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Nelson Mandela University Residences and Nyanza Light Metals, two diverse projects by Grinaker-LTA, illustrate how the company utilises special methods in the field of and engineering to successfully execute projects. Grinaker-LTA is a 100% black owned multi-disciplinary engineering and construction company that has been in existence for more than 130 years.

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Afrimat has just released the Afrimat Construction Index (ACI) for the first quarter of 2022. This is a composite index of the level of activity within the building and construction sectors and is compiled by economist Dr Roelof Botha on behalf of Afrimat.

Dr Botha says that the lifting of most of the lockdown regulations resulted in a V-shaped recovery for most key sectors of the economy – including construction – during the second half of 2020. He states that since then various sectors have either recovered to pre-COVID levels or started a new phase of expansion.

The construction sector has remained subdued

The ACI did manage to (marginally) outperform the gross domestic product during the first quarter of 2022 on a year-on-year basis. However, the index has returned to its usual trend of recording a decline between year's fourth quarter and the first quarter of

the following year. It dropped 3,5%.

Of the sub-indicators of the ACI, only wholesale sales of construction and building materials recorded a positive growth in this period. Some positive indications though: compared to the first quarter of last year, the picture is considerably more positive, with four of the nine sub-indicators recording positive growth, while two others were virtually unchanged.

The ACI recorded its highest level in 2016 (14,8). Since then the country has experienced low economic growth, state capture, gross public sector incompetence and high levels of crime which have dampened construction activity.

If the first quarter of 2022 is compared to the same period in 2021, the volumes of building materials that were produced, the value of buildings completed by larger municipalities and wholesale of construction and building materials have increased. As expected, the worst performing sub-indicator of the ACI was labour. This declined by 15%.

Despite the many challenges the construction industry is faced with,

it seems that South Africa's public finances are in good shape. The public debt/GDP ratio has stabilised and various prominent credit rating agencies have acknowledge National Treasury's management of the country's fiscal affairs.

Two months left

There are two months left for you to select your standout project and enter it into our 21st Best Projects awards. These awards recognise the best civil and building projects, architects, consulting engineers and specialist suppliers and contractors. It is also one of the first awards in the country to have recognised environmentally conscious building practises.

Stay safe

Wilhelm du Plessis

Editor



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EDITOR & DEPUTY PUBLISHER
Wilhelm du Plessis constr@crowm.co.za

ADVERTISING MANAGER
Erna Oosthuizen ernao@crowm.co.za

LAYOUT & GRAPHIC ARTIST
Katlego Montsho

CIRCULATION
Karen Smith

PUBLISHER
Karen Grant

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APPOINTED AS SOUTH AFRICAN CHAIR FOR GLOBAL TECHNICAL INSTITUTE

The International Association for Bridge and Structural Engineering (IABSE) has announced that Zutari Associate Prof. Pierre van der Spuy (pictured) is its new National Group Chair for South Africa. “Having South African representation on a global technical committee is not only a singular achievement nationally, but testament to the depth of our expertise and experience,” says Zutari CEO Teddy Daka.

“I see my role as National Group chair to facilitate network building between local and global IABSE members by organising events to showcase South African projects to members globally, to promote structural engineering among our students to increase the supply of professionals to industry, and to work together with other local voluntary associations to add value to members,” comments Prof. van der Spuy. He is currently planning monthly webinars to start discussing various topics and increase engagement within the National Group.

IABSE is a global voluntary organisation based in Zurich, Switzerland with members from 90 countries. It promotes the exchange of knowledge and advances the practice of structural engineering worldwide by servicing the profession and society.

Prof. Van der Spuy is a structural engineer specialising in bridges, for which he holds a PhD, wind turbine foundations, and marine structures. He has received numerous industry awards for incrementally launched bridges and long span arch bridges. Prof. van der Spuy is an accomplished academic, with awards including the ECSA medal for the top student in the Civil Engineering faculty at Stellenbosch University over the full degree course. He won the South African Institution of Civil Engineering (SAICE) Young Engineer of the Year award in 2017.

Work from his PhD and subsequent research has been published in leading international journals and he has presented

and published widely at international conferences. Prof. van der Spuy holds a position as Adjunct Associate Professor at Stellenbosch University, where he lectures undergraduate and postgraduate modules in advanced design of concrete structures. He has presented CPD courses on wind turbine foundations and bridge design. He currently works as an Associate Bridge Engineer at Zutari in Cape Town.

Zutari’s recent bridge work includes a contract awarded by the Lesotho Highlands Development Authority (LHDA) for design and site supervision services for the Senqu Bridge, the Mabunyaneng Bridge and the Khubelu Bridge, all part of the Lesotho Highlands Water Project (LHWP) Phase II. As part of a joint venture, Zutari is also involved with the Polihali Diversion Tunnels project and the Polihali Transfer Tunnel project. ☺

“I see my role as National Group chair to facilitate network building between local and global IABSE members by organising events to showcase South African projects to members globally.”

THE EVOLUTION OF LABOUR ON DEMAND

While labour brokers have come under heavy scrutiny over the years leading to the sector being strictly regulated, this has resulted in greater protection for workers under temporary employment services. These compliance requirements have resulted in an evolution of the industry, to the point where the term 'labour broker' has become insufficient to describe the significant benefits delivered to businesses, particularly in the mining, construction, and engineering sectors. By Wayne Alcock, CEO of Quyn International Outsourcing

Now commonly known as Temporary Employment Services (TES), this business model provides access to a flexible workforce on demand, while taking care of all aspects of their employment. Here, TES providers can play a pivotal role in providing the agility necessary for financial and operational well-being of businesses in these labour-intensive fields by enabling them to tackle project work in a sustainable manner.

A complicated backstory

Historically, labour brokers have a somewhat tarnished reputation. Before legislation stepped in to lay down some rules, there wasn't much in place to regulate or protect the relationship between worker and labour broker, or between the labour broker and the outsourcing client. This changed in the early 90s when it became necessary to obtain certification to verify company status as labour brokers. Obtaining this certification required all tax compliance to be up to date and without it none of the bigger companies would even consider doing business. It was this certificate that became the ticket to operating as a labour broker, laying the foundation for further regulation in the industry. What started out as legislative measures to close the gap on tax avoidance practices opened the door to further positive labour relations developments.

Rewriting the narrative

Today, the term 'labour broker' is outdated and inaccurate. Where labour broking leans toward casual work, temporary employment services implies fixed-term (temporary) employment with all the associated benefits and protections. This previously casual industry has since been formalised by the Department of Labour, establishing bargaining councils, and putting in place benefits like workman's compensation, UIF and pension plans. Wages are negotiated with bargaining councils, which is significantly better than the minimum wage currently promulgated. Along with employment contracts and access to the CCMA for grievances, the labour force



that the temporary employment service industry utilises is now formalised and protected.

A fully managed, fully compliant workforce

While offering workers all the benefits of employment, TES providers afford their clients the flexibility of access to these workers without any of the employment obligations. The TES provider assumes all the risk and cost of labour, and is responsible for finding, vetting, hiring, training, managing, and paying suitable workers throughout the duration of the project engagement.

TES providers generally allow clients at least 30 days to pay, which has a positive effect on cash flow and business sustainability, particularly in the mining and construction industries. In addition to managing all aspects of their workforce's employment, the TES provider also takes care of all related compliance obligations - all health and safety, labour law and tax worries are no longer a concern for the client company. Freed from the significant burden that comes with hiring labour for a specific project, companies in the mining and construction sector will appreciate the agility that comes from using a reputable temporary employment services company. ☺

“Historically, labour brokers have a somewhat tarnished reputation. Before legislation stepped in to lay down some rules, there wasn't much in place to regulate or protect the relationship between worker and labour broker.”



National winner Mpho Sephelane (UCT) and Corobrik Chairman, Peter du Trevou.

WINNER OF 35TH COROBRIK STUDENT ARCHITECTURE AWARDS ANNOUNCED

The winner of the 2021 Corobrik Student Architecture Awards was announced on Wednesday 8 June at a special event at the Radisson RED in Rosebank, Johannesburg. The 35th national awards ceremony was unique in that all seven regional winners and the heads of school from their respective universities, together with leaders from the architectural fraternity, were in attendance in person for the first time since the COVID-19 pandemic.

The event was livestreamed on Corobrik's Facebook page and YouTube channel, with Corobrik CEO Nick Booth welcoming all and highlighting that the leading clay brick and paving manufacturer "has been investing in the architects of the future for the last 35 years and will continue to do so." Corobrik Chairman Peter du Trevou added that the awards were a personal highlight for him to attend and congratulate the finalists and hand out the grand prize to the worthy recipient.

Master of Ceremonies Elana Afrika-Bredenkamp opened proceedings by stating it was an honour to be part of "one of the biggest architectural awards programmes in the country let alone the world, with our universities representing South Africa on an international stage."

The 2021 national winner, announced live, was Mpho Sephelane from the School of Architecture at the University of Cape Town, who received a R70 000 cash prize. A special prize for the best use of clay face brick in a project was awarded to Wian Jordaan from the Department of Architecture at the

University of Pretoria. An overwhelming four of the seven regional winners used face brick in their projects, including Mpho. However, this is not a criterion to clinch the overall prize.

The thesis by Mpho was entitled 'Re[covering] Place: African ways of seeing, thinking and making as a call to rethink and remake places in cities'. The judges' citation stated that Mpho "shifted our mindsets to trust our heritage to guide us and to be truly authentic. She narrated the use of the Basotho blanket as a transformative and imaginative symbol of identity and relevance."

"The opportunity afforded to me has validated a lot of what my fellow students, especially people who connect with their culture, have been struggling with, and that is the issue of translating who they are and what their culture entails and the values they bring to their everyday lives and professions," said Mpho. "The journey is really a beginning for me as I am excited to continue to collaborate and learn from other cultures about such ideas of translation and preservation."

The seven regional winners presented their theses to an esteemed panel of judges in a Johannesburg studio during May, from where the final winner was selected. The judges were Ludwig Hansen from Ludwig Hansen Architects + Urban Designers, Rahdia Parker from Archi Cape Town, and Adwoa Agyei, Director: Physical Development Services at the City of Tshwane. "I can only agree with the sentiment that we as judges were impressed by the quality of the submissions. There are actually seven winners here. It has been an honour from our side to be part of the awards," said Ludwig.

Adwoa concurred and said the process for the judges had proven "challenging, real, and relevant and it was exciting to see your potential as architects. The work was incredible, beautiful, and communicated really well what you were each trying to get across."

Rahdia added that the presentations "created interesting conversations. It is something immensely profound to have come through six years of study and now we are selecting seven of the top performing students from institutions all over South Africa and bringing that together for all to share and to contribute to the collective learning of the profession."

Guest speaker Cliff Gouws, a senior architect and urban designer at Boogertman + Partners, was national winner in 2011 and told guests and finalists there was a definite improvement in the quality of the work being presented every year. "This is because the students have better access to information and guidance, so the universities can be very proud as to what all of these finalists present in terms of good architecture."

Cliff added a note of thanks to Corobrik for hosting such a prestigious event that upheld a high standard that everyone

in the industry could look up to. "What Corobrik is doing for the architectural fraternity is fantastic. The quality of South African architecture is better than what we realise. We have phenomenal architectural practices that do phenomenal work. Our student work competes at an international level."

Nick paid tribute to the hard work of the judges and pointed out that Corobrik has no input into the judging process or how the final winner is determined. "Our three esteemed judges have applied their minds at a level of detail that was truly exceptional. It is this consideration that has made these awards so successful over the years. It is largely due to the fact that it is not company driven but is driven by the architectural fraternity itself.

These awards are important to the architectural profession, the building industry, and the participating universities as they encourage creativity and innovative approaches to architecture.

"They bring a sustainability to the profession because what we are doing is ensuring that the future of the built environment is in good ethical hands. That is an outstanding vision for your profession. We are immensely proud of the ongoing success of our past finalists and winners. They are scattered across the globe, are all working in major firms, and have been highly successful in their careers," said Nick.

"We are proud of our overall contribution to the architectural profession," concluded Nick. Apart from the Corobrik Student Architecture Awards, the company is involved with a number of regional architectural associations through the South African Institute of Architects, of which it has been a patron for the past 40 years. ©

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CABINET ENDORSES BONGANI DLADLA AS CEO OF CONSTRUCTION INDUSTRY REGULATOR

The Construction Industry Development Board (cidb) is pleased to announce the confirmation of Bongani Dladla as its new Chief Executive Officer, effective 1 June 2022.

Sustainable Development at the University of Cambridge in the United Kingdom.

“In his career as a civil engineer, Dladla has dedicated himself to the construction industry, learning the construction business from the ground up. A recognized leader, his broad experience in managing complex programmes, Public Sector procurement and Digital Innovation are some of the qualities that made it clear to the Board that he fulfills the profile required for the CEO of the cidb.

In his tenure as acting CEO, we have all come to appreciate his dedication to creating an environment of accountability, transparency, and consensus-building. We are sure that he will continue to lead by example and ensure that our clients and contractors are given the tools they need to succeed,” said cidb Board Chairman Khulile Nzo.

At 32 years old, Dladla brings energy and dynamic leadership to the cidb, which bodes well for transformation and development. ☺

Dladla has been serving as acting CEO at the cidb since the passing away of Cyril Gamede in August last year. He is now tasked with guiding the organisation in its mission to drive enhanced delivery management, capacity improvement, and contractor development in the construction industry – this through strategic interventions and partnerships.

