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NOVEMBER 2024

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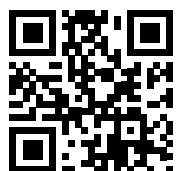
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ON THE COVER

In early 2025, Babcock will introduce a new range of Volvo excavators in the 21-36 tonne (t) segment. In addition to pushing the boundaries of productivity, fuel efficiency and lower total cost of ownership, the range will be price-competitive, a critical factor in the price-conscious 21-t plus excavator market in Southern Africa. With its new range of excavators set to make its Southern African debut early next year, Volvo Construction Equipment (Volvo CE) placed a special design focus on simplicity, without sacrificing on innovative features that speak directly to increased reliability, productivity and fuel efficiency.

Please turn to page 16





During the last 14 years in which I have managed Construction World's annual Best Projects awards, I have had the opportunity to gain in-depth knowledge about projects that most in the industry will ever just read headlines about. The entries have closely followed the business and relevant contextual conditions of the time and entries have varied from mammoth infrastructure projects to smaller projects.

An ever-intensifying trend has been the importance of green building, even in more traditional construction projects. The Green Building Council South Africa's (GBCSA) 17th Green Building Convention takes place (or took place – depending on when you read this) from 5-7 November at the Century City Conference Centre in Cape Town.

As the climate crisis intensifies,

transformation in the building sector is more urgent than ever. The GBCSA's Green Building Convention aims to bring together significant role players in sustainability in the built environment and celebrate forward-thinking.

A project that received a Best Projects award for its architect, Boogertman + Partners, in 2023 is Balwin Properties' Thaba Eco-Village Lifestyle Centre and Montessori School. This developer has just secured its 10th 6 Star Green Star Design Rating for a lifestyle centre with this development. This recognition includes a Net Zero Carbon Level 1 Design rating, a matter of great importance to the GBCSA.

Balwin Properties now has an impressive portfolio of 6 Star Green Star Design Rated Lifestyle Centre properties. Thaba Eco joins other green rated developments Greenlee, Greenbay, Greencreek, Greenpark, The Reid, Fynbos, The Huntsman, Ballito Hills, De Zicht, as well as the Balwin Properties head office.

The Green Star certification, developed by GBCSA, serves as a trusted mark of excellence for sustainable building design, construction, and operation across South Africa. The Net Zero Carbon rating reflects a building's commitment to minimising carbon emissions throughout its lifecycle, from design and construction to operation. The Thaba Eco-Lifestyle Centre and Montessori School's green building strategy emphasised specific areas: Management, Indoor Environment Quality (IEQ), Energy Efficiency, Transport, Water conservation, Materials, Land Use and Ecology, Emissions Reduction, and innovative practices.

An important category

Despite less than ideal trading conditions, this year's entries for Best Projects illustrated the depth that exists in the local construction industry. A total of 84 projects competed in six categories and in some categories the many entries made the competition fierce.

The AfriSam Innovation Award for Sustainable Construction was one of the first of its kind that recognised what would become a vital form of construction. The category had the most entries of Best Projects and the array of winners – from civils to building - illustrates that sustainable construction is not just limited to building.

The December issue of *Construction World* is always a highlight on the publishing calendar as it not only recognises the winners of these awards, but also the entries that help make this industry so resilient and excellent. Don't miss it.

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THE STORY,
BAG BY BAG.**





Unlocking the blueprint for **SOUTH AFRICA'S** **INFRASTRUCTURE DEVELOPMENT**

*As South Africa stands at the cusp of a new era of partnership and national unity, the urgency for a robust and efficient infrastructure network has never been more apparent. The newly appointed Public Works and Infrastructure Minister, Dean Macpherson, has rightly called for a “new vision and reality” to rebuild the country's foundation through coordinated infrastructure development to unlock new economic opportunities. **By Sabine Dall'Omo, CEO of Siemens Sub-Saharan Africa***

The Minister recently announced the establishment of an Infrastructure Advisory Committee, underscoring the need for strategic investments and innovative approaches to transform South Africa's landscape and improve the lives of millions. From modernising energy grids to revitalising water systems, here's how South Africa can map out a prosperous future where world-class, digitalised infrastructure powers economic growth and creates opportunities for all South Africans.

