapse, parties to a contract may be able to invoke force majeure clauses, or if no such clauses exist, to rely on the law of supervening impossibility.

By Michael Straeuli, Partner & Dominic Harris, Senior Associate at Webber Wentzel

In recent years, uncontrollable and unforeseen events like COVID-19 and the July riots have disrupted commerce in South Africa, often interrupting, or even permanently preventing, a contracting party's ability to perform its contractual obligations.

In 2023, South Africans have experienced the worst year so far of load shedding. With ever-increasing uncertainty about Eskom's ability to keep the lights on, the threat of grid collapse is becoming a more probable worst-case scenario. Load shedding is the planned shut-down of the grid to manage load, but grid collapse would be an unplanned total, or partial, interruption or suspension of electrical power supply, resulting in widespread outages across provinces or the entire country for an unknown and unspecified period of time. It could last days or even weeks. How would grid collapse affect parties' contractual obligations? In this event, the concept of force majeure and the accompanying doctrine of supervening impossibility are relevant.

What is force majeure?

While *force majeure* generally applies to the aftermath of natural disasters, the concept also covers and may be applicable to, a wide range of events, including wars, insurrection, sabotage, and public riots. *Force majeure* is a contractual concept, and these clauses exist principally to protect a party to a contract from an event beyond its reasonable control, which subsequently prevents that party from performing its obligations in terms of an agreement. The safeguarding principle of *force majeure* is that a party that defaults on its obligations through no fault of its own should not be held liable for that default. A party that successfully invokes *force majeure* will be released from its contractual obligations, either temporarily or permanently, and will escape any liability that may arise in respect of the "default".

The principle of freedom of contract enables parties to agree to have certain events specifically regarded (or not) as force majeure events under the contract.

It is essential to consider the specific wording of the *force majeure* clause to determine whether a qualifying event has occurred and to establish a link (referred to as "causation") between the event in question and the actual or potential non-performance of the contract.

To invoke *force majeure* successfully, performance in terms of the agreement must genuinely and objectively be impossible. The discharge of a party's obligations would not be justified where the event in question simply makes the agreement difficult or uneconomical for the party to perform. Similarly, self-created impossibility would not discharge the party from its obligations in terms of the agreement.

South African courts have held that actual foresight, or the reasonable foreseeability, of the event that causes impossibility, may have the effect of ruling out, or indicating tacit acceptance of, the risk of impossibility –

thus negating successful reliance on *force majeure*.

Force majeure and grid collapse

The potentially catastrophic and far-reaching consequences of a grid collapse would arguably be uncertain and unforeseen. Where possible, it would be wise to list grid collapse, and the accompanying foreseeable consequences of such a collapse, as an event of *force majeure* in a contract to avoid any ensuing uncertainty that could result in its absence. In many long-term and standard-form contracts, grid collapse may not feature as a listed event. In these circumstances, a party invoking force majeure would have to show that the grid collapse constituted an event beyond its reasonable control, which resulted in performance under the contract becoming impossible, and that the grid collapse (and its consequences) was reasonably unforeseeable.

Usually, these are heavily fact-specific enquiries which depend on the particular circumstances of the case. For example, if two contracting parties have alternative, off-the-grid power supply, and are factually able to perform their respective obligations under a given contract in a grid collapse, it would be ill-advised to invoke *force majeure*. Where, despite such back-ups being in place, the grid collapse results in the broader telecommunications and banking infrastructure being compromised, force majeure could be relied upon to limit defaults linked to reliance on the broader infrastructure. For example, as a result of the grid collapse, a party may be unable to use banking services to make payments to its counterparty. To further extend the example, if civil disorder occasioned by a grid collapse resulted in the alternative energy supply being looted or otherwise destroyed, making it genuinely impossible for the party to perform, this would constitute a *force majeure* event (if riots or looting were not already listed events in the contract).

Contracts lacking force majeure clauses

Where no *force majeure* clause exists in a contract, or the parties do not necessarily have a formal written contract, the common law would assist a party in a similar fashion to a *force majeure* clause. This protection comes in the form of a legal concept known as a supervening impossibility. South African courts have determined that, if a party is prevented from performing a contract by irresistible force or unforeseeable accident, it is discharged from liability. Between them, these two concepts include any event that is unforeseeable with reasonable foresight, and unavoidable with reasonable care. If successful, a party will be discharged from further performance, while the other party's corresponding right to claim further performance will be extinguished.

In practice, where a contract contains a *force majeure* clause, the question of supervening impossibility would not be raised, and a party would be well-advised to rely on contractual rights. ©



TRANSFORMING URBAN LIVING: THE RISE OF MANAGED PRECINCTS IN SOUTH AFRICA

In the dynamic landscape of urban development, South Africa is witnessing a remarkable shift towards managed precincts as the future of modern living. These thoughtfully designed and carefully curated spaces are redefining the way we inhabit and experience our cities. With a strong focus on safety, sustainability, and community, experienced developer overseeing the exciting new Riverfields precinct in Kempton Park - Gideon van der Vyver – shares his views on how managed precincts are setting new standards for urban living, revolutionising the concept of a harmonious and fulfilling lifestyle.

South Africa faces significant challenges in terms of infrastructure and essential service delivery, including power outages, water shortages, inadequate waste management, and poorly maintained public spaces. These shortcomings have led to mounting frustration among citizens, creating an urgent need for alternative solutions to address these pressing issues. According to the World Bank collection of development indicators, the urban population in South Africa accounted for 67,85% of the total population in 2021. This indicates a significant proportion of the country's population residing in urban areas adding additional pressure for urban planning to meet the needs of the population. Managed precincts have emerged as a promising answer to these challenges, providing well-planned developments that integrate residential, commercial, and recreational spaces within a cohesive, safe, and well-maintained environment.

Managed precincts in South Africa – already a proven recipe for success

South Africa boasts a collection of successful managed precincts that have transformed urban landscapes and set

new standards for community living. The Umhlanga Urban Improvement Precinct (UIP), established in 2015, has played a crucial role in transforming uMhlanga into a thriving and well-maintained urban hub. Focusing on safety, cleanliness, and aesthetics, the UIP has significantly enhanced the quality of life for residents and visitors. Through dedicated security patrols, efficient waste management systems, landscaping initiatives, and urban maintenance projects, the UIP has successfully reduced crime rates, improved street cleanliness, and created a more welcoming environment. Its collaborative approach, involving local stakeholders, residents, and businesses, has fostered a strong sense of community pride and ownership.

Waterfall City, a large-scale mixed-use development located between Johannesburg and Pretoria, redefines urban living with its seamless integration of residential, commercial, and retail components. Offering a holistic and sustainable lifestyle, Waterfall City provides a diverse range of residential options, convenient access to amenities, well-designed infrastructure, efficient transportation networks, and ample green spaces. Its appeal extends to businesses as well, attracting numerous corporate offices and



A key factor contributing to the increased demand and rising success of this up-and-coming precinct is the emphasis on integrated urban planning, which ensures a well-balanced mix of residential, commercial, and recreational spaces. Thanks to the ongoing public and private partnership developed, the precinct boasts diligently maintained infrastructure, including road networks, utilities, and public spaces, all meeting the needs of residents and businesses within the precinct.

These strategic partnerships with local authorities and service providers ensures the efficient delivery of essential services to the area. Riverfields Management Association prioritises safety and security, implementing robust measures to create a secure environment for residents. Active community engagement fosters a sense of belonging and pride among residents, further enhancing the overall living experience.

Unlocking a brighter future

I believe Riverfields showcases the transformative potential of a managed precinct, creating a harmonious and sustainable community where residents can thrive. We have seen time and again how successful precincts can have a significant positive impact on the local economy.

They attract businesses, tourism, and investment, which leads to job creation and increased economic activity. The presence of commercial spaces and retail outlets also generates revenue for the local government through taxes and fees.