Appointed as the cidb’s Chief Operating Officer at the beginning of 2021, Mr. Dladla has played a dual role since 1 August of the same year. During his tenure, he oversaw the operational Implementation Plan for the core industry developmental initiative, B.U.I.L.D.

After graduating from the University of KwaZulu-Natal with a Bachelor of Science in Engineering: Civil Engineering (cum laude), Dladla went on to obtain his Master of Philosophy (MPhil) in Engineering for

“In his tenure as acting CEO, we have all come to appreciate his dedication to creating an environment of accountability, transparency, and consensus-building.”



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MBA NORTH AUDITS 69 PROJECTS TO THE VALUE OF R8,8BN IN 4 PROVINCES

The 2022 Master Builders Association (MBA) North Regional Safety Competition is currently in full swing. This initiative has been running for 40 years – a mark of the important role it plays in what is recognised as one of the most dangerous industries, says Gerhard Roets, Construction Health & Safety Manager at MBA North.



The annual competition provides construction companies in Gauteng, Mpumalanga, Limpopo and North-West Provinces the opportunity to benchmark their health and safety management systems and implementation against their peers.

“The Regional Safety Competition generates keen interest from our members because safety is an area that we all know needs attention in our industry,” he says. “As we learn to live with COVID-19 and construction activity starts to pick up, we cannot lose focus on this important aspect of our work.”

The Competition is sponsored by the Federated Employers Mutual Assurance (FEM) and is free to MBA members and FEM policy holders. FEM covers more than 300 000 workers in the construction industry and according to the statistics reported by FEM in 2021, there was a total of 6 423 accidents across South Africa, of which 56 were deaths, 699 accidents which resulted in disabilities without pension and 5 were granted pensions.

Entries for this year’s competition closed on 10 May 2022. Entries were received from 59 contractors and 10 sub-contractors, representing a total project value of more than R8,8bn. The majority of projects entered into the competition fell into the value range of R40m-R250m, and 33 audits have already been successfully completed.

The Lead Audit team will now be visiting outlying towns such as Emalahleni, Middelburg, Nelspruit, Secunda, Mahikeng, Rustenburg, Polokwane, Randfontein and Nigel. The team consists of MBA North Construction Health and Safety officers Manie van As, Mbuya Ramabulana and Gerhard Roets. The judging process is based on the MBSA Occupational Health & Safety Audit System.

This year, the competition attracted 69 entries, up 9 from 60 in 2021. New entrants included Concor Construction, 3 Dot Construction & Development, H Kampman, VIVA Projects JHB, JC Van Der Linde & Venter Projects, Reinforcing Mesh Solutions, Alt Ener Pro, Basonani Projects, Formacon, Bri-Rebar and Tate and Nicholson.


Aside from projects, MBA North also calls for nominations for Best Performing SHE Representative, OHS Officer, OHS Manager, Construction Manager and Client’s H&S Agent during this competition.

“This is an important event for our industry and MBA North thanks all those who participated this year. We encourage more construction companies to enter in 2023,” says Roets. “Benchmarking is one of the best ways to monitor your performance and, critically, to position yourself to win future contracts.”


The competition results will be submitted to Master Builders South Africa (MBSA) by 30th June 2022 and will be published in the South African Builder Magazine’s July edition. Category winners will be automatically entered into the MBSA National Safety Competition.

The Safety Awards Ceremony is scheduled for 18 August 2022. ©

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CONSTRUCTION INDUSTRY LEADERSHIP DEVELOPMENT INITIATIVE LAUNCHED



A leadership development initiative has been launched for middle to senior managers, executives and entrepreneurs in the construction industry.

The opportunity to participate in the programme is being made available by the workmen's compensation provider, The Federated Employers Mutual Assurance Company (FEM). FEM has over 6 600 policyholders covering over 300 000 employees in the construction industry.

Through the FEM Education Foundation (FEMEF), successful applicants will engage in a 12-month immersive leadership experience in which they work with school principals serving under-resourced communities.

The opportunity is available to up to 300 selected business leaders who are entrepreneurs, middle to senior manager or executives and who would otherwise not be able to afford the programme, with 100 places per year over the next three years. "The aim is to impact positively on the participants, the schools and ultimately the economy," says FEM CEO, Ndivhuwo Manyonga.

"FEMEF has partnered with Citizen Leader Lab, formerly Symphonia for South Africa and their Partners for Possibility (PfP) initiative, to offer FEM policyholders this special opportunity for a full-funded place on the programme. Through PfP's leadership development programme, FEM policy holders will have the opportunity to impact education in South Africa, while developing their own leadership skills," adds CEO of Symphonia for South Africa, Komala Pillay (pictured).

Business leader applicants must have at least 5-years of management experience and should ideally be at the middle to senior management or executive level, Entrepreneurs may also apply for the opportunity.

Founded in 2010, PfP pairs school principals with business leaders in a 12-month collaborative and practical leadership journey. Through this process, school principals become empowered to embed their schools at the centre of their communities and to improve the quality of education being offered to youth. Business leaders in turn are able to develop their leadership skills through hands-on experience in a complex environment very different from their day-to-day working life.

PfP will identify the school principal who will work with the nominated FEM policy holder. The policy holder may nominate a school of their choice should they so wish. "The PfP programme features the key elements of professional coaching, best-in-class training workshops, practical leadership development exposure to a marginalised South African community and regular learning and networking opportunities for school principals and business leaders," says Pillay

"Over the past decade, PfP has empowered over 3 200 school principals and business leaders nationwide, and is globally considered to be a best-practice example of 21st

century leadership development," Pillay explains. "The quality of education our children receive, and the sustainability of the economy are inextricably linked. Small and medium sized businesses, as well as large corporations, are the lifeblood of our economy and rely on a well-educated workforce to drive economic growth," she says.

"To achieve this, school principals are vital in terms of ensuring that schools are environments of quality teaching and learning, as they nurture and equip the future workforce of South Africa. We believe that it is imperative that these two sectors come together to make an impact in education and ultimately our economy," says Pillay.

One of the participants in the Partners for Possibility programme, Grant Kelly, a Financial Services Executive, says, "The PfP programme is an amazing leadership development opportunity with the potential to create a new level of social consciousness amongst our corporate leaders in SA. It offers an incredible sense of optimism to business leaders through the exposure to the talent, energy, goodwill and commitment across our society. Through PfP I got to meet an amazing community of committed South Africans whom otherwise I would not have had the opportunity to meet."

"I learnt a great deal through the formal PfP training workshops, as well as the more informal engagement sessions. The programme provides an incredible opportunity to experience the difference between 'Management' and 'Leadership' first-hand. For me, it really created the awareness that 'leadership' does not require rank, title or authority but is fundamentally a practice of service with humility and courage.

"My PfP experience clearly highlighted the duality of the South African experience and exposed me to the incredible 'latent' talent that is spread across our society, especially from some of the students who have got so little support (financial and, in many cases, emotional) and inspired me to try and be a catalyst to creating a more inclusive society, where those talents can be fulfilled," Kelly says.

"Creating a heightened level of social consciousness among business partners while providing support (emotional, financial and technical) to principal partners really is a very powerful experience. My principal and his team were absolutely capable of solving their school's challenges, but PfP created the framework that gave us the space to engage, discuss and collaborate on what we wanted to achieve and how best to achieve it.

"The power of collaboration, engagement and collective participation was clear. I have taken this approach in my daily life, both at work and at home, with the quality of the outcomes increasingly reflecting the power of "the collective." "The PfP programme epitomises the benefits of collaboration between the public and private sectors, creating a programme that benefits both parties for the ultimate good of future generations and our society," Kelly concludes. ©

FROM HERDING CATTLE TO CHIEF QUANTITY SURVEYOR OF GVK SIYA-ZAMA



“You will always become what you are meant to be if you put in the hard work.” These are the words of Mthokozisi Maduna who was recently appointed Chief Quantity Surveyor of GVK-Siya Zama. It’s a leadership role to which he brings his inspirational personality, charisma and pragmatic approach to business and life.

Maduna’s journey to becoming Chief Quantity Surveyor is underpinned by dogged perseverance and self-improvement to overcome many obstacles in his way, including limited resources available to him when growing up, difficulty in speaking English after matriculating and a lack of finances to further his studies.

Now – at the age of 37 and with 14 years of construction experience under his belt – he’s one of the leading quantity surveyors at GVK-Siya Zama where he handles several multimillion-rand projects.

Raised in the small town of Hlabisa in northern KwaZulu-Natal, his formative years were spent herding cattle in this rural town. When he completed school, he knew that he wanted to study engineering, but he lost his chance of obtaining funding during a bursary interview because he was unable to articulate himself properly. He returned to his hometown to herd cattle and grappled to come to terms with failing an interview that could have changed his life.

“It bothered me that I had lost a possible life-changing opportunity. I would herd cattle with my little radio and my German Shepherd dog for company. Sometimes I’d even herd the neighbour’s cattle and continued to question where I had gone wrong, what I could have done better and what steps I could take to improve,” says Maduna.

One day he heard a presenter on East Coast Radio explain how human beings complicate their lives by thinking they are scientifically astute but are unable to communicate an ideology with another human being. “So, the first interface that we need to bridge is to be able to communicate. Communication is always about effectiveness because if we can’t communicate with one another, we can’t achieve anything. That’s when I started forcing myself to read and listen to more English to improve my articulation,” he explains.

This changed everything as he upskilled

himself and pushed forward with his dream to study and succeed in whatever career path opened for him.

His hard work led him to GVK-Siya Zama in 2012 where he was appointed to a junior position, quickly progressing in the company, and leading to him being given responsibility for some of the largest projects the company was building at the time.

“For me, GVK has been excellent in supporting me and my aspirations. I’m a process-driven person and the company has enabled me to grow. By its very nature, the job that I do offers some independence, which means it has been up to me to explore my potential to the fullest and take responsibility for what I’ve been given as a leader by the company,” notes Maduna.

He says the best part of working for GVK is delivering well-built profitable projects. “I enjoy achieving targets and knowing that a project will be delivered efficiently and with the highest calibre of workmanship while making a profit for the company. We’ve seen tremendous growth not only in the region where I work but also nationally. The key for us remains simplicity, doing the simple things in the best way possible and simplifying processes,” he adds.

Looking to the future, Maduna hopes to see more eager and talented youth join the ranks of GVK-Siya Zama and hear more stories of people breaking boundaries and overcoming challenges in pursuit of their dreams.

“You’re not going to have more than three real chances to drastically change your life, so you have to make sure that out of the three, you choose the best one and are ready for when it arrives. Stick to it and trust the process. You need to take it by the scruff of the neck, fight for it, push the boundaries, and embrace the pain. You are the only master of your destiny, and your future, success and dreams are in your own hands,” concludes Maduna. ☺

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2022 TWENTY-FIRST BEST PROJECTS CALL FOR ENTRIES



Construction World's Best Projects showcases excellence in the South African building, civil engineering, supply and project management sectors. In its 21st year, the aim of *Construction World's* Best Projects is to recognise projects across the entire construction industry: from civil and building projects to professional services to specialist suppliers and contractors.

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

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

JUDGING

A panel of independent judges from the construction industry has been appointed. These judges represent ECSA, SAICE, MBA, CIOB and Architecture.

Each criterion set out for the various categories, will be scored out of 10 – with 10 being the highest score and one being the lowest. It is therefore **VERY IMPORTANT** that the entry address the criteria for the particular category it is entering.

If a criterion is not answered, it will be awarded a medium of five points.

In each category a 'Winner' is announced as well as a 'Highly Commended Award'. A 'Special Mention Award' may be given.

SPECIAL ISSUE

The December issue of *Construction World* is dedicated to the various winners and entries and is an overview of activity in the entire built industry during the past year.

Contact Erna Oosthuizen, the advertising manager, if you wish to advertise in this issue. Advertising here will associate your brand with excellence.

How to submit entries

- Each entry must be accompanied by the **completed entry form**, available from www.constructionworldmagazine.co.za or by requesting it from constr@crown.co.za.
- The maximum length for submissions is **2 000 words**.
- Each submission must clearly state which **category** is entered.
- **IMPORTANT** It is to the entrant's own advantage to address **ALL THE CRITERIA** as set out in the category being entered. If the criterion falls outside the scope of the contract, please state this. It is advantageous to use the criterion as subheader and then to address this directly.
- The written submission must be accompanied by up to **six high resolution** photographs with applicable captions.
- The photographs and copy must be submitted separately. The photographs must be .jpgs and the copy in Word (not PDF format).
- The submission must also contain a **summary of important project information** such as the client, main contractor etc. – i.e. the professional team involved in the project.
- **Electronic submissions only.**

Prerequisites for entry

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

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

Awards evening

Information about the format/venue and date of the awards evening will be available in July when there is more clarity with the situation around COVID-19.

Entry form available on

www.constructionworldmagazine.co.za
or by requesting it from constr@crown.co.za

Contact

For more information contact the editor,
Wilhelm du Plessis, on 011 622 4770 or constr@crown.co.za



1 *Category* **Civil Engineering Contractors**

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

3 *Category* **Civil Engineering and Building Contractors (outside South Africa)**

- In addition to the common prerequisites, projects outside South Africa must be executed by a **South African** contractor.