South Africa's infrastructure landscape calls for change

South Africans have grappled with unreliable electricity supply, water shortages, and inefficient transportation systems. South Africa's National Development Plan 2030 acknowledges that these are not mere inconveniences but significant barriers to economic growth and social

progress. Load shedding disrupts businesses and households, while water scarcity threatens urban and rural communities.

The struggle to access clean, potable water is a daily reality for many South Africans, as evidenced by the 2023 cholera outbreaks linked to inadequate water treatment facilities. Meanwhile, an overburdened and ageing rail network hampers the efficient movement of goods and people, increasing costs and reducing competitiveness.

However, there is cause for optimism. Minister Macpherson's call for a coordinated approach to infrastructure development aligns perfectly with what industry experts have long advocated.

By bringing together government, private sector, and civil society, we can create a synergy that addresses immediate needs and lays the groundwork for sustainable, long-term growth.

Priorities for a prosperous future

Realising this vision will require a comprehensive approach that addresses multiple facets of our infrastructure landscape. The Siemens Pictures of Transformation Report reveals that modernising and expanding our energy infrastructure lies at the heart of this transformation.

This expansion goes beyond increasing generation capacity to embrace smart grid technologies and diversify our energy mix with renewable sources. This approach will improve distribution efficiency and ensure a more reliable and sustainable power supply for all South Africans.

Underpinning all these efforts must be a commitment to leveraging digital technologies across all infrastructure sectors. The Internet of Things, artificial intelligence, and big data analytics offer unprecedented opportunities to transform how we build, manage, and maintain our infrastructure. By harnessing these technologies, we can drive greater efficiency and cost-effectiveness throughout our infrastructure ecosystem.

Transportation, particularly our rail network, demands urgent attention. Revitalising this sector requires more than just repairing existing lines; it calls for bold investments in new, high-capacity corridors capable of efficiently moving goods from production centres to ports and urban areas. A modern, reliable rail system holds the potential to significantly reduce transportation costs, ease road congestion, and boost our export competitiveness on the global stage.

However, none of these advancements will be possible without a concurrent focus on human capital development. We must prioritise skills development and capacity building. This means investing in training programmes and forging partnerships with educational institutions to ensure South Africans have the knowledge and expertise to build and maintain the digital infrastructure of tomorrow. By nurturing our human resources alongside our physical infrastructure, we can create a sustainable cycle of growth and innovation that will propel South Africa into a prosperous future.

The economic imperative of digital infrastructure development

These recommendations are not just theoretical. They are backed by compelling local and global evidence. The economic impact of such infrastructure investments cannot be overstated. The Pictures of Transformation Report reveals that, by 2040, South Africa will still have an energy backlog. Enough renewable energy generation will be in vain if the infrastructure does not exist to transmit and store this energy. Digital innovations have the potential to address complex energy supply demand problems and advances in renewable energy storage will be an economic game changer.

With sufficient energy infrastructure, South Africa could meet the energy demands of 95% of the population through on-grid and off-grid connections by 2040. The market could total 7,5 GW of installed capacity by 2035. In addition, the mobility sector will be boosted by substantial electrical energy generation and other alternative forms of fuel such as hydrogen.

Technological interventions, new innovation and multisectoral collaborations are critical and can lead to a boom in digital infrastructure, connected mega

cities and better municipal infrastructure. Digital transparency could overhaul municipal trading services and infrastructure management. For instance, digital solutions will make services such as proper rail signalling more effective and efficient and will reduce non-revenue services to improve the health of the public purse.

South Africa's rail and air freight volumes could more than double by 2040. Equally critical is the overhaul and expansion of our water infrastructure. This encompassing task involves upgrading treatment plants, implementing cutting-edge leak detection systems, and investing in innovative water management technologies. Developing the country's water infrastructure will help guarantee universal access to clean, safe water while promoting conservation and recycling practices that safeguard this precious resource for future generations.