There's no denying that managed precincts represent a transformative solution to South Africa's infrastructure and essential service challenges. With their focus on sustainability, security, and superior living environments, these precincts offer a glimpse into a brighter future and are already factoring into the decision-making process as attractive criteria for businesses and individuals looking for a home.

It is crucial for stakeholders to embrace managed precincts as catalysts for change, encouraging increased private sector involvement and government support. By working together, we can forge a path towards a more sustainable and desirable South Africa. ☺

commercial spaces, both locally and internationally.

Other prominent examples include Melrose Arch in Johannesburg, The V&A Waterfront in Cape Town, Menlyn Maine in Pretoria and Steyn City on the outskirts of Johannesburg and Century City in Cape Town. What all these developments have in common is that they serve as beacons of progress, demonstrating the potential for well-designed precincts to enhance quality of life, attract investment, and foster economic growth.

Riverfields: managed precinct 2.0

So, it's no surprise then why Riverfields as the newest kid on the block precincts-wise in South Africa has opted to follow suit with the managed precinct model with the intention of trying to further improve this model.

In a world where the realities of the service delivery challenges faced by municipalities are experienced daily, Riverfields, has instituted meticulous planning and efficient management of the precinct to make it an ideal place to live and work.





REVIVING CONSTRUCTION INDUSTRY AND PROPERTY MARKETS

Getting South Africa's construction industry and residential and commercial property markets out of the doldrums requires a holistic approach, including private sector participation and a willingness by Government to change policies. Small interest rates cuts will not have an impact. It is about the bigger macro environment and getting general economic management right.



First National Bank Economist John Loos.

This is the contention of First National Bank economist John Loos. Speaking at the inaugural Residential Investment & Development Conference in Sandton, Johannesburg, Loos urged businesses to engage with Government at a high level to address the stagnation of the economy and the property market. While housing budgets are being “crowded out” by issues like bailing out Eskom, South African Airways and the Post Office, and South Africa’s fiscal situation is getting worse, it was wishful thinking that Government could provide some sort of stimulus to construction or housing, Loos stated. He asserted, however, that with a Government that is now open to changing its policies, and a well-developed, capable, well-diversified private sector ready deliver goods and services, there was hope.

“Our private sector is already responding swiftly to putting in electricity solutions as fast as it is allowed to. The Government needs to accelerate this and enable the private sector to deliver other goods and services. Government’s role must be that of the regulator. The private sector needs to impress upon Government what changes must take place, and work with them to ensure that they happen.”

Loos also told Residential Investment & Development Conference delegates that densification is critical to address South Africa’s housing backlog, particularly as land becomes scarcer, which is already a challenge in the Western Cape. He recommended that the abundance of office space should be repurposed for residential use and stressed that improved urban planning is crucial. “Apartheid-era large dormitory towns are

resulting in high transport costs for the poor. To reduce the costs of property, we must reduce transport costs,” Loos said. He believes that the solution lies in strategic zoning and densification along road transport corridors, including bus routes. Demand for public transport would be created along high-density corridors and this would lead to a more viable public transport system. South Africans spending less on transport may have more to spend on property.

The inaugural Residential Investment & Development Conference has been commended by property sector leaders and stakeholders. “This event was a resounding success and a remarkable gathering of professionals,” commented Mahadi Buthelezi, group chief executive officer of the RB Property Group and Women Economic Assembly (WECONA) Property Sector lead.

“This important conference not only provided an opportunity for networking but also showcased the strides being made in the property sector. It was inspiring to witness the collective commitment to building a brighter future and to see the potential for transformative collaborations. I am confident that the success of this conference marks the beginning of an exciting journey. Together, we can forge a path towards a thriving property industry. Looking ahead, it would be highly beneficial to have increased participation from relevant government departments in future conferences,” Buthelezi said.

She noted that their involvement would enhance the discussions and foster the much-needed collaborative efforts to drive positive change in the industry. ©

ESG AND SUSTAINABILITY: THE CORNERSTONES OF A FUTURE-PROOF BUSINESS

In today's dynamic global business environment, the importance of environmental, social, and governance (ESG) factors, as well as sustainability, is becoming more apparent. Companies around the world, including those in South Africa, now realise that adopting ESG best practices is not just a matter of ethics but a strategic imperative that brings long-term value and a competitive edge.

Nikhil Naidoo, Zero Accelerated Sustainability Solution Lead at Remote Metering Solutions

Best practices for creating an effective ESG framework revolve around six core elements: clear objectives, materiality assessment, governance structure, metrics and targets, integration, and reporting. By adopting a comprehensive and integrated approach, companies can ensure accountability, traceability, and transparency in their business operations.

Collaboration first

Collaboration is key to achieving sustainability objectives within South African companies. Fostering a culture of collaboration and engagement among stakeholders is the foundation for success. A well-defined sustainability strategy, aligned with company values and guided by a materiality assessment, allows organisations to address specific goals such as procuring renewable energy, mitigating fresh-water consumption, improving energy efficiency, and promoting inclusivity. Remote Metering Solutions (RMS) identified that data collection, preparation, analysis, and reporting pose significant challenges for ESG and sustainability initiatives. To address this issue, RMS has engineered solutions through its Sustainability Services department, offering an environmental performance data repository and a platform for continuous monitoring and reporting of environmental performance data.

By providing subject-matter expertise and verifying environmental performance data, RMS ensures the reliability and accuracy of reported information, guiding better decision-making and unlocking additional value in ESG and sustainability projects.

Adding value

Implementing ESG and sustainability best practices brings several benefits. Firstly, companies with a strong focus in these areas tend to achieve better financial performance, lower cost of capital, and greater resilience to market volatility. Additionally conscientious investors and customers are increasingly attracted to these companies, resulting in a more robust and competitive market position. Secondly, ESG and sustainability best practices play a crucial role in risk management. Proactively addressing ESG and sustainability issues enables companies to better handle risks associated with climate change, social unrest, and supply chain disruptions. For example, property companies that have implemented renewable energy projects are better positioned to transition off-grid in response to increased load shedding in the South African energy landscape.

Lastly, a strong focus on ESG and sustainability enhances brand reputation. As investors, customers, and employees become more conscientious about these factors, companies that demonstrate commitment to ESG and sustainability are better positioned to attract and retain top talent, resulting in a more robust and adaptable organisation.



The RMS advantage

With this in mind, RMS furnishes a platform that enables continuous monitoring and reporting of environmental performance data, ensuring meticulous tracking against scientifically grounded benchmarks. This platform integrates ESG and sustainability performance into daily business operations as a continuous process rather than an annual exercise, thanks to prompts and alerts that trigger necessary corrective actions. Moreover, RMS incorporates subject-matter expertise into its solutions, adding context to environmental performance data and revealing valuable, actionable insights. For instance, while reporting a building's energy consumption is useful, providing insights on how the consumption compares to factors such as occupancy levels, temperature, and other building characteristics unveils an added layer of value. Going beyond simply reporting a building's energy consumption, RMS provides insights on how consumption compares to factors such as occupancy levels, temperature, and other building characteristics, adding an extra layer of value.

A crucial aspect of RMS's support for ESG and sustainability efforts lies in the verification of environmental performance data. By leveraging its embedded subject-matter expertise, RMS's solutions enhance the reliability of reporting for ESG and sustainability initiatives. The RMS processes facilitate large-scale validation of data accuracy, tracing back to the root source of information. Consequently, every data point's calculation functions and unit conversions undergo thorough examination before reporting. This rigorous approach instils increased confidence in the reported performance status, enabling better decision-making for subsequent steps.

As global awareness around ESG and sustainability continues to grow, South African companies have the opportunity to become leaders in these areas. By embracing ESG and sustainability best practices, organisations can not only meet the rising expectations of investors, customers, and employees but also contribute to the broader sustainable development goals of the country. ESG and sustainability should not be perceived as mere compliance exercises. Instead, they represent the cornerstones of a future-proof business, providing a platform for building stronger, more resilient organisations that are prepared for the challenges of tomorrow's landscape. ☺



AFRISAM SLAGMENT OPERATION ACHIEVES 1,75 MILLION LTI FREE HOURS

Leading construction material supplier, AfriSam celebrated a significant milestone at the company's Vanderbijlpark Slagment Operation when it achieved 1,75 million Lost Time Injury (LTI) Free hours earlier this year, demonstrating the high safety standards upheld at this plant. This means that the plant has been injury free for nine years.