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

5 *Category* **Consulting Engineers**

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

7 *Category* **The AfriSam Innovation Award for Sustainable Construction**

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

2 *Category* **Building Contractors**

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

4 *Category* **Specialist Contractors or Suppliers**

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

6 *Category* **Architects**

Please address the following criteria:

- Construction innovation technology
- Corporate Social Investment
- Design innovation
- Environmental Impact Consideration
- Health & Safety
- Quantifiable time, cost and quality
- Risk management
- Motivation facts about the project

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Construction WORLD



MORE SUSTAINABLE PRACTICES NEEDED IN CONSTRUCTION INDUSTRY

Improving the sustainability of activities in the construction industry is key to mitigating the negative impact of the industry on the environment. But for this to happen, industry stakeholders should be more enthusiastic about adopting and implementing sustainable practices in their projects.



This is according to researchers in the Department of Industrial Engineering at Stellenbosch University. Ralmar Marsh and Profs Alan Brent and Imke de Kock conducted a study about the barriers to and drivers of sustainable construction practices by construction industry stakeholders. They asked industry professionals to complete questionnaires about the need to improve their capability, opportunity, and motivation to facilitate the adoption of sustainable construction practices.

The findings of their study were published recently in the *Journal of the South African Institution of Civil Engineering*.

The researchers say there is a need to change the current behaviour of stakeholders in the construction industry to ensure the sustainability of the industry by adopting sustainable alternatives throughout the life cycle of construction projects.

“The construction industry is in a unique position to create value by improving the quality of life of society and thereby positively contributing to sustainable development. In order to improve the adoption and implementation of sustainable practices within the construction industry, the change in stakeholders’ behaviour and the processes that support this change need to be considered.”

According to the researchers, the survey results indicated that motivation plays a role in determining the likelihood of participants engaging with sustainable construction.

“Participants felt that stakeholders in the construction industry need to change their current behaviour and adopt sustainable alternatives to design and construction methods and processes.

“They indicated that sustainable construction was beneficial to the development of their careers, and that it could have a positive long-term impact on the economy, the environment, and society.

“Participants also agreed that they would adopt sustainable construction if they had the skills to do so. They had strong intentions to develop their knowledge of and skills regarding sustainable construction and encourage the education and training thereof.

“They also wanted government to support and encourage

sustainable construction through incentives, tax relief, subsidies and access to funding for projects that incorporate sustainable principles and practices.”

The researchers point out that the major barriers to and drivers of sustainable construction practices include awareness and knowledge of and information about sustainable construction; interest in it and demand for its adoption; the availability of training and access to education on social construction; behavioural change towards it; industry peer influences; confidence in its implementation; economic factors; perceptions of it; and social benefits of adopting social construction.

Recommendations

In their study, the researchers also make a few recommendations that could help facilitate the adoption and implementation of sustainable construction.

“Organisations should provide stakeholders with access to education, training, and upskilling through continuing professional development courses to improve their awareness, knowledge and skills, influence their behaviour, and boost their confidence in implementing sustainable construction practices. Sustainable development strategies and internal policies should be developed to further enhance the organisation’s offering within the industry.

“Furthermore, policies and legislation which govern the adoption and implementation of social construction should be developed and regulated by government to emphasise the need to change the current trajectory of the construction industry.

“Financial and market-based incentives will further encourage organisations to adopt best practices within the industry in relation to sustainable construction.”

The researchers say tertiary institutions also have a role to play in achieving the goals of sustainable development within the construction industry. “Integrating sustainability as part of the undergraduate curriculum and postgraduate studies in higher education is necessary to promote sustainable development in the built environment.

“This will ensure that graduates are aware of their ethical and social responsibility towards the environment and the welfare of society.” ☺

Source: Marsh RJ, Brent AC, De Kock IH, 2021.

“Understanding the barriers and drivers of sustainable construction adoption and implementation in South Africa: A quantitative study using the Theoretical Domains Framework and COM-B model.” *Journal of the South African Institution of Civil Engineering*.



WIND ENERGY INDUSTRY REAFFIRMS COMMITMENT TO ENERGY SECURITY

As the country bears the weight of continued load shedding, the South African Wind Energy Association (SAWEA) has reaffirmed the sector's role in delivering energy security. This is despite the recent announcement of delays of two renewable energy procurement rounds meant to unlock and deliver new generation capacity.

scale of these mega-projects, valued each on average over R1,5bn investment, require a slew of work to bring them to commercial closure. Commercial close is when the project agreements are signed, which is basically the achievement of the necessary power purchase agreement to sell electricity with Eskom and the implementation agreement with Government, which determines how Independent Power Producers (IPPs) will implement their projects and what economic development goals will be achieved.

“We are dealing with billion Rand projects that require in excess of 60 applications, licences, permit agreements, regulatory compliance processes, which demonstrates the importance of cross-sector stakeholder relations and supportive policies,” added Govender.

Citing the recent procurement round delay from end-April, the Association has pointed out that the failure to secure final budget quotes from Eskom for grid connection, shouldn't be singled out as the only reason for postponements. It is suggested that a six to twelve month timeframe may be more realistic to navigate the cumbersome processes.

“I estimate around 12 months is a more realistic timeframe, which should be incorporated into the procurement process to reduce the public perception of delays, in addition to increased stakeholder engagement to resolve this,” reiterated Govender.

When asked about the comments made by the African Independent Power Producers Association Chairperson, SAWEA, has stated that it prefers to engage key stakeholders directly and work through the challenges in a constructive manner.

“South Africa can address fundamental challenges of energy access, energy security and climate change through the deployment of renewable energy. For this to happen, it is best that all stakeholders move towards working better together to achieve this,” concluded Govender. ☺

Responding to a recent statement issued by the head of South Africa's Independent Power Producer Office (IPPO), Bernard Magoro, the Association says it is encouraged by the leadership demonstrated and the sentiments of stakeholder alignment. SAWEA has been lobbying for increased stakeholder engagement and alignment, as it is the key to establishing the foundation for accelerated procurement and unblocking hurdles.

“We continue to build relationships with the key stakeholders including the IPPO, Eskom, Department of Trade Industry and Competition (DTIC) and Department of Mineral Resources and Energy (DMRE) and are assured that the stakeholders are having the right conversations to support the procurement process with the aim of more megawatts on the grid as quickly as possible,” said Niveshen Govender, CEO of SAWEA (pictured).

The South African wind power sector is robust and has the appetite, ability and capacity to deliver (at least) 1.6GW of new power generation per year, for the next decade. This has been demonstrated by exceedingly high levels of bid submissions for BW5 and reaffirmed by Magoro this week, who stated his confidence in the market appetite for the Renewable Energy Independent Power Producer Procurement Programme's BW6.

He noted that more than 50 potential bidders have acquired the bid documentation, and furthermore that the National Treasury has confirmed that the programme will continue to be granted government guarantee.

The Association points out that the sheer

“We are dealing with billion Rand projects that require in excess of 60 applications, licences, permit agreements, regulatory compliance processes.”



FLUXMANS SIGNS WITH GROWTHPOINT FOR ILLOVO CORNER OFFICES

Leading South African law firm Fluxmans has signed a long lease with Growthpoint Properties for a 4 600 m² office in Illovo Corner, Illovo Boulevard, Johannesburg.

Illovo Corner is a beautifully landscaped office park with three three-storey office buildings. Fluxmans intend to relocate from Rosebank and occupy an entire newly refurbished building in Illovo Corner, which has a 4 Green Star rating from Green Building Council South Africa and is well suited to its business needs.

“We are looking forward to our upcoming move to Illovo Corner which offers us all we need and more to continue to successfully service our valued clients,” says Ira Epstein, joint CEO of Fluxmans.

“Fluxmans considered numerous options for its new offices, and we are thrilled that this leading law firm ultimately selected Illovo Corner. It has been a pleasure working with their team to meet their rigorous requirements for their offices in a transaction that took around two years to finalise. Fluxmans is a new tenant for Growthpoint, and we believe they will be a great addition to our office park and the entire Illovo Boulevard,” reports Paul Kollenberg, Growthpoint Head of Asset Management: Office.

“Fluxmans are extremely excited about these new premises and appreciate the honesty, openness and fairness displayed by Growthpoint during our negotiations,” notes Colin Strime, joint CEO of Fluxmans.

Fluxmans have occupied premises in Rosebank for the last 30 years, having identified the growth potential from Rosebank to Sandton it identified Fricker Road as the commercial epicentre and as the correct location to add value to and to in turn benefit from this growth. Fluxmans are looking forward to their new premises and the benefits they, their employees and clients will derive from these modern and environmentally friendly offices with an urban feel. Strime and Epstein feel that Fricker Road is a perfect location for clients and addresses all the current and future needs in growth for Fluxmans. Kollenberg notes that the

Illovo Boulevard office node took a big knock during the COVID-19 lockdowns, but is seeing a rapid resurgence.

According to SAPOA, Illovo had the highest office vacancy percentage in 2021. However, this year alone, Growthpoint has signed some 6 500 m² of space in this prestigious business node, and it has a further 3 000 m² under negotiation.

“Part of Illovo’s appeal is its surrounding residential suburbs, which make it well suited for people who want to work close to home. It is characterised by low-rise buildings in park-like environments and is walkable and near many amenities. This all adds to an enjoyable workplace experience,” he explains.

Illovo Corner is on Fricker Road, the central spine of Illovo Boulevard, known for its friendly pedestrianised piazzas, vibrant café culture and amenity-rich environment. The neighbourhood is a business, shopping and dining hub and one of the city’s health and fitness hotspots. Nearby amenities include The Wanderers Club with its 13 different sporting sections, The Wanderers Golf Club, Thrupps Illovo Centre, gyms, medical and wellness facilities, schools, and the Gordon Institute of Business.

The vibrant area is well placed between South Africa’s financial capital, Sandton Central, and the business district of Rosebank, and it benefits from an active city improvement district (CID). It enjoys easy access to major transport routes and public transport, and it is mere minutes away from the Rosebank Gautrain Station by Gautrain Bus.

Fluxmans’ new office building in Illovo Corner, which will proudly carry the Fluxmans branding, will also provide it with around-the-clock security, surface and basement parking, emergency backup water, full-on load generators and fast fibre connectivity. ©

ATTACQ APPOINTS TWO NEW EXECUTIVES

Attacq Limited (Attacq), the JSE-listed REIT and developers of the iconic Waterfall City precinct, announced the appointment of David Oosthuizen (left) as Development Executive and Lourens du Toit (right) as Head of Sustainability, Infrastructure and Land. Both new appointments are as a result of internal promotions, an indication of the strength of the talent pipeline that has been built.

Jackie van Niekerk, Attacq CEO, says, "Attacq has promoted two individuals who embody the characteristics, qualifications, and skills needed to carry out our broader corporate strategy. Promoting from within has allowed us to develop and retain core competencies. David and Lourens have an excellent understanding of the organisation, its history and core values and we are excited to see both thrive in their new positions."



Development Executive

Oosthuizen will oversee all of Attacq's developments within the Attacq portfolio, from inception to the delivery of a completed asset. In addition, the Development Executive will lead an internal development team and manage relationships with key stakeholders to achieve Attacq's strategic objective in terms of new developments.

Oosthuizen has over 15 years of experience, the last five of which have been with Attacq. Formerly, the Senior Property Manager in the Development division at Attacq, Oosthuizen was responsible for the sourcing, deal structuring, and overseeing the delivery of new logistics and warehousing developments at Waterfall City and was instrumental in delivering the Vantage Data Centre deal to the logistics portfolio.

David Oosthuizen, Attacq Development Executive, says, "I am excited to step into my new role and play an integral part in aligning Attacq's development goals to the broader Attacq business strategy."

Head of Sustainability, Infrastructure and Land

Lourens du Toit will assume responsibility for Attacq's land portfolio optimisations, formulating bulk infrastructure projects whilst

concentrating on the impact to the environment. One of the key focus areas of the role is driving innovations in resource efficiencies, sustainability and green development to create smart and innovative cities through urban design strategies.

Du Toit holds over ten years of industry experience, the last four of which have been with Attacq. Du Toit formerly led all activities from master planning to roll out and delivery of sustainable, modern and smart bulk infrastructure and associated services to Waterfall City.

In addition, he delivered strategic projects and initiatives that focus on securing sustainable, renewable and resilient energy and continuous water supply to the development.

Lourens Du Toit, Attacq Head of Sustainability, Infrastructure and Land, says, "Assuming this exciting new role and being able to lead the

internal Sustainability and Urban Design teams, will allow for further support in aligning Attacq's strategic objectives within the portfolio."

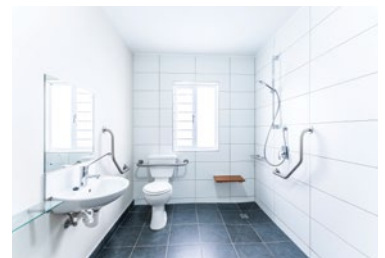
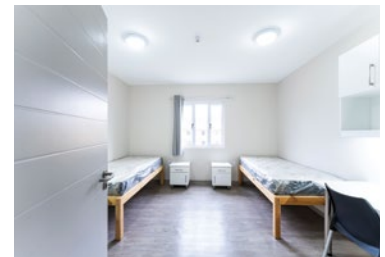
Succession planning is crucial and promoting from within has allowed Attacq to reward top talent and retain the skills needed for their leadership teams.

In addition, these new senior appointments will assist Attacq in moving the organisation's mission forward.