In the energy sector, a recent project in the Eastern Cape introduced an independent microgrid in the remote village of Upper Blinkwater. This system now provides electricity to 70 homes, delivering enough power for essential needs such as mobile phone charging, television, and appliances. The project also supports communal facilities, including shared washing machines, further enhancing the community's quality of life.

Additionally, a clean water project employing advanced leak detection systems addressed combined sewage systems in Yorkshire Water's waterways overflowing untreated water during heavy rainfall. This novel approach has shown immense success in a trial involving 70 sites across the region, providing up to two weeks advance notice of blockages.

Adopting innovative approaches to fund the future

While public funding will play a crucial role, it's clear that new funding models and private sector participation will be essential. Public-private partnerships (PPPs) offer a promising avenue to pool resources, expertise, and innovation. These partnerships can help bridge the funding gap, accelerate project delivery, and ensure long-term sustainability.

Moreover, exploring innovative financing mechanisms, such as green bonds and infrastructure funds, can help attract domestic and international investment. By creating a conducive environment for private sector involvement and ensuring transparency and accountability, South Africa can unlock the capital needed to fuel its infrastructure renaissance.

Uniting to build a vision of a thriving South Africa

As Minister Macpherson rightly points out, we must transform South Africa into a "massive construction site." Achieving this will require all stakeholders – government, private sector, civil society, and ordinary citizens – to unite in a spirit of collaboration and shared purpose. We must pool our resources, expertise, and innovative ideas to overcome the challenges that have held us back for too long.

The road ahead may be challenging, but the destination is clear – a South Africa with world-class infrastructure that powers economic growth, enhances the quality of life and creates opportunities for all its citizens. As industry leaders, we can heed the Minister's call by working together to realise South Africa's infrastructure vision and build a brighter future for all South Africans. ©



Hatch presents strategic insights on the heavy **HAUL LOGISTICS VALUE CHAIN**

Leading railway engineers from Hatch, a global engineering, project delivery, and professional services firm, have released a comprehensive framework for the assessment, management, and rehabilitation of railway infrastructure. Timothy Jideani, Railway Engineer; Keaton Raman, Lead Rail, Civil and Perway Engineer; and Bennie Vorster, Regional Director of Rail and Transit, have co-authored two white papers that address these critical challenges within the heavy haul sector.

One of the papers, titled “Railway System Condition Assessment Outcomes and Action Plan Implementation,” was prominently presented at the South African Heavy Haul Association (SAHHA) Annual Conference, held in Johannesburg in August. The conference focused on the theme “Positioning Heavy Haul for Success: Pit to Port” and provided a platform for discussing challenges and opportunities within the sector.

The white paper and its presentation were directly aligned with the conference's vision. Brian Monakali, chairman of SAHHA, stated, “The conference aimed to provide a platform for industry players to discuss our challenges, solutions, and opportunities, and pave a pathway toward achieving a globally competitive heavy haul system.” Hatch's paper resonated with these objectives, reflecting a commitment to addressing key sector issues.

As a silver sponsor, Hatch took centre stage on the second day of the conference, with Vorster delivering an in-depth presentation on the heavy haul logistics value chain. Vorster's presentation dissected the interconnected elements, and the interdependencies of the various sub systems involved in the heavy haul logistics value chain.

Raman's presentation focused on the integrated elements of railway infrastructure, emphasising four key areas:

- Railway infrastructure assets
- Condition assessment and monitoring
- Asset management: Maintenance and rehabilitation
- Implementation challenges

The critical role of rail transport within the logistics value chain was highlighted with Hatch experts advocating for the adoption of modern technologies to enhance asset management.

“Optimising capacity and operational efficiencies within our rail networks necessitates well-defined strategies across all subsystems,” Vorster stated. “By leveraging digitalisation, AI, and advanced monitoring technologies, we can manage asset conditions proactively and implement maintenance interventions with greater precision, increasing the overall value chain reliability.”