As one of the leading players in the supply of Aggregates, cement and concrete readymix, AfriSam is committed to safe operation at all its facilities. A strong commitment to ongoing training of its people as well as visible felt leadership underpins the company's approach to safety and has clearly borne fruit at the Slagment Operation.

The origin of this operation, situated in the industrial area on the outskirts of Vanderbijlpark, dates back to the 1950s when Dr Niko Stutterheim thoroughly researched the suitability of South African slag for manufacturing cement and for use in concrete. His conclusion that the slag was eminently suitable led to the establishment of the company Building Binders Ltd, which was subsequently registered as Slagment Limited in 1960.

Today, this operation still produces slagment and supplies the product to operations within AfriSam as well as to other customers for the manufacture of blended cementitious products.

Slagment is the registered trade name for Ground Granulated Blast Furnace Slag (GGBFS) and is a by-product of the iron- and steel production process. It is a latent hydraulic binder that is used in concrete and other construction applications as a partial cement replacement material. Due to its cementitious properties and depending on the application, slagment can replace up to 70% of Portland cement in concrete, enhancing quality in both fresh and hardened states.

AfriSam's Vanderbijlpark Slagment Operation has provided slagment for over five decades for the construction of major structures including buildings, dams, bridges, roads and water-retaining structures. The factory has the capacity to produce in excess of 700 000 tons of slagment as well as over 200 000 tons per annum of blended cementitious products.

Some noteworthy projects built with slagment from

AfriSam include the Ben Schoeman Highway, the South African Reserve Bank and the Gariep Dam on the Orange River.

AfriSam has long been at the forefront of initiatives to reduce carbon emissions, and this has included leveraging extenders in its composite cements, leading to a substantial reduction in its clinker factor without any compromise on product quality. David Labuschagne, AfriSam Slagment Plant Manager says that key among these extenders is blast furnace slag, a by-product of the steel industry.

"Clinker substitution is not new, but there is a growing trend within South Africa to use more environmentally friendly concrete design mixes that use fly ash or slag," he says. Interestingly, the Association of Cementitious Material Producers (ACMP) noted that clinker substitution rose from 12% in 1990 to 41% in 2009, with the industry aiming for a 60% rise by 2030.

AfriSam's Slagment Operation played a pioneering role in introducing separately ground slag for construction applications, and this plant continues to produce slag. The company sources its raw material from ArcelorMittal South Africa, strategically located near the plant.

The benefits of using blast furnace slag are numerous. It offers enhanced strength and durability and is beneficial in decreasing limestone mining and clinker production, thereby reducing carbon emissions.

"By using a finely tuned mechanical activation method, AfriSam has obtained a more reactive product, enabling the progressive replacement of clinker while maintaining high cementitious quality and strength performance," Labuschagne says.

With its ongoing commitment to sustainability and innovative strategies, AfriSam continues to pave the way in creating eco-friendly products without compromising on quality. ©

INSPIRED SCHOOLS EMBARKS ON GROUNDBREAKING SOLAR ENERGY PROJECT

Inspired Schools South Africa, a leading educational institution committed to providing uninterrupted learning experiences, is excited to announce its collaboration with a highly reputable and well-known engineering company for a major solar energy project. This initiative aims to mitigate the effects of load shedding and drive the adoption of renewable energy, ensuring uninterrupted learning for students.



South Africa is not only mitigating the effects of load shedding but also reducing its carbon footprint and contributing to a greener future.

Ravi Nadasen, CEO Africa at Inspired Schools, says, "By adopting renewable energy solutions, we are taking proactive steps to provide uninterrupted learning experiences for our students, even during challenging times. This project aligns perfectly with our commitment to sustainability and our dedication to preparing our students for a future driven by renewable energy."

The solar energy project, scheduled to commence in September and expected to be completed by December, represents a significant step towards reducing the institution's reliance on the national power grid. By harnessing the power of the sun, Inspired Schools South Africa is taking proactive measures to combat the challenges posed by load shedding and promote sustainable energy solutions.

Inspired Schools South Africa has enlisted the services of a highly regarded engineering company, renowned for its expertise in renewable energy solutions and successful implementation of large-scale projects across the African Continent as well in Europe. With their extensive experience and technical proficiency, the engineering company will oversee the design, installation, and maintenance of the solar energy system at all 11 of its schools in South Africa.

The rollout of this groundbreaking solar energy project will involve the installation of cutting-edge solar panels and large-scale lithium batteries across our schools' campuses. These panels will generate clean and sustainable electricity, ensuring uninterrupted power supply during load shedding periods. By embracing renewable energy, Inspired Schools

Inspired Schools South Africa's solar energy project represents a significant investment in the institution's commitment to uninterrupted learning and sustainability. By embracing renewable energy solutions, the institution is setting an example for other educational institutions and the wider community, inspiring them to prioritise uninterrupted learning and adopt environmentally friendly practices.

Inspired Schools South Africa is a leading educational institution dedicated to providing quality education and ensuring uninterrupted learning experiences for students. Committed to sustainability, Inspired Schools South Africa strives to integrate eco-friendly practices into its operations and curriculum, empowering students to become responsible global citizens. ☺

Inspired Schools South Africa's solar energy project represents a significant investment in the institution's commitment to uninterrupted learning and sustainability.



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MINIMISING DUST EMISSIONS

An innovative range of dust suppressants available from CHRYSO Southern Africa, continues to be a gamechanger in the mining and quarrying sectors, providing substantial benefits and enhancing operational efficiency.

CHRYSO Eco Dust has a proven track record as an indispensable tool for industries operating in dusty environments. Michelle Fick, BU Development Manager: Concrete Aesthetics and Key Accounts, at CHRYSO Southern Africa, says this range of dust suppressants offers a comprehensive approach to sealing and maintaining dirt roads, gravel pathways, and other dusty surfaces.

“One of the major advantages of CHRYSO Eco Dust is its cost effectiveness,” Fick says. “Compared to alternatives such as paving or tarred roads, implementing the CHRYSO Eco Dust solution leads to significant cost savings. This is particularly important for operations facing challenging economic times as there is immense value in reducing maintenance expenses while achieving optimal dust control.”

She explains that CHRYSO Eco Dust provides long lasting effects, ensuring that roads and surfaces remain dust-free for extended periods. This characteristic is crucial in industries where regular maintenance and constant dust suppression efforts are time consuming and costly. By reducing the frequency of reapplication, CHRYSO Eco Dust streamlines operations and minimises disruption to daily activities.

Another major advantage offered by CHRYSO Eco Dust is its eco-friendly nature. The product is designed to be environmentally sustainable, with low volatile organic compound (VOC) emissions and UV resistance. Industries, especially those subject to stringent health, safety, and environmental regulations, have welcomed CHRYSO

Eco Dust as a viable solution to ensure compliance while minimising their ecological footprint.

Fick is quick to point out that CHRYSO Eco Dust has gained traction in mining and quarrying operations. “These industries, which are often located in environmentally sensitive areas, face increasing pressure to minimise dust emissions and their impact on surrounding communities. CHRYSO Eco Dust not only helps meet regulatory requirements but also significantly reduces fuel and water consumption and carbon dioxide emissions associated with traditional dust control methods, such as water tanker spraying. The result is a greener and more sustainable approach to dust suppression.”

Moreover, CHRYSO Eco Dust improves overall safety in dusty environments. By minimising dust particles in the air, visibility is enhanced thereby reducing the risk of accidents. The improved road gripping also enhances traction for vehicles, further contributing to safety and preventing potential mishaps.