Jackie van Niekerk, Attacq CEO, concludes, "Thanks to experience in the business, David and Lourens are well positioned to address Attacq's key priorities: including a precinct focused South African portfolio that offers sustainable community spaces in established nodes, and drive business diversification through integrating ESG, business innovation and technology." ©

"Succession planning is crucial and promoting from within has allowed Attacq to reward top talent and retain the skills needed for their leadership teams."

Nelson Mandela University Residences and Nyanza Light Metals, two diverse projects by Grinaker-LTA, illustrate how the company utilises special methods in the field of construction and engineering to successfully execute projects. Grinaker-LTA is a 100% black-owned multi-disciplinary engineering and construction company that has been in existence for more than 130 years. It has undertaken some of the most complex projects seen in Southern Africa. The company participates at all stages of the construction and engineering value chain and has the kind of expertise that enables innovative delivery throughout the construction and engineering value chain.



NELSON MANDELA UNIVERSITY RESIDENCE

The 1 800-bed student residence design and construct project was awarded to Grinaker-LTA in July 2019. This project was split into three phases: Phase 1A, Phase 1B and Phase 3 which will be completed in October 2022.

These project phases were split in two separate erven, Phase 1A & B were one erf while Phase 3 was on a separate erf. The construction of Phase 1A, followed by Phase 1B commenced in September 2019 while the construction of Phase 3 commenced in September 2020.

Grinaker-LTA is proud to have undertaken this Design & Construction project in support of the government's initiative to reduce the continued demand for student accommodation through using an innovative building technique called the Peri Uno system, also known as the monolithic concrete system. Although this method is extensively used around the world, Grinaker-LTA is the first to use it in South Africa, specifically on this size project. With the Peri Uno system walls and columns, slabs, and beams as well as stairways are shuttered simultaneously and concreted using the monolithic construction method.

The Peri Uno system proved itself to be cost effective as it utilises lightweight elements, ingenious technology, very few

accessory components and reusable anchors. The ingenious transition between wall and slab formwork as well as the Drophead allowed early striking. This maximised efficiencies and allowed mass production of items which evidently capitalised on the economies of scale.

Among the basic components of construction, the scope of work included the installation of a two-piped system to allow non-potable water to be used in the toilets as well as the installation of photovoltaic panels on the roof to contribute towards the production of green energy.

Overall, the project team had to continuously improve its production rates and adapt the best practices to maximise efficiencies by creating the next work area ahead of time, hence allowing the team to erect all wall reinforcements and install first-fix services prior to commencing with the wall formwork. This culminated in achieving a three to four day cycle duration, depending on the actual unit constructed.

The cycle can be described as follows:

- **Day One:** Wall reinforcement erected, and first fix services fixed to reinforcement of Unit 2.
- **Day Two:** Continue to erect wall and deck/roof

slab panels.

Commence with installation of deck/roof slab reinforcement.

- **Day Three:** Install deck/roof slab 1st fix services.

Install window and door reveal closure panels
Perform quality checks and necessary inspections.

Ready for Concrete early afternoon.

- **Day Four:** Cast walls and deck/roof slab early morning and powerfloat concrete slab.
This cycle then repeats itself the next working day for the next Unit.

SOME OF THE BENEFITS OF THIS SYSTEM ARE:

- Minimal wastage
- Reduced construction manhours resulting in reduced labour costs
- Fast turnaround times allowing a 108 m² 4-bedroom unit structure to be constructed in four days
- Improved quality
- Ability to mass produce elements such as windows and doors due to the dimensional accuracy of the structure
- Early access for finishing trades

NYANZA LIGHT METALS

Grinaker-LTA was commissioned by Richards Bay Industrial Development Zone Company SOC Ltd (RIBDZ) to design and construct the top structure for Nyanza Light Metals' Product Development and Testing Centre in Richards Bay, South Africa.

Nyanza Light Metals is a chemical manufacturing company that will produce over 80 000 tons of titanium dioxide pigment per annum. Titanium dioxide pigment is widely used in the manufacturing of products such as paint, industrial coatings, plastic, paper, ink, food, and medicine as well as toothpaste.

The Product Testing and Development Centre will also be used to train the technical teams for the main operation. It will up-skill recently qualified personnel and re-skill individuals, as a commitment towards skills development.

This contract was a turnkey project. It had to promote uniformity and standardisation towards the contract participation goal (CPG content). As a result, 30% of the subcontracting had to be performed by unskilled labourers from the community. This proved to be a challenge as most of the local subcontractors who qualified under the criteria set out in the contract did not have adequate skills to carry out some of the work on-site. However, Grinaker-LTA assisted in transferring and developing the critical skills that subcontractors needed for this project which ultimately will impact the Richards Bay local economic structure.

Grinaker-LTA was required to construct the process development plant, office building and a

laboratory that has R&D capability features for the design engineers and technical teams to develop plant designs further. These designs involve the use of highveld slag as opposed to conventional ilmenite slag.

The office building comprises of a ground floor and first floor. The ground floor consists of a reception area, offices, toilets and a laboratory, while the first floor consists of an open office area, private offices, a boardroom, two conference rooms, a kitchen and toilets. The office building also has two storeys, with a terrace area for entertainment purposes and for the staff to enjoy lunch, a canteen, a change-room and a workshop for engineering maintenance.

The workshop has a clad and structural steel structure and is fitted with a one-ton overhead crane that can travel the length of the workshop area. The process building comprises a 40 x 25 m clad structural steel structure with a three-ton overhead crane travelling the length of the building. The entire building perimeter has a bundled

concrete upstand and the floors slope to the center of the building to a drain that runs into a 10 m³ sump. There is also a 200 m³ bunded area located next to the process building that will house the following vessels: 2 x 24 m³ sulphuric acid, 2 x 24 m³ caustic soda and 2 x 24 m³ neutralised process liquids.

The roof has fixed ventilation ridge openings and the control has a concrete roof that will serve as a viewing platform.

The building also includes the following:

- Security houses for light and heavy vehicle entrances.
- Sub-station, generator and bin wash area.
- Passenger light vehicle entrance with parking.
- Heavy duty roadway and entrance, with two separate weighbridges.

Grinaker-LTA is delighted to be a part of this distinctive project, as this project will augment Richards Bay's position as the titanium and minerals beneficiation capital of the African continent.



Corporate Office: 011 923 5000 KZN Regional Office: 031 705 4502
EC Regional Office: 041 365 4565 www.grinaker-lta.com info@grinaker-lta.co.za



Concor constructed the Kangnas Wind Farm in a sensitive desert environment.

CONCOR AT THE FOREFRONT OF GREEN CONSTRUCTION

When it comes to care for the environment, there can be few contractors around with the track record of Concor, which has shown its commitment to ‘green’ construction on literally scores of building, construction and civil engineering projects, some of which have won top industry awards.

“Our excellent track record is not a matter of chance,” says Bruce Paul, group environmental manager at Concor. “Care for the environment and a concern for sustainability is ingrained in our company culture. Quite apart from this, we also need to measure up to the high expectations of all our stakeholders.”

He adds that clients increasingly have ambitious goals when it comes to sustainability and environmental care and Concor takes cognisance of this. Additionally, the company – like any other contractor – has to comply with the National Environmental Management Act (NEMA), which constitutes an entire family of laws, as well as other relevant legislation.

“Basically, any reputable contractor these days will have to show a high level of environmental awareness and have a real commitment to sustainability in order to operate successfully, so the business case for being strong in these areas is overwhelming,” he says.

Concor, of course, is a member of the Green Building Council South Africa (GBCSA) and has been responsible for many high-profile green building projects, both in South Africa and across border, which have been recognised under the GBCSA’s Green Star certification system.

Examples include the phase 1 refurbishment and expansion of the Menlyn Park Mall in Pretoria, the first retail building in South Africa to achieve Green Star SA status; the Aurecon Century City building in Cape Town, the first building in South Africa to be awarded a 5 Star Green Star SA – Office Design v1 rating; and FNB@Parkside in Windhoek, which ranks as Namibia’s first green building.

According to Paul, the Menlyn Park refurbishment – completed several years ago – exemplifies what green building means in practice. “As regards materials, post-consumer recycled reinforced steel was used while the ordinary cement in the concrete was reduced by 30% through substitution with fly ash,” he says. “Also noteworthy was a reduction of potable water consumption of around

30% compared to what would normally have been expected on a project of this size and type.

“Recycling, of course, is an important principle of the green approach and a high level of recycling was achieved at Menlyn Park with more than 70% of waste being repurposed.”

Further afield, in Qatar, Concor built the Qatar Science & Technology Park, which achieved a LEED Green Building under the Core and Shell Gold award. LEED (Leadership in Energy and Environmental Design) which is the US equivalent of South Africa’s Green Star certification system.

Commenting generally on green buildings, Paul says they cost less to run, produce less greenhouse gas emissions, use energy optimally and are easier to insure and hold value longer. “These factors appeal to developers and building owners, and we are seeing more clients insisting on their buildings being green. My own view is that the future of large projects in the construction industry really depends on designers and contractors being knowledgeable about green construction processes.”

More recently, Concor completed several phases of the Oxford Park precinct construction with buildings achieving various Green Star certifications; the latest is the recently completed Ikusasa which achieved a 6 Star Green Star certification in terms of the GBCSA Green Star rating.

Green construction principles can, of course, be applied outside the commercial building field and Paul says Concor is particularly proud of the work it has done on wind farms around the country which are generally situated in environmentally sensitive locations. He points to the Roggeveld Wind farm in the Western Cape – which recently entered commercial production – as a particularly fine example of what can be achieved.

“We were responsible for a portion of the civils work, which included turbine bases spread over a construction footprint of 40 ha,” he says. “The site is situated on Central

Mountain Renosterveld, which is home to unique species such as *Brunsvigia Josephinae* and other red data species. The design footprint of the project mapped the localities and accommodated them. Where this was not feasible, search and rescue exercises were conducted and retrieved plants were relocated elsewhere on the property.”

Protecting and translocating protected species was also to the fore on the Loeriesfontein, Khobab and De Aar Wind Farms in the Northern Cape and the Jeffrey’s Bay Wind Farm in the Eastern Cape, among others. An interesting feature of the Khobab project was the use of specially designed concrete mixes which reduced the site’s construction carbon footprint from approximately 300 kg of CO₂ per cubic metre to just 90,7 kg of CO₂ per cubic metre, dropping the project’s overall carbon footprint by 31%.

Many high-profile bridge and road projects have also provided platforms for Concor to display its skills in environmental care. It was the main contractor, for example, on the Mtunzini N2 road upgrade, which was opened in 2019. This involved the construction of a new highway crossing the uMhlathuze and the uMlalazi rivers and traversing 22 wetland systems. All wetland aspects affected such as unique plants and soils were either temporarily sealed off from the works and removed for later reinstatement.

Finally, no mention of Concor’s skills in the environmental field would be complete without reference to one of its most

prestigious current contracts – the construction (in joint venture with Mota-Engil) of SANRAL’s Msikaba Bridge in the Eastern Cape which will span the 220 metre deep Msikaba Gorge. The civil engineering challenges on the project, which include working at heights of up to 128 metres (the maximum height of the bridge pylons), are formidable but Concor and its partners have also been responsible for rescuing nearly 15 000 threatened and protected plant species and translocating them to on-site holding nurseries. The plants have subsequently been replanted at carefully selected sites near the bridge.

“We have also had to consider the sensitivities of a colony of rare Cape vultures,” says Paul. “The Cape vulture, also known as the Cape Griffon, was listed in 2015 as a regionally endangered species. Measures included paying careful attention to blasting operations to limit disturbance to the colony, particularly in the breeding season.”

Paul believes the attention to environmental concerns displayed on the Msikaba Bridge project will become a benchmark for the civil engineering industry. “The engineering that’s going into the bridge is amazing but the project is also a landmark in terms of the environmental care that is accompanying construction activities. It shows that construction can be carried out very successfully and with low impact in even the most sensitive of environments,” he concludes. ☺



Left: Once completed, the Ikusasa building at the Oxford Parks precinct achieved a 6 star Green Star in terms of the GBCSA Green Star rating. Right: Viewed from inside the 16 on Bree site during construction, the specialised steel bracing used to preserve the 200-year-old façade wall for heritage is visible.



Aerial view of uMlalazi river bridge during construction.



Hannes Meyer,
AfriSam Cementitious
Executive.

AFRISAM'S COMPOSITE CEMENTS LEAD IN SUSTAINABILITY DRIVE

Leading the market in reducing clinker content in its composite cements, AfriSam has been a trailblazer in cutting carbon emissions in one of the economy's most energy-intensive sectors.

Hannes Meyer, executive cementitious at AfriSam, highlights that the energy consumed in producing ordinary Portland cement (OPC) can be 20 to 25% higher than a composite cement, of the same strength class, containing a cementitious extender.

"This results from the added cost of producing a higher percentage clinker at high temperatures used per tonne of composite cement manufactured," says Meyer. "Extenders like fly-ash or ground granulated blast furnace slag (GGBFS) can be blended into the mix, reducing the amount of clinker milling required per tonne of cement."

This has more recently become a focus for other players in the market, even those who had previously not embraced the concept of composite cement, he notes. AfriSam has in the meantime become the benchmark for these cement innovations, along with a range of sustainability initiatives to monitor and reduce carbon emissions.