In a parallel session on network capacity, Raman explored the technical complexities of these strategies, emphasising the need for a multidisciplinary approach to railway asset management. Raman underscored the importance of collaboration among the civil, mechanical, electrical, and electronic engineering disciplines, alongside logistics and

supply chain management, in maintaining a safe, reliable, and efficient heavy haul system. The white paper and accompanying presentations outlined a roadmap for the condition assessment of aging railway systems, many of which have exceeded 50 years of service. Vorster and his team demonstrated the application of advanced technologies, including sensors, unmanned aerial vehicles (UAVs), and AI, to conduct real-time condition monitoring and predictive maintenance. These innovations are crucial for sustaining the infrastructure that underpins the heavy haul industry. Modern condition monitoring systems provide maintenance engineers with precise data on physical asset conditions, such as temperature, acoustic signatures, and internal defects. The use of AI in processing large datasets further enhances decision-making processes, enabling timely interventions. “The integration of AI and machine learning in condition assessment processes is essential for optimising maintenance schedules and preventing system failures,” Raman asserted.

As the conference drew to a close, Raman emphasised the importance of updating railway condition benchmarks to align with current operational realities. He advocated for continuous assessment and timely interventions to prevent asset failures and ensure the long-term viability of South Africa's heavy haul railway networks. “Integrating modern technologies into our maintenance regimes is not merely an option but a necessity,” Raman concluded. “Our approach must be data-driven and risk-focused, ensuring that every decision we make enhances the reliability and safety of our railway systems.”

Hatch published two further papers at the conference, the first of which focused on addressing the ongoing challenges faced by railway operators amidst asset decay through a risk-based assessment methodology. This paper was co-authored by Anneri Robinson, rail systems lead, and Nathan Wilson, engagement manager in Hatch's Advisory team.

The second paper provided insights on the private partnerships and investment required to unlock rail capacity growth. This paper was authored by Herman Strauss, principal, supported by Nico Smit, senior principal and Khutso Segkoga, senior principle all of whom are part of Hatch's advisory team.

Hatch's contributions to the SAHHA 2024 Conference have fostered ongoing dialogue and innovation within the heavy haul sector, underscoring our commitment to advancing South Africa's railway infrastructure for future success. ©

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The evolution of cybersecurity in the **CONSTRUCTION INDUSTRY**

The increasing connectedness of the world means cyber threats have become a daily occurrence. No sector is safe as cybercriminals look to exploit any weakness to compromise infrastructure and systems, and steal data. Organisations in the construction industry, often seen as a traditional sector, must navigate securing their environments or risk significant financial and reputational damage.

By Morag Evans, CEO of Databuild



Sensitive information, including designs for critical infrastructure or financial details of projects, is often shared electronically and on numerous devices. This makes these businesses a valuable target for cybercriminals.

Building stronger defences

To address these vulnerabilities, construction companies must prioritise cybersecurity alongside traditional safety measures.

This begins with awareness. Management must understand how important it is to protect the digital assets of a construction project. To do so requires the adoption of cybersecurity protocols, training employees on recognising threats,

and investing in secure digital infrastructure.

One effective strategy is to adopt a proactive approach to cybersecurity. This is often described as ‘the three Ps’ – prevention, protection, and preparation. Prevention involves taking steps to reduce the likelihood of an attack. For example, using secure communication channels and regularly updating software.

Protection centres on safeguarding systems through firewalls, encryption, and other security measures. Finally, preparation entails making sure that companies have a response plan in the event of an attack. This can help minimise damage and ensure a faster recovery.

Looking ahead

Cybersecurity must become an integral part of the construction sector’s move to embrace digital transformation.

The consequences of a cyberattack can be severe. Financial and reputational damage could be significant as could the impact on project delivery. By recognising the importance of cybersecurity and taking steps to mitigate risks, construction companies can protect their projects, clients, and themselves from the growing threat of cybercrime.

In the end, just as the industry has adapted to new building materials and construction techniques over the years, so too must it adapt to the realities of the digital age. By doing so, these businesses can build not only the physical infrastructure of tomorrow but also a secure and resilient foundation for the future. ©

Historically, construction companies focused on physical safety. From ensuring that structures were sound, and workers protected to having projects comply with strict regulatory standards.