CHRYSO Southern Africa's commitment to providing a comprehensive solution extends beyond mining and quarrying. The versatile applications of CHRYSO Eco Dust have made it a preferred choice in cement plants, precast yards, building sites, farms, game reserves, rural airfields and other areas where dirt roads and dusty surfaces require sealing and maintenance. Even less developed residential areas and sandy football pitches can benefit from the long lasting effects of CHRYSO Eco Dust. ☺

POLIHALI DAM MARKS DIVERSION OF SENQU RIVER MILESTONE

The Lesotho Highlands Development Authority (LHDA), consultants and contractors on the Polihali Dam marked an early construction milestone on Friday: the diversion of the Senqu River by the pre-cofferdam, and the subsequent diversion of the river into and through the diversion tunnels ahead of the construction of the cofferdam upstream of the Polihali Dam wall.



Speaking on site on Friday, Tente Tente, CE of the LHDA, said: "This is quite an achievement to the engineering fraternity. It is a key moment of the construction programme because unless this happens, no other elements of dam construction can happen. It had to happen now because the timing of it during the winter season without rain was critical. If you miss it by a week or two, you may miss the entire window by another twelve months. We are proud of everyone who has had a hand in this work. It is indicative that Phase II, just a couple of months after being officially opened by our principals, is indeed now going full steam ahead. Our consultants and contractors have hit the ground running, and we are all excited for what this means for the project, and for Lesotho and South Africa."

The main dam – Polihali Dam – requires extensive excavation of the foundations before work begins in bringing it up in height. The works in the foundations require dry access to enable the rock to be excavated down to sound rock, to allow grouting of the rock to be undertaken where required beneath the dam and to allow the construction of a plinth beam which will form the water-tight seat for the upstream impermeable, concrete facing of the main dam wall.

To provide this dry environment, a cofferdam is to be built upstream of the main dam to protect the main dam works from floods until the main dam concrete face is high enough to be free of such floods. In turn, to allow the coffer dam to be built there is a pre-cofferdam upstream of the cofferdam. This has the task of diverting the river through the diversion tunnels and thus around the cofferdam and the main dam foundations.

Chris Hall, Project Manager of the Matla a Metsi Joint Venture which designed the Polihali Dam and is overseeing dam

construction, explained what will happen after the closure of the pre-coffer dam on Friday. "Now the Senqu River level will rise and the water will then enter the diversion tunnels to bypass the dam construction site. Whilst the riverbed is drained of water the coffer dam foundations will be excavated within the river and the flanks of the valley. The plan is to complete the cofferdam before the end of October this year, according to the current master programme, and then to start on the main dam in earnest."

The diversion tunnels were constructed as part of the advance infrastructure contracts.

Construction of the Polihali Dam commenced in November 2022 with the awarding of the M7,68b construction contract to the SUN Joint Venture. The joint venture includes main partners: Sinohydro Bureau 8

(China); Sinohydro Bureau 14 (China); Unik Civil Engineering (South Africa) and Nthane Brothers (Lesotho). Subcontractors include Melki Civils and Plant Hire (South Africa); MECESA Construction (South Africa); SIGMA Construction (Lesotho) and Kunming Engineering (China).

The Polihali Dam is a concrete-faced rockfill dam, like the majestic Mohale Dam which was constructed in Phase I of the LHWP. It will create a reservoir on the Senqu and Khubelu rivers with a surface area of 5 053 hectares. The infrastructure also includes a spillway, an intake tower and bottom outlet works, a compensation outlet structure, bridges, roads and a mini-hydropower station.

The Polihali Dam adds 2 325 million cubic metres in storage capacity to the LHWP and will increase the current annual supply rate capacity from 780 million cubic metres to 1 270, contributing towards meeting South Africa's increasing water needs. The additional flow of water from Polihali will simultaneously increase power generation within Lesotho towards meeting Lesotho's domestic needs and reducing the country's dependence on electricity imports.

Phase II of the Lesotho Highlands Water Project builds on the successful completion of Phase I in 2003. ©

"Now the Senqu River level will rise and the water will then enter the diversion tunnels to bypass the dam construction site."

SANDTON CENTRAL'S TRAFFIC SIGNAL BACKUP POWER INITIATIVE SURGES AHEAD

The Johannesburg Roads Agency (JRA) and Sandton Central Management District (SCMD) have made significant strides in their pioneering initiative of connecting traffic signals to independent power systems, ensuring seamless operations amidst prevalent loadshedding. The ongoing project, the Traffic Signal Backup Power Initiative, is now gaining even more momentum as leading corporate names such as Sasol, Growthpoint Properties and Nedbank, have actively adopted intersections within the Sandton precinct.



Paul Kollenberg, Head of Asset Management: Offices for Growthpoint.

Starting with two intersections adopted by Investec in May, the innovative traffic solution has now been expanded to include intersections at Rivonia Road and Fredman Drive (Nedbank), Grayston Drive and Fifth Street (Growthpoint), as well as Katherine Street and Pybus Road (Sasol). In addition, Sasol will soon extend its support to include the Albertyn and Weirda Road East intersection.

The increased support of the initiative stems from the project's positive impact on traffic flow and the overall business district environment. An additional six corporate adoptions are currently in line to be connected and tested in the coming weeks, a testament to the traction the initiative has garnered in the community.

Elaine Jack, District Improvement Manager of SCMD, says that the project's progress is encouraging. "The rapid momentum that the Traffic Signal Backup Power Initiative has gained has been truly inspiring as leading businesses within Sandton continue to join forces to tackle the common challenge

of loadshedding and its effects on the district. This project's positive impact is already evident, with improved traffic flow and a safer, more vibrant business district. The tremendous support we've seen reinforces what can be achieved through meaningful collaboration. This is not just about keeping the lights on; it's about keeping Sandton moving forward."

Senior Vice President of Sasol Business Services, Grace Ndwammbi noted that "as part of a team enabling growth and driving sustainable value creation within Sasol, we are very proud to be part of the Sandton Central Management District (SCMD) and Johannesburg Roads Agency (JRA) initiative. Solutions work when in partnership with important stakeholders. Partnerships between the corporates and public enterprises ensure we keep the wheels of industry moving forward contributing towards sustainable economic growth for all".

Paul Kollenberg, Head of Asset Management: Offices for Growthpoint, says, "As more and more tenants are returning to Sandton, it is important that we keep the traffic flowing, even during load shedding. Growthpoint is happy to contribute to this initiative and to help to ease access to businesses and amenities in the area."

Howard Rauff, Nedbank's Head of Corporate Real Estate says "Nedbank is committed to engaging, exchanging ideas and strategies, and partnering on initiatives aimed at lessening the impact of the ongoing energy crisis on our economy, businesses, and society at large. We are pleased that this partnership with Sandton Central and Johannesburg Roads Agency will ensure optimal efficiency and functionality in a financial and business district that contributes significantly to our country's economy. "

JRA Acting CEO Zweli Nyathi says the JRA is excited about the initiative's fast expanding footprint. "The city is benefitting economically as improved traffic signal reliability decreases congestion, increases productivity and also improves safety from fewer accidents at previously dead intersections due to load shedding." Nyathi is encouraging other organisations to partner with the Johannesburg Roads Agency in improving the reliability of traffic lights during loadshedding.

The Traffic Signal Secondary Power Initiative enables the continued functioning of traffic lights during loadshedding by utilising a secondary power connection to the nearest adjacent property, powered by the property owners' own backup systems. In doing so, the initiative exemplifies a cooperative effort towards addressing the challenge of ensuring safe and efficient traffic flow for Sandton's motorists during loadshedding. ©

CONSTRUCTION KICKS OFF ON SANRAL'S N2 KWABHACA TO NGCWELENI RIVER PROJECT

Construction works to upgrade the N2 section from KwaBhaca to Ngcweleni River have begun, the South African National Roads Agency SOC Limited (SANRAL) has announced.



Speaker of Umzimvubu Local Municipality, Nkosomzi Nomnganga at the introduction of the contractor to stakeholders in February 2023.