"A vital aspect of our use of extenders has been our ability to activate these materials for greater reactivity," he says. "Through evolving our chemical and mechanical activation methods, we achieve a more reactive product – allowing us to progressively replace more and more clinker while retaining high cementitious quality and strength performance."

In another stream of the company's research, it has taken strides in developing the reactivity of clinker itself. By changing the mineralogy of clinker, its reactivity can be improved. Meyer points out that cement blending companies

have already recognised the high reactivity of AfriSam cement, with many of them preferring AfriSam's products as they 'go further' in a blending application.

"We have also had great success in the use of grinding aids in our milling processes, collaborating closely with specialist firms to address our exacting requirements," says Meyer. "These grinding aids are specific to the extenders we use, helping to improve reactivity and in some instances adding 10% to 15% early strength enhancement."

The end result is that less clinker needs to be produced per tonne of final product, he emphasises, leading to less carbon dioxide being generated. The company has also become more efficient in the use of thermal and electrical energy in its processes. Whereas electricity used to be a minor cost in cement plants, it is now a major factor in cement manufacture. In this context, AfriSam has explored alternative fuels, which have become a major focus for many cement producers globally.

"We have made progress with responsibly disposing of waste products in our energy generation strategies, and we hope that government will take the necessary steps to allow us to expand these initiatives," he says.

This includes the combustion of waste tyres and industrial carbon sludge, using high-efficiency multi-channel burners that reduce hazardous emissions.

He says the employment of increasingly sophisticated process control technology is also part of the 'AfriSam Way' towards a sustainable planet. ©

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*Product specification dependent on area.



2022 FULTON AWARDS SHOWCASE SA CONCRETE CONSTRUCTION QUALITY

Ingenuity, innovation, and the high-quality workmanship of the South African concrete industry were distinctive features of all 24 entries in the 2022 Fulton Awards, says Bryan Perrie, CEO of Cement & Concrete South Africa (CCSA).

The prestigious Fulton Awards, held every two years, recognise and honour “excellence in the design, use and innovation in concrete”. Originally scheduled for last year, the awards were postponed to 2022 because of the disruptive pandemic lockdowns and economic pressures. The winners were announced at a gala function in Johannesburg on 10 June, and the event was for the first time streamed live to satellite functions in Durban and Cape Town.

Perrie says he, and his fellow judges, Stephen Humphries, director of consulting engineering company, Nyeleti Consulting; and Daniel van der Merwe, founder member of LEAF Architects; were immensely impressed by how the entrants for the Fulton Awards overcame the odds during the COVID-19 restrictions. “Included in some of the challenges were screening up to 400 workers daily on very congested sites, and having to deliver 150 cubic metres of ready mix concrete in one cubic metre loads due to congestion in an inner-city location,” he states.

The winners and commendations for the five entry categories for this year’s Fulton Awards are:

1. Infrastructure of over R100m

The winner is the new Ashton Arch in Ashton in the Western Cape, entered by design consultants, AECOM S.A. The client for the project, hailed by the judges for its “unique bridge engineering technique”, was the Western Cape Government’s Department of Transport and Public Works. Stretched 22 metres above Ashton’s Main Road, the spectacular bridge features five 15,5-metre overhead wishbone beams. The main contractor was Haw & Inglis Civil Engineering.

Fulton Award Commendations in this category are a Namibian government project, Neckartal Dam in the

Keetmanshoop/Kharas region, entered by Knight Piésold Consulting; and the Vlakfontein Reservoir in Benoni, a Rand Water project entered by admixture supplier, Chryso SAF, and constructed by WBHO Construction/Motheo Construction, with HGK Consulting as structural designer.

2. Infrastructure of under R100m

The winner in this category is the modification of the Umhlatuzana River Bridge in Durban. Entered by the eThekweni Municipality Roads Provision Department’s Structures Branch which undertook the project for the municipality’s Engineering Unit, the bridge won the judges’ praise for “the unique solution that overcame extensive challenges to save a large part of the bridge while causing limited damage to the existing habitat”. The road bridge – severely damaged in KZN’s 2019 floods – links Seaward Road in Clairwood with Sarnia in Pinetown.

The commendation in this category was another KZN bridge modification: the Durban Essex Terrace/M13 Bridge widening, also entered by the eThekweni Municipality Roads Provision Department’s Structures Branch following commissioning by the eThekweni Transport Authority (ETA).

3. Buildings of more than R50m

Top honours in this category have gone to The Onyx apartment block in Johannesburg. The 13-storey structure in the Jewel City condominium precinct in Fox Street, the “main street” of Johannesburg’s regenerated Maboneng district, was entered by Engineering Design Services (EDS). The judges were impressed by “the innovative design of the building which has provided a very cost-effective structure in a part of the city that is being transformed”. The client for this project is Divercity Urban Property Fund, Ithemba



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Property, and Atterbury Property Fund.

There are two commendations in this category: the Newlands Cricket Ground Development in Cape Town, entered by Stefanutti Stocks Western Cape; and the Sol Tech Training College in Pretoria, submitted by Jeremie Malan Architects. The client for the Newlands project is Sanlam Life Insurance and WPCA Property Holdings and, for Sol Tech, it is Kanton.

4. Buildings under R50m

The judges were intrigued and impressed enough by the quaint KleinJAN Restaurant, in the vast Tswalu Private Game Reserve in the Kalahari, to make it the recipient of the Fulton Award in this category - not so much for its “objective visible concrete interventions but rather its concealed, hidden innovation in the vast open Kalahari Desert”. The unusual project was entered by the builders, Kobus Duvenhage Bouers. KleinJAN - owned by South African Michelin Star Chef, Jan Hendrik van der Westhuizen - was created on the site of a century-old farmhouse and is one of the smallest concrete structures to win any category in the Fulton Awards’ 43-year-old history. The intimate restaurant features an underground dining room.

5. Innovation and Invention in Concrete

The Old Cape Quarter, an apartment building in the trendy Cape Quarter Lifestyle Precinct in De Waterkant, Cape Town, harnessed the Fulton Award in this category. The judges’ citation hailed the many and “hugely innovative” techniques employed in the redevelopment of an existing Heritage building by adding four storeys while still preserving and protecting the outer walls of the historic structure. AfriSam SA entered the project, owned by The Cape Quarter Property Company’s Tower Property Fund.

The Ashton Arch bridge in Ashton, winner of the Fulton Award in the Infrastructure of over R100m category, also received a Fulton Commendation in this special category, and Durban’s Essex Terrace/M13 Bridge, already commended in the Infrastructure of under R100m category, received another judges’ Commendation in this category.

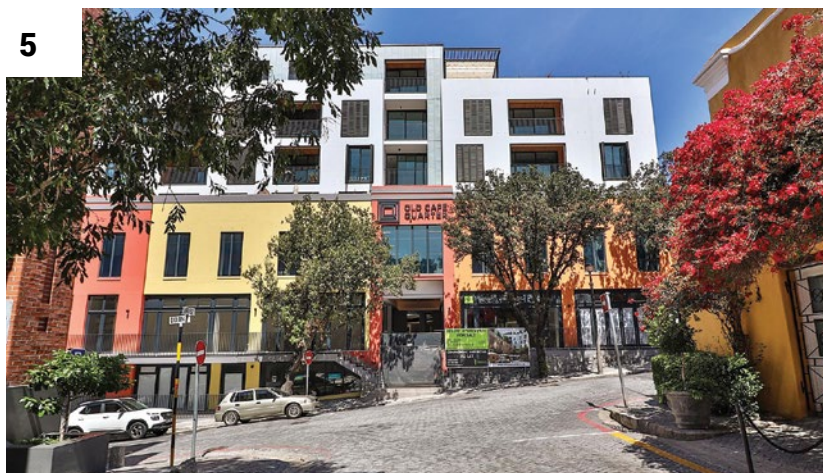
In an exciting addition to the biennial Fulton Awards, the winners in the five categories have been entered into the American Concrete Institute’s Excellence in Concrete Construction Awards. CCSA, as an International Partner of ACI, was invited to nominate Fulton Award winners for the ACI awards which honour exceptional concrete construction from around the world. The winners of these awards will be announced on October 24, 2022, during the ACI Concrete Convention in Dallas, Texas. ©



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LOCAL GOVERNMENTS NEED CONCRETE TRAINING AT ALL LEVELS TO IMPLEMENT SA GROWTH



Concrete will play an essential role in the government's plans to implement long-awaited infrastructural projects this year, says John Roxburgh, senior lecturer at Cement & Concrete South Africa's School of Concrete Technology.



Concrete is the essential component for local government mass housing settlements throughout SA.

Roxburgh says concrete is the most vital building material to create the infrastructure to sustain South African urban and rural settlements as well as the road networks that link these areas. "Apart from being the essential material to erect the Presidentially-proposed new 'smart cities', concrete is also essential for housing, dams, bridges, warehouses, roads, airports, water and sewerage treatment

plants, to name just a few important civic facilities. Therefore, it is essential that local government's staff are trained in all facets of concrete construction and design," Roxburgh states.

Such training has been provided by the School of Concrete Technology for well over 60 years and its consulting division is constantly involved in the writing of standards, publications and assessment of latest technologies.

The SCT 2022 Training Programme, now available, includes courses on a wide range of topics starting from a basic introduction to concrete, and continuing to cover the role of concrete in housing, concrete practice, training for ready mixed concrete and batching plant personnel, concrete industrial floors on the ground, concrete road design and construction, as well as high-technology training that includes the globally-

"The four-day 'SCT20 Concrete Practice' course is excellent for those applying concrete technology on site such as foremen, supervisors, and for staff responsible for quality assurance."



Pigmented concrete bus lanes were innovatively specified for Cape Town's MyCiti public transport system.

respected Advanced Concrete Technology diploma course with examinations set by the Institute of Concrete Technology in London.

Successful students for all SCTs courses receive certificates of attendance/competence and Continuing Professional Development (CPD) points are awarded on certain courses.

Roxburgh says two courses to be offered by SCT in 2022 should strongly be considered by South African municipalities: "SCT20 Concrete Practice" and "SCT30 Concrete Technology". Both regularly attract strong enrolment, calling for several presentations every year.

"The four-day 'SCT20 Concrete Practice' course is excellent for those applying concrete technology on site such as foremen, supervisors, and for staff responsible for quality assurance. Successful completion of this course earns four Continuing Professional Development (CPD) points. The more advanced 'SCT30 Concrete Technology' five-day course – which earns five CPD points – is aimed at civil and structural engineers, experienced technicians and technologists, and is ideal for gaining detailed knowledge of how cement and concrete works."

The School of Concrete Technology will continue to run its successful online e-learning courses in 2022 but will also offer select classroom-based lecture courses in Midrand, Durban and Cape Town while COVID-19 lockdown restrictions permit. "The live classes will be kept small and high demand for specific courses will be met by scheduling more presentations. However, the online platform and self-study courses are here to stay as they align themselves with modern trends in remote learning and increased access to both data and smart delivery devices. E-learning and its associated benefits will form an integral part of the School's training in future which means local government in even the most remote parts of the country can now enrol staff for training," he adds.

For further information and access to the SCT 2022 Training Programme, phone 011 315 0300 or email rennisha.sewnarain@cemcon-sa.org.za. ©



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CONCRETE REPAIRS SHOULD FORM PART OF ORIGINAL DESIGN PLAN

A key factor for extending the durability of concrete structures is the implementation of timely and effective repair and maintenance procedures, says Warren Trew, Regional Sales Manager: General Construction of a.b.e. Construction Chemicals.

a.b.e. is part of the Saint-Gobain Group. Trew says many key South African building and civil structures have recently been damaged by weather factors, age, neglect, misuse, rebar corrosion, extraneous loading and natural disasters. “Neglecting the need to introduce proper repair and maintenance systems for these structures results in reduced capital value and wastage of resources which could lead to poor quality of life for communities.

“In a sustainable built environment, structural maintenance is non-negotiable. As soon as a concrete structure is completed, the need for a maintenance programme must start. Maintenance should not be driven simply by the need to correct defects that occur over time, but to avoid these defects in good time,” Trew states.

He says concrete is a durable but not eternal material and will over time deteriorate and require repair or replacement, especially in zones where chloride ingress or carbonation are a reality. Repairing deteriorated concrete and restoring its structural integrity should consequently form part of the initial design – but are frequently resorted to only when emergencies arise.

“The first step in a successful repair project involves early damage assessment and arriving at a proper diagnosis. The owners should not wait until the concrete shows obvious signs of distress. The most crucial aspect of the repair process is the evaluation stage. To properly repair any damage, it’s important to understand what caused the problem and then determine the correct method of repair.

“Experience is vital for the diagnosing, and planning for concrete repairs. While there is a high level of expertise that goes into concrete construction, the skills, understanding and experience required to repair damaged or deteriorated structures are decidedly different



N14 ridges repairs.