The project, which follows the existing N2, starts in KwaBhaca and ends at the Ngcweleni River Bridge near EmaXesibeni. The R1,2b project affects the Umzimvubu Local Municipality and Ntabankulu Local Municipality, both within the Alfred Nzo District Municipality.

The contract was awarded to Rumdel Construction Cape in February this year and is anticipated to be concluded within 45 months. The scope of works on the project will include rehabilitation of the existing carriageway pavement structure for both N2 Section 19 from km 92,4 to km 95,012 and N2 Section 20 from km 0,0 to km 39,4, widening of the existing road cross section for introduction of climbing lanes, construction of one new bridge and three new major culverts, widening of five bridges and four major culverts, construction of a pedestrian bridge at Phakade, upgrading of intersections to include sheltered right-turning lanes, left turning lanes, and adequate stacking distances based on the traffic impact study conducted to achieve the required Level of Service (LOS), construction of pedestrian walkways, and construction of community service roads.

The anticipated benefits of the road upgrade include enhanced road safety, reduced traffic congestion, and improved pedestrian safety, while considerable socio-economic impact can be expected through job creation, skills

development and a cash injection to the local economy.

“Over 75 SMMEs will be subcontracted on this contract, with around 600 job opportunities to be created. A minimum of 30% of the contract value will be subcontracted to SMMEs,” said SANRAL Southern Region Manager, Mbulelo Peterson.

“We have also made provision for training to be given to SMMEs on this project, the modules of which include Site Administration Procedures, Contract Documentation, and Tendering for Construction Projects. This training is intended to capacitate the SMMEs and to contribute to their development to be sustainable beyond the SANRAL project,” he said.

SMMEs subcontracted on the project will be handling civil works, fencing, supply of goods and security.

Siphiwo Sandla, owner of Okonke Security, is an SMME that has been subcontracted to oversee security on the project. The company has employed 12 security guards on the project. “I am grateful for the opportunity brought by this SANRAL project to our community and to us as SMMEs. Through this opportunity we are able to feed 12 families and will be creating around 100 job opportunities throughout the project lifecycle.

This is a great opportunity for growth for our young company that was established in 2016. Working on this contract will lift our company profile and open more doors in future,” said Sandla. ©

AECOM HELPS BUILD SUSTAINABLE LEGACIES

Globally trusted infrastructure consulting firm AECOM highlights three exceptional women making inroads. The company's commitment to equity, diversity and inclusion enables it to better anticipate its clients' needs, the challenges facing the communities it serves, drive innovation to propel the industry forward, and realise its purpose of delivering a better world.



Thandiwe Siyakatshana, Bridge Engineer, AECOM.



Liliana Lopez Ortiz, Associate Technical Engineer, AECOM.



Anneri Maritz, Transport Engineer, AECOM.

Liliana Lopez Ortiz, Associate Geotechnical Engineer, AECOM

Liliana conceives, plans, and researches solutions for diverse geotechnical projects. She is also involved in team selection and shepherds projects through to completion. "Most importantly, I grow and mentor the young geotechnical engineers and geologists that are onboard."

Liliana is a passionate civil engineer specialising in geotechnical engineering, with 20 years' experience in Latin America, South and Central Africa, the Middle East and Oceania. Her extensive project experience ranges from small to large scale in sectors like water, mining, commercial and industrial developments.

Having worked at AECOM for over a decade, Liliana considers it a privilege to be able to work in a global, diverse and vibrant environment that shows one different perspectives. "AECOM has an inclusive culture and a supportive, multicultural environment. The opportunities afforded by working at such a global company in terms of experience and exposure is a real boost to one's career," says Liliana, who started out as a Senior Technical Engineer and has developed her skillset and strengths ever since.

When it comes to the role of women in engineering, Liliana says gender should be irrelevant, and "our focus must solely be on expertise, creativity, and innovation. Nevertheless, you do realise how little representation women have in my field, rooted to

stereotypes, gender biases, and insufficient encouragement for women to pursue STEM careers."

This means women in engineering "do have to go the extra mile to prove themselves" and to convince their male counterparts they are equally capable. "I try to focus on what I can contribute positively to any situation. I do find that AECOM excels at affording women equal opportunities. However, as a society, we do need to learn to remove labels and work with the strengths of every single person."

Open communication channels are important for all employees to maintain their well-being, quality of life, and productivity. AECOM has an ongoing campaign to promote a healthy, balanced workforce. "The flexibility to work from home means we get to spend more time with our loved ones and get our work done at the same time," says Liliana.

What keeps Liliana passionate about engineering is contributing to and providing technical solutions for challenging and impactful projects that change people's lives and have a greater influence on society.

"One of the biggest contributions that I can make as an engineer and as a woman is being able to be part of the solution to the challenges we face on a daily basis and inspire the upcoming generation of women who want to be part of this industry," says Liliana.

Anneri Maritz, Transport Engineer, AECOM

Anneri started out as a bridge engineer

and has since become an integral part of the transportation team, from technical work to developing design proposals and documentation and managing a range of projects, including construction supervision. She has a Master's degree in transportation, specialising in pedestrianisation.

"AECOM is a great company to gain experience in different roles. You get to explore all disciplines in the civil engineering sector, which is important when commencing with your career.

This affords you the opportunity to determine where your passion really lies and what you need to achieve in terms of career progression. I have gained the experience and insight to become a better professional and to grow as an individual as well," says Anneri.

She concurs that the industry remains male dominated, right from her civil engineering classes at university. "But that does not put a dampener on the experience I have of the industry as a woman. You gain valuable knowledge and learn how to work with an array of different people."

For Anneri, being a woman is not necessarily an advantage or a disadvantage. "I think it does have its challenges when it comes to breaking the traditional stereotype of a civil engineer. However, given my experience, it is not really something that keeps you from advancing as an engineer."

To be a good employee, a good engineer, and good at your technical capabilities, Anneri says you must be

a balanced person. “It is a priority in my life to achieve this balance as it is essential for my professional and personal development.

My objectives serve to renew my energy constantly. What better way to progress than to constantly set yourself goals? Also, if you have external hobbies, it allows you to focus on different aspects of your life and keeps you motivated.”

What keeps Anneri passionate about civil engineering “is to see the difference that infrastructure makes in the physical world we live in. It is a way of indirectly giving back and caring for the communities in which we operate.

Being a caretaker is a role often ascribed to women. However, there are different ways of caring for people, some ways more obvious than others.

This is what makes me passionate about my role as a woman in the civil engineering industry.”

Thandiwe Siyakatshana, Bridge Engineer, AECOM

Thandiwe started her career at AECOM legacy company BKS as a bursary student and has never looked back. “I have been with AECOM for a long time.

It has been interesting to see how the industry continues to evolve and adapt, including the type of projects I get to work on.”

The experience has allowed Thandiwe to develop into a fully rounded professional engineer. “You are exposed to a lot of big projects and a pool of multinational resources drawn from different regions and skillsets, so it has been great.”

Thandiwe adds it has often been daunting, “not only being a Black woman in the engineering field, but in any STEM-related career for that matter.

There are unique challenges due to underrepresentation and historic disparity.” A related issue is the lack of role models to aspire women to break the glass ceiling in the engineering industry.

“It is always better when you know someone has achieved something that it is indeed possible for you to emulate them.” Thandiwe has faced such challenges by focusing on networking and mentoring to gain as much experience as possible.

She concurs that AECOM promotes a good life and work balance, especially

for women, by allowing for a remote or hybrid work model. “It gives you clear boundaries and allows you to cope with the different responsibilities and duties of home and career life.”

As a woman, Thandiwe asserts that her simple presence at a project meeting shows diversity in action at AECOM. “Breaking barriers being in a historically male dominated field can also be very empowering. You are always motivated to challenge stereotypes to create a more inclusive work environment.

Obviously overcoming such adversity is highly fulfilling, especially as you get the chance to empower others to pursue their ambitions and goals,” she says.