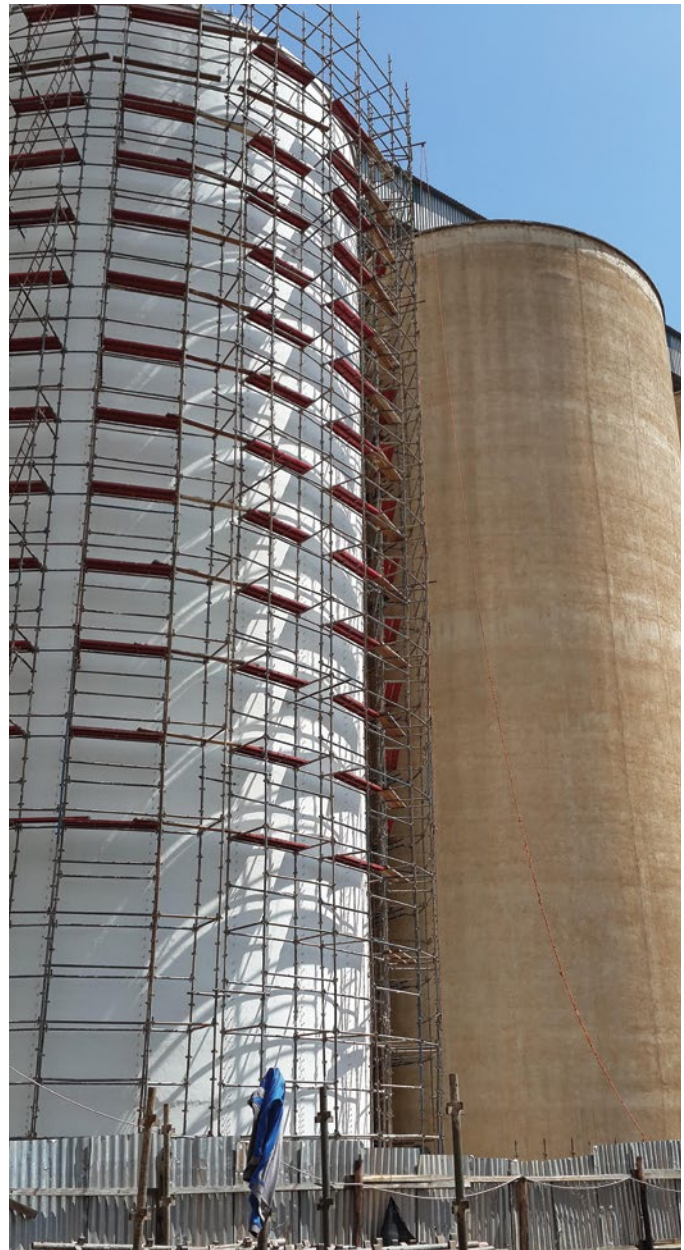
from those required to build new structures. That is why it is important to consult reputable suppliers of concrete repair products – companies that can offer more than just the product but also provide advice on its suitability, as well as the system and procedures to be followed for concrete repair projects. “Among the most common challenges of concrete rehabilitation are crack repair, patching, using strengthening methods (in lieu of repair) like carbon fibre plate or wrap, and generally choosing the most appropriate repair materials for an effective long-term solution.

A decision should also be taken on whether strengthening methods should be opted for instead of repair. Fortunately, the range of concrete repair products available today has made it possible to economically refurbish structures that just a few decades ago would have had to be demolished and rebuilt. The input from specialists in concrete rehabilitation - and the selection of the correct products – will avoid common pitfalls of concrete repairs,” Trew observes.

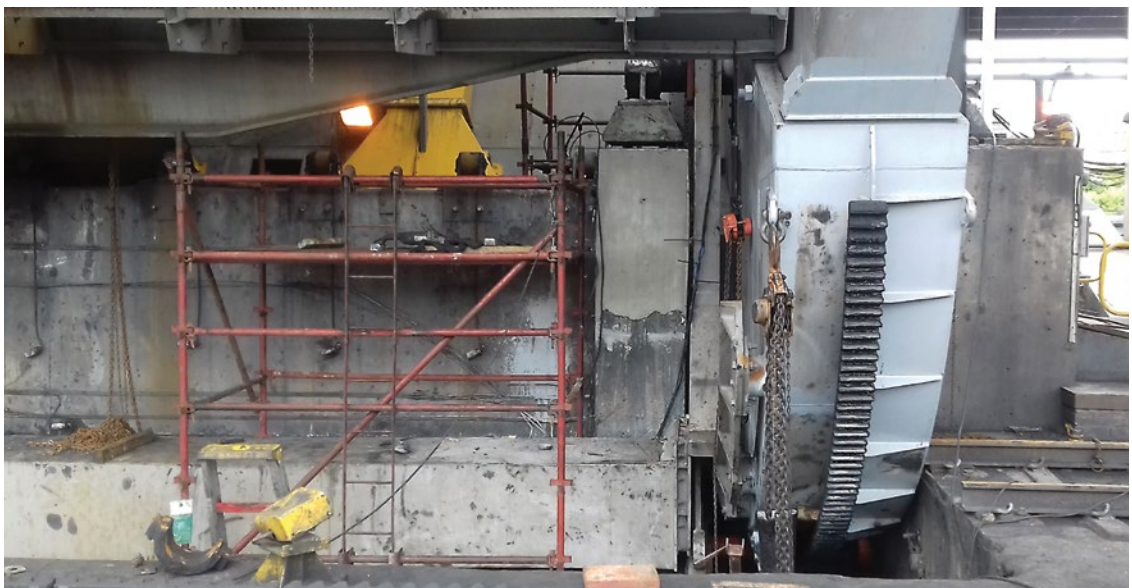
He says a.b.e. Construction Chemicals’ range of concrete repair products is based on epoxies, synthetic resins, silanes and cementitious materials. Applications include flexible slurries and coatings for protecting and waterproofing the concrete parts of bridges, silos, buildings and water containment structures against attack from their environment. “a.b.e. can supply a wide range of products – as well as professional advice - on projects such as concrete crack injection, fairing, reprofiling, priming, mortar repair, and the rehabilitation of spalled concrete surfaces to name just a few requirements of concrete repair procedure which could save the owners thousands if not millions of Rands,” he states.

Major projects for which a.b.e. supplied concrete repair products and consultation include:

- Fish Water Flats sewage works, in Port Elizabeth
- Kanengo Silo Project, Malawi
- Mondi Chipper plant, Richards Bay;
- N14 Bridges between Hartbeespoort and Lanseria
- Omnia fertilizer tank bases, Sasolburg
- Savana City reservoir, Sebokeng, Gauteng
- Northam Plats Mine cooling towers
- Port Elizabeth Airport runway
- Coal Tippler Project concrete repair, Richards Bay harbour. ©



Kanengo Silo projects.



Tippler concrete base and column.

ADMIXTURES ENSURE CONCRETE QUALITY IN FAST-TRACK PROJECTS

A renewed focus on infrastructure has been welcomed by South African contractors, but the urgency of many projects places significant demands on inputs like readymix.



Left: CHRYSO admixtures were used for the incremental launch of the Gilloolys Interchange. Right: CHRYSO Jet accelerators proved invaluable for Gautrain's extensive shotcrete tunnel lining.



“This is where admixtures play a vital role in ensuring that readymix concrete performs to the highest standards while meeting fast track schedules,” says Michelle Fick, business unit development for concrete aesthetics and key accounts at CHRYSO Southern Africa.

Fick emphasises the importance of durable concrete in giving structures their expected lifespan, thereby delivering value-for-money for end-clients. Large readymix pours are central to many of these projects, and enhance the pace of construction.

“For instance, in a recent reservoir project with multiple large pours, CHRYSO was able to contribute to a concrete mix design that ensured low shrinkage while achieving a durable and watertight concrete,” she says. “Our products helped to keep the heat of hydration as low as possible, and to prevent cracks from plastic shrinkage.”

The latter was addressed by using CHRYSO® Serenis – a shrinkage inhibitor – in the wall footing, floor slab and roof slab. To assist with the healing of possible leaking cracks and construction joints, the cementitious crystalline concrete waterproofing admixture CHRYSO® CWA 10 was added to the mix. The dolomitic aggregates that were used to produce a lower coefficient of thermal expansion also had a low water demand; CHRYSO® Omega 178, a high performance water-reducing super-plasticiser, was therefore used to reduce

water content. Road building and upgrades rely on a variety of precast concrete components such as culverts and pipes, where curing time directly affects the pace of production. Here, she says, CHRYSO offers its accelerator range to speed up the curing process and reduce the turnaround time of each precast item. There are also superplasticisers to improve the durability and workability of concrete with reduced water and cement.

Fick explains these solutions are also important in high-rise buildings where concrete is pumped to great heights, making for rapid progress. For a recently completed skyscraper in Sandton, the readymix included CHRYSO Omega 140AFR, a hybrid plasticiser/super-plasticiser, as well as CHRYSO® Optima 100 super-plasticiser. The result was a mix with a 180 mm slump which could be pumped 200 metres high.

Curing compounds are another important product range enabling more time-efficient construction, with various bases including wax, resin, acrylic and water for different applications. This ensures effective curing with a minimum of effort and manpower.

“Key to the application of our admixture solutions is our research and development laboratory in Johannesburg,” says Fick. “Our resources here include a valuable database of past projects, aggregates and cement types from around the country – allowing us to rapidly develop and apply solutions for contractors and readymix suppliers.”

She notes that this database can provide guidance for a project’s concrete mix, drawing on the experience of previous projects in the same area using the same sources of aggregate and sand.

This allows CHRYSO to speed up the identification of the most suitable admixture for that specific application. ©

“Our resources here include a valuable database of past projects, aggregates and cement types from around the country – allowing us to rapidly develop and apply solutions for contractors and readymix suppliers.”

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In 2016, Sika SA launched a new premium waterproofing system, Sikalastic-560. Suitable for new construction and refurbishments on roofs,

its main use is waterproofing, to increase the life cycle of roofs with less maintenance required. The most favourable benefits being that it can be applied over existing torch-on / bitumen systems, a more sustainable technology vs the bitumen technology and the Sikalastic®-560 white acting as

a cool roof solution lowering overall energy costs of the house.

Sika prides itself on a complete, versatile range of high-quality products for all waterproofing solutions, with expertise backing of over 110 years. For homeowners and small DIY jobs, to major construction projects, Sika's waterproofing range is relevant, user-friendly and durable. Sika's quality waterproofing products include the go to Sika RainTite® Kit, the contractors' professional range



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ELB EQUIPMENT LAUNCHES NEW RANGE OF POWERSCREEN MOBILE CONVEYORS

Efficiency, productivity and increased stockpile capacity are just some of the benefits available from ELB Equipment's latest offering of Powerscreen mobile conveyors.

The latest range of Powerscreen mobile conveyors offers reduced crushing and screening costs with the use of mobile conveyor loading solutions and can replace more costly loading equipment in many applications. The manufacturer has one of the largest ranges of off-the-shelf mobile conveyor systems globally.

Wakefield Harding, ELB Equipment national sales manager for mining, says "the range has tracked conveyor mobile machines ranging from 21 to 30 m and from 500 to 1 000 tons per hour (tph). The tracked radial mobile conveyors range from 20 to 24 m and 500 to 1000 tph with stockpile capacities of up to 7 500 cubic metres at 180 degrees"

Large range

"The fully mobile tracked hopper feeder ranges from 15 to 23 m with hopper capacity from four cubes to 10 cubes with a low-level feeder option that can be fed via loader or excavator directly and has a capacity of seven m³. We also have lattice frame and telescopic conveyors up to 50 m." Wakefield adds.

"Furthermore, all the mobile conveyors can be run on automated programme as an optional extra. The advantage of this range of Powerscreen mobile conveyors is that they prevent degradation and segregation of materials meaning that it does not separate fines and heavy materials during the stockpiling process and prevents degradation of material as it is stockpiled.

"This is a key feature in ensuring the improvement of material quality. In addition, the pin less deployment feature

allows the operator to adjust the stockpile angle "on the fly", which in turn, reduces downtime and the chances of blockages at the head drum. This also results in the machine having a faster set-up time. The mobile conveyors also help in the reduction of site traffic, labour and because of their robust design, maintenance costs."

Proven record

ELB Equipment's "best of breed" approach ensures that clients are supplied with the world's best equipment for their specific needs by the country's top single supplier. With over 10 years of experience under their belt in the supply of mobile conveyors, the company has been the most successful in the country.

The company has a history of customers operating several mobile conveyors – contractors, aggregate, remining and some have up to seven working on different parts of their respective projects.

Their supply of Powerscreen mobile conveyors means that any company looking to maximise productivity and efficiency would naturally opt to add these conveyors to their fleet.

With ELB Equipment's commitment to providing clients with global standard equipment and comprehensive aftermarket service, the company has a large fleet of field service vehicles to ensure its equipment performs at optimal levels with maximum availability.

It has a large footprint across South Africa including major cities as well as across other SADC countries (Namibia, Swaziland, Zambia, DRC and Zimbabwe). ©





SCREENING ACROSS APPLICATIONS

A key attribute of Metso Outotec's Lokotrack® ST2.3™ scalping screen is not its compact design but its ability to be deployed in several applications and process various feed materials. Leveraging the machine's unique versatility, contractors can transfer productivity from one jobsite to the next despite the changing conditions.

Contractors know that every jobsite is different. However, they are also aware that they don't have the comfort of purchasing specific pieces of equipment to match the needs of every project. With a growing requirement to do more with less, contractors can take advantage of the Lokotrack® ST2.3™ scalping screen's versatility, which allows it to be adapted and deliver the desired results on a broad range of applications.

Newly launched and now available locally from Pilot Crushtec International, the Lokotrack® ST2.3™ scalping screen is a multi-use scalping screen perfectly suited to heavy duty scalping, fine screening and recycling. Dubbed the 'Swiss Army Knife' of screening, the machine is designed to process a range of materials, from topsoil and recycled concrete waste, to road base material and fine aggregates.

The machine can be used as a standalone unit or as part of a multi-stage crushing and screening process. Its versatility is enhanced by the various screen media options, including grizzly, punch plate, finger grizzly and wire mesh.

Despite its compact build, the machine punches above its weight with a 4,6 m² screening area, the widest in its class. This is complemented by an aggressive stroke up to 13 mm with 5G acceleration, resulting in a high screening performance.

Contract crushing is a nomadic venture by its nature, which often calls for moving of machines from one site to the other. With that in mind, Metso Outotec paid particular attention to ease of transportation during the development of the Lokotrack® ST2.3™ scalping screen. With its compact



screen box size (3 040 mm x 1 520 mm) and optimised weight (17 000 kg), the machine can be moved from one site to another using a standard trailer, thus helping contractors cut back on transportation costs.

Amid record high fuel prices, fleet owners will benefit from the machine's fuel efficiency. Powered by a CAT® C3.6 diesel engine, the machine consumes as low as seven litres of fuel per hour, translating into lower total cost of operation.

With Metso Outotec's IC automation system, fleet managers can monitor, control remotely and automate the screening process for better performance. With information on upcoming maintenance needs, fleet managers can plan their maintenance breaks effectively to reduce machine downtime. IC automation also makes the work of operators safer with the remote-control features. ☺

- The machine sets new standards in versatility with its ability to process various feed materials across primary scalping and fine screening applications.
- Its compact screen box size (3 040 mm x 1 520 mm) and optimised weight (17 000 kg), allow the machine to be easily transported in one piece using a standard trailer.
- With a 4,6 m² screening area, the Lokotrack® ST2.3™ has the widest screen in its size class.
- An aggressive stroke up to 13 mm with 5G acceleration results in high screening performance.
- The machine's fuel economy helps fleet owners reduce their operating costs.

TECHNICRETE AND ROCLA CHOSEN FOR EYE OF THE SOUTH ESTATE PROJECT

Set amongst the unspoilt rolling hills, grass and woodlands that surround the Eikenhof, Midvaal area, south of Johannesburg, the Eye of Africa Golf and Residential Estate has been developed to offer the best that life can offer a homeowner – a quality lifestyle with quality residential finishes.

Construction and civils contracting company, Down to Earth Civils, selected Technicrete and Rocla for the supply of paving, manholes and stormwater pipes for Phase One of the project, which when completed will have over 2 000 residential homes and apartments. The project commenced in August 2021 and was completed towards the end of 2021. Additionally, Technicrete will be supplying 18 900 m² of DZZ 60 mm Slate pavers for Phase Two of the Eye of Africa resort which commenced mid-2022.

Down to Earth Civils, Senior Site Agent Philip Foster said “We have worked with both Technicrete and Rocla on projects over the years and we selected them for the Eye of the South project primarily due to the high quality of their pre-cast concrete paving and stormwater

related products, their delivery scheduling and their competitive pricing”.

“The 25 000 m² of main roadways throughout the estate have been paved with Technicrete’s DZZ 60 mm slate coloured interlocking pavers. It is a quality paver that offers the durability required by an estate of this size” said Foster. Grant Fourie, Sales Consultant at Technicrete Olifantsfontein said “The DZZ 60 mm pavers form a continuous interlocking hard wearing surface overlay and once they have been fully applied give a visually pleasing finish to the roadways throughout the Eye of the South Estate. We will be supplying a further 18 900 m² of our DZZ’s to the second phase of the Eye of the South project.

“We have a good working relationship with Down to Earth Civils and our ability to manufacture quickly, efficiently and meet the scheduling demands associated with the Eye of the South development made us the preferred partner,” commented Fourie.

“As with all residential and commercial developments appropriate stormwater drainage and sewage systems must be installed to meet the needs of the expected water capture levels at the estate and we selected stormwater pipes and manholes from Rocla. They are recognised throughout the country as the preferred product for stormwater reticulation and redirection,” said Foster.

To meet the estate’s stormwater requirements Rocla supplied 675 metres of interlocking joint pipes. The IJ pipes are specifically designed and manufactured for stormwater applications. The male/female type joint is formed inside the wall of the pipe, eliminating any widening of the pipe, and therefore the outside dimensions of the pipe remain constant. The joint itself is used for centering the pipe during laying operations, thus making the process easier.

Fourie added “Although the IJ pipe is primarily designed for use in a non-watertight pipe-line, rubber collars can be supplied to facilitate a measure of water tightness. These can be used where the ingress of groundwater needs to be avoided, and the more expensive rubber ring joint pipe is not necessary.

“The pipes are manufactured in 2,44 m and 1,22 m, but can be manufactured in special lengths to meet specified customer requirements. The standard strength classes for these pipes are 50D, 75D and 100D (Refer to SABS 677). Special intermediate strengths or heavier loading requirements can be designed and manufactured. These are subject to various material constraints, but will be evaluated by our engineers on an ad hoc basis,” concluded Fourie.

Rocla also supplied 142 manhole units of 1 000 mm in diameter to the estate.

Technicrete and Rocla are part of the Infrastructure Specialist Group of companies (ISG). ©



SMARTER. MORE EFFICIENT. EASIER.

Construction is faced with various challenges that include margin squeeze, tight deadlines and various labour issues. In an effort to minimise risk, photos are used to track and document the progression of a project. However, this is time-consuming and tricky as photographs have to be manually organised according to the floorplan. Enter the OpenSpace technology to solve this issue. It is now available and supported locally. Construction World recently attended a breakfast where this product was showcased by **Andrea Brown, Global Head Channel & Partnerships for OpenSpace and Agile Business Technology's** (the local distributor) **Architecture, Engineering and Construction Solutions Director, Jaco Barnard.**

An intelligent solution

In an effort to maximise the tracking of development, Agile Business Technology, based in Stellenbosch, partnered with the US group OpenSpace. It has launched OpenSpace's 360° capture and artificial intelligence platform for construction projects in South Africa. OpenSpace is an AI technology and has the aim of making construction more efficient and transparent.

"In the dynamic world of construction, a building site has many role players who all need to know what the status of the project is. Up until now, these role players were dependent on viewing photographs taken by various sources and often without context," explains Brown. The COVID-19 pandemic also made visits to sites difficult which accelerated the need for an effective system.

"In essence," says a Brown, "the technology involves a magnetic mount on top of a hard hat that holds a 360° camera. It passively captures the site as the wearer goes on their normal walks. OpenSpace.ai allows you to upload the footage after the site has been walked. Using AI and a three-dimensional reconstruction, the user's position is plotted on the floorplan and 360° degree images generated, almost like Google Street View," explains Brown. "By clicking on the dots on the screen, the viewer can move around as they please and see 360° of the site."

"Subscribers can log in and virtually visit the site – anytime and from anywhere to collaborate remotely," adds Barnard. "The ability to work virtually became important during the pandemic, and indications are that it will continue. Remote collaboration increases efficiency and helps project teams finish on time and on budget as the platform uses images that are generated in OpenSpace to document an active site." The software enables the user to control, document progress, inspect and indicate potential safety concerns.

The advantages

During the last five years, OpenSpace has enabled customers to capture seven billion square feet of construction projects in 76 countries. OpenSpace negates time consuming travel time, exorbitant accommodation as it is as simple as getting someone to walk through a construction site with the



Andrea Brown, Global Head Channel & Partnerships for OpenSpace and Jaco Barnard from Agile Business Technology (the distributor in South Africa).

OpenSpace device attached to his or her hard hat.

Another benefit is that it enables the user to capture a visual record of the jobsite. This provides a single source of truth, increases coordination, drives accountability and simplifies dispute resolution. "Field Notes and Split View allow viewers to compare walkaround captures of the past to recent ones and make notes," explains Brown.

The technology can be used by owners and facility teams to resolve any issues that may have occurred during construction.

Barnard adds that OpenSpace is beneficial throughout the lifecycle of a building. "Rather than in-person viewings, you can easily share your OpenSpace images with prospective tenants. For owners, it enables effective facilities management as it makes managing maintenance and renovations easier," he says.

The software is sold as a subscription which allows clients to use it on as many projects as they need to for 12 months.

Powerful analytics

Analytics takes the OpenSpace captures to the next level. ClearSight™ Progress Tracking taps into images and uses computer algorithms to identify materials and give insight into progress across the project. It can indicate the percentage completed, the quantity installed, indicate the work yet to be completed and provide the rate of work. "Advanced data analytics give decision makers powerful insights into how resources are allocated on the jobsite and enable superintendents to focus on maximising schedule and budget performance," Barnard concludes.

SNAPSHOT

- Negates costly travel to site.
- Ensures progress and design align.
- Manages risk as it produces an indisputable record.
- Reduces rework costs as it allows the ability to go back in time – e.g. to see what is behind walls before tearing them down.
- Completed work can be invoiced without delay.
- Projects can be completed within schedules and budget.



DHL EXPRESS BREAKS GROUND AT NEW FACILITY IN JOHANNESBURG

DHL Express, the world's leading international express service provider, has announced an investment in a new world-class service centre facility to be built in Waterfall, Midrand. This greenfield project will be jointly developed by the SOM Group and Waterfall, with an overall project commitment for the next 15 years of around R500m.

Jed Michaletos, Managing Director of DHL Express South Africa, said, “We are thrilled to announce this investment which truly affirms DHL’s commitment to Africa, and more specifically, South Africa. South Africa is a key market for us and this expansion will ensure that we continue to provide our ever-growing customer base with the best-in-class service quality which they have become accustomed to. We have experienced continued growth in inbound and outbound volumes, coupled with the accelerated rise of cross border e-commerce, which has necessitated this move.

“The new facility will make use of a drive-in model, thereby maximising productivity and increasing the volume of shipments processed daily to ensure faster delivery of shipments for our customers. The increased capacity will enable us to handle a double digit increase in shipments processed per hour, and will allow further growth of up to triple digits if required,” added Michaletos.

Coenie Bezuidenhout, Director of SOM Group said, “SOM and Waterfall, together with our team of design consultants and contractors, are proud to be associated with this prestigious project. The new DHL facility will be situated in one of the best logistics locations in South

Africa and will also mark the establishment of a world class material handling facility. The construction has commenced on site and completion is scheduled for April 2023.”

The facility will receive, process and transport inbound and outbound shipments to their intended destinations. The develop will include an increase in floor space and advancements in technology and processes as well as Material Handling Equipment, which will omit manual handling of shipments and facilitate direct loading of shipments.

The facility will be constructed in line with Deutsche Post DHL Group goals to reduce all logistics-related emissions to net zero by the year 2050 and will meet DHL’s global requirements from an operational and future expansion perspective. There will be measures put in place within the facility to reduce its overall energy consumption by use of water recycling capabilities and solar power systems.

“We believe that to achieve growth, we need to ensure that we have world-class facilities. The upgrades to our network operations and ongoing expansion will assist us in meeting these expectations while maintaining our excellent service standard,” concluded Michaletos. ©

BRIKOR BREAKS GROUND AT NEW COAL MINE EXPECTED TO CREATE 300 JOBS

Manufacturer and supplier of bricks and coal, Brikor Limited celebrated the launch of Kopanela Mining by breaking ground on the Grootfontein mine in Nigel, Gauteng. Situated adjacent to Brikor's fully owned Ilangabi coal mine, Kopanela Mining will create around 300 new jobs over the next five years.

Siabonga Vezi, regional manager for the Department of Mineral Resources and Energy (DMRE) lauded the initiative's contribution to developing the local economy. "We are pleased to see positive steps forward for Ekurhuleni and have granted mining rights for a period of 30 years."

Kopanela Mining is a broad-based Level 2 BBBEE vehicle formed in accordance with the 2018 Mining Charter to secure future prospecting and mining rights in South Africa. Said chairperson Funeka Mtsila, "In the context of social and economic strain caused by COVID 19, this initiative will play a significant role in aiding recovery by securing employment and financial sustainability to many in Nigel."

Brikor CEO Garnett Parkin said that the move confirmed Brikor's commitments to wealth creation for all its partners and the broader Nigel community. "The formation of Kopanela Mining also affirms Brikor's support and compliance with the DMRE's objectives and



regulations by its 30% BBBEE ownership. We are pleased to have worked closely with the City of Ekurhuleni and the DMRE to bring the Kopanela Mining vision to reality," he said.

Brikor recently released annual results for the year ended 28 February 2022 and reported that coal sales are dramatically higher compared to the same period in 2021 subsequent to the financial year-end. "We are working to ensure that we have sufficient coal stock to meet increased market demand," said Parkin. ©



COROBRIK EXTENDS ITS PRODUCT RANGE.

Corobrik introduces the travertine finish to four of their existing well-known satin face bricks. Black, Platinum, Onyx and Titanium.



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GOVERNMENT UNDERSTANDING AND ASSISTANCE CAN MAKE OR BREAK THE COATINGS SECTOR

The South African coatings sector urgently needs government assistance to counter growing challenges that could endanger its entire future, says Sanjeev Bhatt who was recently re-elected as Chairperson of the SA Paint Manufacturing Association (SAPMA). Here he spells out the sector's main problems for Construction World.



CW: How did the pandemic, and now the war in Europe, affect the coatings sector in terms of supplies, productivity, and profits? Are there signs of a recovery and were producers and retailers equally affected?