“Engineering is an exciting profession as it affords you the opportunity to be able to design and build infrastructure that creates a sustainable legacy for communities and society. My message to other women is to embrace their identities and to be as authentic as possible, which is key. Let that be a source of strength and inspiration to pursue all your own dreams and goals,” concludes Thandiwe. ☺

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SECOND CONCRETE RESEARCH SYMPOSIUM WINS WIDESPREAD PRAISE

YCRETS 2023, the second biennial Young Concrete Researchers, Engineers and Technologists Symposium organised by Cement & Concrete SA (CCSA), has been lauded as “remarkable” and “rewarding”.

CCSA, which has committed itself to presenting YCRETS biennially, staged the YCRETS 2023 event at, and in collaboration with, the University of Stellenbosch (US) from 12 to 14 July this year. The inaugural YCRETS 2021 was held online during lockdown restrictions in collaboration with the University of the Witwatersrand in Johannesburg.

Twenty-two research papers were presented by young individuals at YCRETS 2023, described by CCSA as “an investment in the future of young researchers to ensure succession planning”. In addition, keynote addresses were presented by Prof Elsabé Kearsley, of the Department of Civil Engineering at the University of Pretoria (UP); and Emeritus Prof Leslie Petrik, of the Department of Chemistry at the University of the Western Cape (UWC).

The symposium’s overall theme of “circularity” emerged strongly in all YCRETS 2023 papers. The theme emphasised the quest among young researchers to find innovative ways to minimise the impact of cement and concrete on the environment, while still meeting the demands for sustainable and resilient infrastructure.

Jurie Adendorff, PhD Candidate in Civil Engineering from UP, who presented a paper at the symposium, commented: “Attending YCRETS 2023 was a remarkable experience, and I am sincerely grateful for the opportunity to share my research with industry experts. The valuable feedback and expansion of networking opportunities will substantially help to advance knowledge in our field. I extend my sincere appreciation to Cement and Concrete SA for fostering collaboration among like-minded professionals towards building a future together.”

Another paper presenter, Selicia Pillay of the African engineering practice, Zutari, said YCRETS 2023 had provided

an invaluable platform for young individuals to meet experienced leaders in the field of concrete research and improve their communication skills. “It was so rewarding to present my research to such respected academics and professionals of the industry.” Pillay added.

Clint Wicomb, GM Sales & Marketing at PPC Cement, the main sponsors for the event, commented: “The symposium was well attended which shows there is still a huge demand for concrete and innovation and the work being done by the scholars in their respective research topics. The SA industry is losing talent to other countries so it is comforting to see that there is young concrete talent in the making coming through our tertiary institutions.”

CCSA, the custodians of YCRETS, worked closely with a committee comprising academic staff of Stellenbosch University to host the successful YCRETS 2023, and ensured that all papers were reviewed by a scientific committee and complied with the requirements of a conference for authoritative research.

Dr Wibke de Villiers, of the Department of Civil Engineering at University of Stellenbosch, who was on the YCRETS 2023 organising committee, summarised her experience: “Some of the impacts of YCRETS 2023 are immediately tangible such as the research shared and ideas exchanged – but the most exciting impact is the connections created that will forge into invaluable relationships in years to come. YCRETS provides our young researchers with a key opportunity to lay the foundations of their professional networks in the cement and concrete industry.”

CCSA will in due course announce details for YCRETS 2025 which will be presented in collaboration with the University of Pretoria. ©





LIEBHERR R 920 TICKS ALL THE RIGHT BOXES FOR CONSTRUCTION CONTRACTORS

In the face of a protracted construction downturn in South Africa, construction contractors are placing high value on machine reliability, efficiency, productivity and versatility to run profitable operations. To fulfil these operational parameters, Liebherr-Africa offers its 20-21-tonne (t) R 920 crawler excavator, which combines power, precision and versatility to afford contractors the right tool for a range of jobs on a typical construction site.

The 20-t class excavator range is the most popular size classes in the Southern African construction sector. Construction and contractors are placing operational efficiencies at the centre of their procurement decisions. Developed for use in earthmoving, digging and drainage, among other applications, the R 920 places efficiency at the core of its design. Powered by a 110 kW / 150 HP engine, the machine leverages Liebherr's integrated systems and the constant management of the engine and hydraulics to control fuel consumption. In addition, the optimised Positive Control hydraulic system makes the combined movements of the machine even more fluid, which in turn increases the breakout forces and breakaway torques for high levels of productivity combined with low fuel consumption.

"Our Positive Control hydraulic system features two working pumps to provide power for maximum excavation, travel or swing efficiency. With the system, the combined movements are optimised for operations ranging from levelling to extraction, loading and lifting, with or without travel," explains Tendayi Kudumba, GM for Earthmoving at Liebherr-Africa.

Intelligent work modes further enhance efficiency. Designed for economic operation, the Economy mode is recommended for normal working conditions. Power mode makes light work of high excavation capacities in difficult applications, while the Sensitivity Mode is ideally suited for accurate load-lifting applications. Meanwhile, Full Power Mode is especially designed for higher power often required for demanding applications.

With its new maintenance concept, Liebherr has significantly reduced the cost of excavator maintenance. To provide context, the R 920's maintenance elements are positioned closely together and are easily accessible from the ground. The automatic central lubrication system is

installed as standard and leads to increased productivity resulting from time savings.

Designing the R 920, Liebherr also placed a big focus on operator comfort. The machine comes with an enlarged cab with a mechanical suspension seat and a very comfortable working environment. The seat offers comfort thanks to air suspension, several horizontal and vertical settings, and adjustable pneumatic lumbar support.

"The acoustic power inside the operator's cab is one of the lowest on the market to minimise fatigue and increase productivity and the cab is mounted on viscoelastic rivets to minimise vibration. The piping on these machines is also supported by rubber flanges to help reduce external noise," says Kudumba.

With visibility in mind, large, glazed surface windows provide good visibility from the operator's platform. A wide emergency exit via the rear window provides for operator safety. The proportional joysticks on this machine are finely tuned for sensitive, accurate and fluid machine operation.

In a constrained market, says Kudumba, contractors need maximum usage of their assets to remain profitable, which means machines should be able to be deployed outside their normal application range. "Machine versatility is such an important parameter in today's operating environment," he says. The Liebherr Tool-Control system makes it easy to change various tools, thanks to recognition of the chosen tool's system. It makes the programmed pressure and flow values available from the moment the hydraulic tool is changed. Consequently, the R 920 has more availability for productive tasks, and adjustment times are reduced. The optimal kinematics of the attachments allow the R 920 to reach a break-out force of 126 kN and a penetration force of 99 kN, while simultaneously increasing its lifting force," concludes Kudumba. ©



HITTING THE BULL'S EYE

Babcock has partnered with BULL to become the exclusive supplier of BULL backhoe loaders and BULL skid steers in Southern Africa. These products complement Babcock's existing world-class construction equipment portfolio. Babcock is fully equipped to offer comprehensive construction and earth-moving solutions across all Southern African industries as it meets the evolving needs of its diverse customer base.

BULL is a leading international construction equipment brand based in India and owned by the long-standing AV Group. It has a well-established global footprint and two state-of-the-art manufacturing plants. The business is India's foremost tractor attachment manufacturer and its range of backhoe loaders and skid steers maintain world-leading standards in efficiency, comfort and safety.

David Vaughan, Managing Director for Babcock's Equipment business, is excited to be providing top-class BULL TLBs and skid steers to the Southern African market. He says that Babcock has supplied, sold and maintained various brands of TLBs in Southern Africa for over 20 years, which allowed for a natural and easy integration with BULL. "We are experts in construction equipment distribution and have in-depth technical understanding of these machines."

He adds that besides the machines' superior quality, innovation and reliability, BULL's business philosophy aligns with Babcock's. "Our aftersales service and approachability set us apart from our competitors. Our door is always open

and BULL's customer-centric, solution-driven ethos makes them an ideal fit."