SB: Many raw materials for the coatings sector are imported from South East Asia and Europe. So, shipping delays and logistical uncertainty created huge bottlenecks for local manufacturing, thereby affecting productivity and profits. However, the shortage of raw materials led to a lot of sub-Saharan African countries beginning to depend more on South Africa for manufacturing supplies. To a certain extent, this has compensated for the large volumes lost in local sales and helped coatings to weather the worst of the storm.

CW: You suggested at the recent SAPMA AGM that emerging markets and developing economies should be more crises-prepared in future. Can you elaborate on that?

SB: Emerging markets and developing economies such as SA have felt – and are still feeling – the brunt of both the pandemic and the European conflict far more than

developed countries. In SA, it is mainly because of the challenges we already faced before Covid-19 and the Eastern European conflict. The South African emerging market has for some years now had to deal with formidable issues like unemployment, disruptions in electricity supply, crumbling infrastructure and inefficient management of parastatal entities.

CW: What other major challenges are facing the coatings sector at the moment?

SB: Competition from other African countries is a major problem.

At present, the Department of Trade Industry and Competition (DTIC) has confirmed that an African Free Trade Agreement has been ring-fenced for South Africa which will mean that coatings and associated raw material imports from the likes of Egypt will not be allowed duty-free into South Africa. The employment rates that some African governments, such as Egypt, grant their manufacturing sectors make production costs there much lower than in South Africa. If these cheaper imports are allowed to flood the SA market, the local coatings manufacturing sector will suffer serious economic consequences and ultimately cease production. Due to the cost of electricity – and lack of constant supply – as well as the cost of labour in South Africa, we believe the government must assist the coatings sector with rebates for electricity, and any other possible rebates to assist our sector. If not, many SAPMA members will consider moving to alternate countries to set up plants where labour costs are lower and electricity supply more assured.

CW: How can government help more to level the playing field for the coatings sector?

SB: Government and government departments need to work more closely with the coatings sector to ensure that current policies that are in place, or planned, are reconsidered or revised to help our sector to streamline operational processes. Take permits required at ports of entry, for example. These are now required in writing for every single individual consignment brought into South Africa. As some coatings companies have consignments of the same chemicals and raw materials coming into port four or five times a year, the importers laboriously must repeat the same paper-based permit applications over and over again. We would like government departments to make these import permit processes more streamlined – and definitely place it online. Government departments generally should consult members of the coatings sector to better understand our manufacturing process as well

as our supplier needs. SAPMA is hoping to meet with key government departments such as DTIC, International Trade Administration Commission (ITAC) and Invest SA (part of DTIC), as soon as possible to seek help in this regard.

CW: How severe is the shortage of skills in coatings, and at what level in particular?

SB: There is a worrying skills shortage – especially at Chemist level. SAPMA has never stopped training – we are just not doing it anymore via our SA Paint Industry Training Institute (SAPITI), which we have shut down. We are instead working closely with the British Coatings Federation (BCF) which has recently updated its training modules to make it more user-friendly and also cover more fields such as powder coatings, inks and printing in addition to just general coatings tuition. Through SAPMA locally, these BCF courses are available online which make them more accessible to students all over the country. The other benefit of using the BCF training material is that modules completed are recognised both locally and internationally through the BCF.

CW: On environmental issues, is the government doing enough to implement the long-awaited ban on leaded paint?

SB: The Government is moving forward, albeit slowly, with the proposed ban of lead in paint. However, we

realise such issues do take time and implementation is always the greatest challenge. Government departments, such as the Department of Health (DOH) and the Department of the Environment, Forestry and Fisheries (DEFF) have, together with the coatings sector and technical task teams, been collaborating to ensure that there is sufficient sector-input into the new lead and all other regulations. It is important that the DOH and DEFF understand the nature and operations of our sector and realise the potential implications of merely putting a regulation in place without consulting the sector involved. We hope to see positive results in totally banning lead from paints in SA in the coming 12 to 18 months.

CW: What about lead content in imported paints?

SB: This will be managed and tested at ports of entry, as per the amended regulation. The DOH has confirmed that it has acquired hand-held lead-testing devices to detect leaded paint at ports of entry. However, SAPMA has made the DOH aware that these hand-held devices only show that there is lead in the product, and that the coating will need to be taken to an accredited laboratory to confirm that the lead content is in fact in line with the local regulation of less than 90ppm (parts per million). Right now, there are still no accredited laboratories in South Africa to handle this but two labs are in the process of obtaining accreditation, one being SABS. ©

PARTICIPATION INVITED FOR CCSA RESEARCH SYMPOSIUM ON CEMENT AND CONCRETE'S ROLE IN CIRCULAR ECONOMY

Cement & Concrete SA (CCSA) is now calling for abstracts for papers for next year's YCRETS 2023, the second Young Concrete Researchers, Engineers and Technologists (YCRETS) symposium. The forum was established by CCSA in 2021 for young individuals involved in research, design, and application of concrete and cementitious-based materials.

YCRETS 2023 will be a live event in June next year, hosted by the University of Stellenbosch. The deadline for abstracts of papers – to be peer reviewed by an authoritative Scientific Committee – is October 12, 2022. Researchers who will be 35 years of age, or younger, in 2023 are eligible to participate.

Hanlie Turner (**pictured**), Business Development Manager of CCSA, says: "The theme of YCRETS 2023 will be 'Circularity', with the focus on research by young people into the importance of a circular economy in construction, particularly cement and concrete. This is a subject that cannot be over-emphasised to ensure that concrete retains its position as the world's

most widely used construction material. We are seeking papers that will highlight how innovation, materials, design, analysis, and durability contribute and augment cement and concrete's important role in the circular economy. These five subjects, in fact, form the sub-themes of YCRETS 2023."

Turner says YCRETS 2021 – the first of the CCSA research symposia – had proved enormously successful and ensured extended and prominent exposure for all the participants. Papers covering diverse areas of research by young people from countries such as South Africa, Germany, India, Nigeria, Namibia, Finland and Sudan, were presented at the event which had to be virtually staged because of Covid-19 lockdown regulations. Applicants selected to present papers at YCRETS 2023 will next year present their research work in person.

"We are pleased that the University of Stellenbosch has undertaken to host YCRETS 2023 which will reinforce CCSA's commitment to combining all resources for the future of cement

and concrete. Networking at a symposium such as this, and membership of professional bodies such as CCSA, are important tools for young people to join a respected network of professionals and be noticed and regarded as a global influencer," she states.

Proposed abstracts of up to 200 words should be e-mailed to ycrets2023@sun.ac.za. The Scientific Committee for YCRETS 2023 will by December 7 this year announce which abstracts have been accepted for submission of full papers by 3 March 2023. ©



NEW HOLLAND RAISES WITH THE B-SERIES BACKHOE LOADERS

Dig, grade, load and carry – the versatile backhoe loader is truly a do-it-all tool on any construction site. Combining the attributes of a wheel loader and excavator in a single machine, and with the number of various attachments available, it is no surprise that the backhoe loader is one of New Holland Construction's leading products in South Africa.

The New Holland B-Series backhoe loader range offers more options to meet customers' needs which include superior visibility, greater height and reach and a simple operator interface.

"Finding solutions that assist operators to get their work done efficiently and maximise their revenue potential is one of our top priorities," says Wim Farmer, Head of Business Development for New Holland Construction South Africa. "The B-Series backhoe loaders achieve this by including a number of customer-centric enhancements. Our engineers studied all of the possible uses for these machines and sought to optimise performance."

LESS FUEL, MORE POWER

The B80b and B90b backhoe loaders are top-sellers of the B-series line-up, featuring a 3,9 and 4,5 l turbo-charged engine respectively, developed by Fiat Powertrain Technologies Industrial (FPT Industrial). With its 72 kW engine and a digging depth of 4,39 m, these backhoes excel in tough digging conditions, making these machines ideal for grading and land clearing applications.

"These backhoe loaders go the extra mile on a jobsite and deliver the power and torque needed to get any digging, loading, trenching or pushing job done faster," says Farmer. "The engines in these machines improve fuel efficiency without compromising on engine performance."

OPERATOR COMFORT MATTERS

The B-series also boasts a spacious cabin that offers good operator comfort, excellent ergonomics and low noise and vibration levels. Its large, glazed windows and narrow cab pillars provide some of the best visibility in the industry and the rear window on the cab features overhead sliding glass, with a slight overhang to protect operators against the elements. It also includes a high grip floor cover to help prevent the operator from slipping when entering with muddy footwear and can be removed for easier cleaning. The cab also features small additional details such as a deluxe operator's seat, adjustable armrest, wide glove box and cup holders, adding to the operator's comfort for those long workdays.

BEST IN CLASS ACCESSIBILITY

The ease of serviceability on the New Holland B-series provides maximum uptime and profit. The tilted forward hood is easy to open and provides excellent ground level access to the engine and service points, with low effort for routine maintenance needs.

THE RIGHT ATTACHMENT FOR THE JOB

There are numerous attachments available for the B-series backhoe loaders including augers, booms, forks, hydraulic

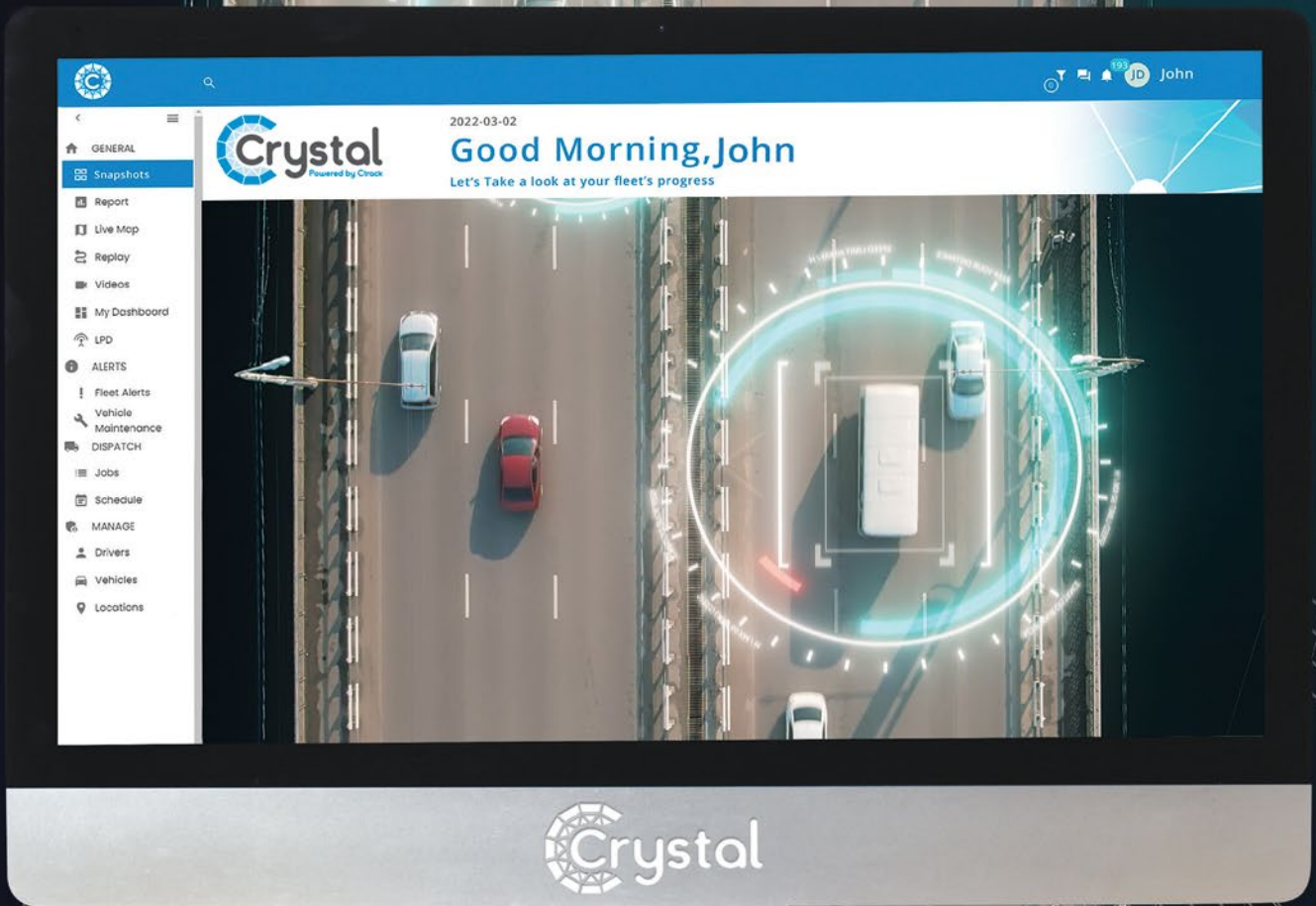


hammers, and rakes. The quick coupler mounting system results in fast and easy attachment mounting and increases the machine's utilisation on the job site.

"Every attachment is designed to save you time and money, so setting up the attachment is as easy as plug and play," says Farmer. "Each of our attachments has been thoroughly tested by New Holland Construction engineers, so you know it will deliver even in the most demanding applications." ©

ABOUT NEW HOLLAND CONSTRUCTION

New Holland Construction South Africa is a key player in the construction equipment industry born of the rich heritage of brands that made the history of this sector. In partnership with a worldwide network of dealers, the company delivers products and services that meet all customer requirements such as productivity, safety, environmental performance, fuel efficiency and cost effectiveness.



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* Some product functions not immediately available in Africa. Image for illustration purposes only.



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