Vaughan believes with the BULL range of products in Babcock's portfolio, the business is now better equipped than ever to provide reliable and efficient machines to diverse customers across various sectors. These include agriculture, construction, plant hire, contracting, as well as sand, stone and waste management. Existing Babcock customers, such as those in the mining sector, also benefit from a choice of smaller, cost-effective machines to supplement their fleets of heavy earth-moving equipment.

Babcock is providing aftermarket and technical support to all new and existing BULL customers in Southern Africa, with product manager Mark Senyard at the helm. Senyard has long been associated with BULL equipment and brings with him years of construction equipment knowledge and product expertise. He will be playing a key role in facilitating the seamless transition of the brand into the Babcock fold.

Senyard puts his full support behind the BULL range



which is competitively priced, mechanically reliable and technically superior. “BULL is globally renowned for its impressive equipment, proactive approach and commitment to continuous research and development. I am looking forward to new and existing BULL customers benefitting from these exceptional machines, and the Babcock team is ready to create value and provide solutions for our customers,” he says.

“Mark’s years of experience and BULL product knowledge, together with our extensive regional footprint and established parts and maintenance network, means we are well equipped to provide comprehensive aftermarket support to all BULL customers throughout Southern Africa,” says Vaughan. “Spare parts are also already on hand to ensure minimal downtime for clients.”

BULL is dedicated to producing reliable construction equipment that performs consistently and efficiently on the harshest of job sites, making them well suited to tackling African terrain. As an in-house research and development company, the business is able to respond to market feedback, and incorporate the latest technology into its equipment, giving customers the benefit of enhanced productivity and performance.

Every BULL loader and skid steer is built with precision while remaining competitively priced. Babcock’s line-up includes three TLB models; the HD76, HD96 and HD100. These machines are designed to match the needs of digging, trenching, lifting and loading applications, with the HD96 and HD100 available in either general or multi-purpose variants. Their rugged reliability doesn’t compromise on operator comfort, with features such as power steering and smart technology hydraulics.

To get the job done in tight spaces, the compact and easily manoeuvrable AV490 skid steer is ideal for landscaping, agriculture, construction and under-conveyor mining. This cost-effective all-rounder is designed for fuel efficiency and features a rear-view camera to reduce blind spots. Babcock supplies this machine in two variants, giving customers a choice of canopy or cab with air-conditioning.

“This exciting collaboration brings together Babcock’s expertise in construction equipment distribution and BULL’s reputation as a leading brand in the industry, offering customers in the region access to an exceptional range of machinery,” says Vaughan. “With our extensive national network and unwavering commitment to exceptional support, we will ensure that BULL customers’ needs are met with optimal uptime and operating effectiveness.”

Ideal for the quarrying industry

Senyard says there is always “utility” work required around quarrying sites - from digging trenches for laying pipes to general clean up around the site and under conveyor lines. “The range of BULL construction machines has the solution. With its three models of backhoe loaders (and the variants) and the skid steer loader (with its variants) there is a machine to suit the requirements. Apart from being built for tough applications, the backhoe loaders all come standard with air-conditioning and the cabs are ROPS/FOPS certified. This fits in well with the health and safety requirements on mine sites. There is also an option on the skid steer loader to have a fully enclosed cab fitted with an air conditioner,” Senyard explains.

Ensuring uptime

BULL machines are designed for hard work. “With the extensive network of branches around the country, Babcock can support these machines along with the other machines in Babcock’s equipment stable, Volvo and SDLG, that work on quarries around the country. Ongoing parts stocking, reviews and technical training take place to ensure that Babcock can support all customers,” says Senyard.

Robust for a tough environment

“BULL prides themselves in continuously improving their machines based on feedback from customers and dealers around the world. BULL has dealers across the globe and has machines working in a variety of applications and industries. As such it takes great pride in building robust machines that are reliable and easy to maintain,” concludes Senyard. ☺

AFRISAM ClickToGo OFFERS ADDED VALUE TO CUSTOMERS

ClickToGo, launched by AfriSam, South Africa's leading construction materials company, is a gamechanger. This remarkable digital platform is a first of its kind in the construction industry and allows existing customers in South Africa to effortlessly order materials and manage their accounts, providing a seamless experience.



The user-friendly online platform, ClickToGo, was developed to provide a digital solution that would ensure convenience and take the customer experience to another level.

"Our goal is to prioritise our customers and drive progress in the industry, and ClickToGo, our innovative e-experience platform, will empower our customers and enhances their interaction with us," Ilonka de Magalhaes, Customer Experience Manager at AfriSam, says.

ClickToGo offers a range of features designed for ease of use. Customers can easily view their orders, directly order from quotes, review their order history, access essential account documents and credit information and track deliveries effortlessly. Additionally, super users can assign different roles and permissions to staff, facilitating seamless collaboration within organisations.

Launched in November 2021, ClickToGo has gained significant interest with positive feedback from customers. "We

are delighted by the response to ClickToGo," de Magalhaes says. "Almost 70% of our 30-day account customers have already registered and actively use the platform."

It is important to note that AfriSam continuously refines and enhances ClickToGo's functionality based on valuable feedback from customers and front-line employees.

A recent significant development on the innovative ClicktoGo e-platform is the inclusion of cash account customers, extending use of this platform for all account customers and ensuring all can benefit from this streamlined online ordering platform.

Enhancing the customer experience further, AfriSam has integrated ClickToGo with its Online Payment Gateway. Cash account customers can now conveniently place orders and make payments in a single transaction. "Our aim is to provide a smooth and hassle-free experience for our customers," de Magalhaes emphasises. "We want to make the process as effortless as possible."

Moreover, ClickToGo enables cash account customers to apply for a credit facility directly through the platform, simplifying the process and making it more accessible. At the same time, 30-day account customers now have the ability to request credit limit increases directly on the platform, ensuring a seamless and streamlined user experience.

AfriSam's ClickToGo is a significant milestone in the company's digital transformation journey, aligning with its commitment to delivering an exceptional customer experience. By offering convenience, effectiveness, and transparency, ClickToGo sets a new standard for the construction materials industry.

"We aim to redefine the customer experience and cement our position as an industry leader through this innovative e-experience platform," De Magalhaes concludes.

SAICE FELLOWSHIP AWARDED TO BRYAN PERRIE

Bryan Perrie, CEO of Cement & Concrete SA (CCSA), has been made a Fellow of the South African Institution of Civil Engineering (SAICE).

An international authority on concrete pavements, Perrie holds an MSc in civil engineering from the University of the Witwatersrand, is a Fellow of the South African Academy of Engineering, a member of the Institute of Concrete Technology in the UK, and an Honorary Member - as well as past vice-president - of the International Society for Concrete Pavements, which has its head office in the USA.

Perrie has served Cement and Concrete SA and its predecessors for over 38 years and has been the CEO for the last 15 years. He was previously a board member of the Concrete Society of Southern Africa, and is a past president of

the South African Road Federation. He has authored several books on concrete floors and concrete roads, written sections for various editions of Fulton's Concrete Technology, and penned many papers - primarily on concrete pavements - for publication and presentation at local and international seminars, conferences and symposia.

Fellows of SAICE are corporate members of the Institution who have achieved appropriate recognition in the civil engineering profession or the Institution.

The honour is bestowed on persons who are considered to have significantly contributed to the engineering profession, displayed substantial responsibility and initiative in the practice of civil engineering, and have considerable professional experience.



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BELL AND JCB FORM THE BACKBONE OF THE BHM BRICKS FLEET

Henk Vorster believes that because one buys equipment from people and not companies, the best machine is the one for which you get good service, again from people. And he should know.

Henk Vorster and his business partner, Gabriel Labuschagne, own BHM Bricks in the picturesque Eastern Free State town of Bethlehem. Henk had developed his business acumen in a family-owned business that originates from the former homeland of Qwa-Qwa, to the south of Harrismith, nestling against the Northern Drakensberg Mountain range.

“Gabriel and I have owned BHM Bricks since 2014 when we bought the business from a large aggregate producer and we’re still in the business of making quality concrete products as our core business,” Henk says. “We make a wide variety of concrete bricks in different colours for the domestic and industrial markets as well as concrete building and retaining blocks.”

BHM Bricks’ products are transported with their own fleet of trucks as far afield as Thaba’Nchu in the Free State towards Bloemfontein, Vryheid in Northern KwaZulu-Natal and the Winterton and Bergville areas at the foot of the Central Drakensberg. Another division of their logistics arm transports agricultural lime to farming clients.

“We’ve invested heavily in creating one of the most automated concrete brick plants in the country,” Henk

continues. “We have for many years used JCB Wheeled Loaders and the latest machine, a JCB 422ZX, which was bought from Bell Equipment and delivered in March 2022, is a successor to an earlier similar machine. That machine had been used for 4 000 trouble-free hours and will now be deployed at a new subsidiary plant we’ve established in Qwa-Qwa.”

As we receive a guided tour around this modern brick-making plant, Henk points out where the process starts. The JCB 422ZX Wheeled Loader brings bucket-loads from various stockpiles according to the correct ‘recipe’ for each specific end-product and loads stone aggregates and processed sand from either dolerite, natural plaster, or basalt into a weigh bin, where the correct amount of cement is added. After dry-mixing, chemical additives and water are added before this wet mixture is then fed into the block plant’s feed hopper. The final product is formed when the mixture is vibrated into shape according to set moulds.

“From this point on you’ll see that the wet bricks or blocks are moved without human intervention into our wet stacker where they will cure for a mere 20 hours in



all-round visibility and we're assured this will lead to less operator fatigue." Henk smiles when he mentions how fortunate customers like BHM Bricks feel now that their stalwart Bell 225A Forklifts and new JCB Wheeled Loader all come from the same distributor, Bell Equipment. "Obtaining spares and servicing from one distributor will work well for us as everything can now be done with one phone call," he says. "Our Bell 225A Forklifts have for many years been the backbone of the back end of our operation and there is simply no other tool that can so effortlessly move our heavy brick-laden pallets around to stockpiles and load the delivery trucks. We bought the most recent one four years ago and all three machines have each given us more than 10 000 hours of service."

According to Henk, maintaining the Bell 225A Forklifts is the simple part as their respective lives are extended by easily replacing hydraulic pumps and wheel motors due to the machine's simple design and easily accessible parts.

But BHM Bricks' Bell-backed fleet doesn't stop with these machines. Bell Equipment's top Sales Representative, Chris Botha, has been very active in these parts as BHM Bricks took delivery of a JCB 3DX Eco Backhoe Loader in July 2022 and it has been used extensively as a versatile tool in civil construction projects its owners have undertaken with some selected plant hire assignments as a bonus. It joins yet another, although older model JCB 406 Wheeled Loader that is used in the company's lintel production yard.

"We're proud to say that with increased demand for our quality products, we've moved with the times with this modern brick plant and the same can be said of our material handling and loading tools. Without our yellow Bell and JCB fleet of machines offering sustained service, this plant could not perform as it does," Henk says. ☉

comparison to the 21 days it took before," Henk says proudly. "When these now cured products emerge after 20 hours of curing, they are stacked using our new robot system and then one of three Bell 225A Forklifts take the pallets to the stockyard."

Henk says their previous experience with the older JCB 422ZX Wheeled Loader proved that this was the correct size machine for their operation. "You'll notice that we probably don't have a vast amount of free space in our operational area but the JCB 422ZX Wheeled Loader is not bulky and has more than enough power and manoeuvrability to work comfortably and safely to keep our plant running," he explains. "The 1,7 cubic-metre bucket holds just the right amount of raw product for the weigh bin where the dry ingredients are weighed and with good braking that makes for a safe operation when unloading on a steep ramp up to the weigh bin, we're confident that this JCB 422ZX Wheeled Loader will outlive the previous one."

"Our operator is also full of praise for the ergonomics in the ROPS-FOPS cab that is airconditioned with good



NEW WATER TRUCK DELIVERS INTEGRATED SOLUTION FOR MAINTAINING HAUL ROADS

Properly watered haul roads directly impact fleet cycle times and the ability to meet production targets. As haul road dust takes a toll on safety and productivity at mines and quarries, the water truck is one of the most important pieces of support equipment at the site. The new Cat® 777 (05) Water Solutions Truck provides an integrated solution to help reduce haul road dust by solving overwatering and underwatering issues.

The new 777 (05) is built on the Cat 777E truck platform, proven at mine, quarry and construction sites globally. An innovative truck that uses less water for controlling haul road dust, the design integrates the truck, tank, and water delivery system, connected with technology. Its Cat Water Delivery System (WDS) combines with Cat MineStar Edge™ connectivity to help operations manage the site more safely and productively with flexible levels of technology to meet site needs.

Boasting a 75 700 l (20,000-gal) Cat-branded water tank, the 777 (05) comes complete with spray system, splash guards, fill chute and rock ejectors. It is powered by the 765 kW (1,026 hp) Cat C32B engine that meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2.

Cat water delivery system

The new water truck's exclusive Cat WDS features a self-contained hydraulic system that controls spray patterns independent of engine RPM for consistent watering. Variable water flow, based on the truck's speed, automatically starts and stops when the truck slows or comes to a halt, preventing overwatering and subsequent poor traction at road intersections. The pump features soft startups and automatically shuts off when the tank is empty to prevent system damage.

WDS components include a water cannon, oil cooler, variable displacement pump, hydraulic oil tank, electronic control boxes and hydraulic motor/water pump. Covering up to a 24-m (80-ft) wide road in a single pass, the system sprays at rates reaching 0.8 l/m² (0.2 gal/ft²) at speeds from 4 to 40 kph (3 to 25 mph). With its maximum 61-m (200-ft) spray distance, the truck's water cannon offers a maximum flow rate reaching 4732 l/min (1,250 gal/min).

Factory-installed, ergonomic water controls are integrated into the truck's design for convenient system operation. Its innovative automated water delivery feature enables the operator to remain focused on driving and site traffic to enhance safety. Complete with auto shut-off to prevent overfilling, the water tank is filled remotely, allowing the operator to remain inside the cab during the cycle to reduce potential operator slips and falls.

Scalable technology with Cat MineStar Edge

Flexible levels of the cloud-based MineStar Edge technology are integrated with the Cat WDS to collect and communicate machine data, allowing site supervisors to monitor the water truck to know where and when it's spraying water. Asset management options include productivity, water usage, fuel and water tank levels, when and where to apply water, geofencing, asset location, and

remote management of water distribution.

Providing tracking capabilities without the need for infrastructure investment, Edge Equipment Tracking delivers basic connectivity without interfering with existing fleet management systems. Helping to achieve a lower total cost of ownership, Equipment Tracking provides insights to help mines better manage their assets. It features service meter readings, fueling and recording data, location accuracy and replay, time utilization tracking with downtime and operator tracking, automatic stoppage measurement, and health event recording.

Paired with Equipment Tracking, MineStar Edge Production Recording delivers premium connectivity with an accurate and automated near-real-time measurement solution that reports on every aspect of the watering cycle without requiring operator input. Giving visibility to the entire operation, it helps to discover opportunities for improving productivity. This premium package also includes water usage by truck/fill station, volume and rate of water put down over time and area covered, water delivery system setting by location, truck, and conditions, activity breakdown with time and distance – watering, not watering, stopped, etc.

Supported by Cat dealers

This integrated system with Cat-branded tank options is fully supported by the Cat dealer and parts network. Covered by the Caterpillar factory standard warranty, the water truck, including tank and components, is eligible for Cat equipment protection plans (EPP) and customer value agreements (CVAs). Cat dealer installation of the integrated system is available, and retrofit kits for existing Cat 777E truck platforms in the field have planned availability in the future. ☉





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