However, the digital age has introduced a new dimension of risk that many in the industry are only now starting to fully appreciate. Cybersecurity incidents, once the domain of tech firms and financial services providers, have increasingly targeted the construction sector. Cybercriminals recognise the valuable data, large sums of money and critical infrastructure these companies handle.

In recent years, there has been a rise in cyberattacks on construction firms globally. These incidents have ranged from ransomware attacks that cripple operations to sophisticated scams that siphon off large sums of money. The frequency and impact of these attacks highlight that cybersecurity has become just as important as physical safety in the construction industry.

Why construction is vulnerable

Several factors make the construction industry an attractive target for cybercriminals. Firstly, construction projects often involve an extensive network of contractors, subcontractors, suppliers, and clients. The cybersecurity maturity of each of these businesses can be massively different, resulting in multiple potential entry points for attackers.

Because the construction industry, like virtually every other sector in the world, is reliant on emails, companies are susceptible to phishing and other cyberattacks.



**FEATURES
FOR 2025**

Editorial calendar **AND FEATURES**

JANUARY, MAY*, SEPTEMBER

ROADS AND BRIDGES

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

FEBRUARY, JUNE, OCTOBER

CIVIL CONSTRUCTION

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

MARCH, AUGUST, NOVEMBER**

GENERAL CONSTRUCTION

- Readymix
- External finishes
- Alternative power solutions
- Architects

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

APRIL, JULY

CONSTRUCTION MATERIALS

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

DECEMBER

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

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

Detailed briefs for our features are available from the Editor

African economies remain resilient IN THE FACE OF GLOBAL CHALLENGES

Africa's economies have shown resilience in the face of global challenges, with projected growth rates expected to outpace the global average, reaching 3,7% in 2024 and 4,3% in 2025. However, sustained long-term growth is still challenged by infrastructure gaps, climate change impacts and sociopolitical issues. Countries with diversified economies and strong governance are better positioned for growth.



This is according to the 35th edition of the highly respected 'Africa Cost Guide: Property & Construction 2024/25' from globally trusted infrastructure consulting firm AECOM. "South Africa remains a top investment destination despite lower growth rates. The public and private sectors can enhance this perception by improving transparency, governance and investing in critical infrastructure projects," comments Michell Bezuidenhout, newly appointed PCC Director.

Aimed at the broader built environment, the Africa Cost Guide is endorsed and disseminated by key associations such as the Association of South African Quantity Surveyors (ASAQS), with Dr. Gerhard Brümmer (PrQS, PMAQS) as the principal author. "The guide is a testament to AECOM's dedication to excellence, encapsulating the essence of our relentless pursuit of progress," comments Niel du Pisani, Associate Director, Cost Management, Africa.

"We have clients asking when the new guide will be available, as they keep it handy for reference. It has become an important resource, regularly used and referenced by key industry players from architects to property developers," adds Du Pisani.

The Africa Cost Guide stresses the need for an holistic approach to infrastructure in South Africa, considering economic benefits and social values like health, quality of life and social inclusion. It aligns with AECOM's 'Think and Act Globally' strategy, leveraging global expertise and digital innovation to deliver locally tailored solutions informed by global best practices. This integrated approach addresses local challenges such as unemployment, public health, and infrastructure deficits while benefiting from international collaboration.

This year's guide highlights several interesting trends, including the growing demand for Purpose-Built Student Accommodation (PBSA), as highlighted by the Cape Station project in Cape Town, the continued importance of digital

transformation in construction through technologies like 5D BIM, which enhance cost management and improve project outcomes, the growing focus on ESG criteria, and the rise of public-private partnerships to fund large-scale projects.

Africa is becoming a global investment hotspot, particularly as countries diversify their economies and focus on decarbonisation, energy transition and infrastructure development. Africa holds a significant share of the world's natural resources such as cobalt, diamonds and platinum, which are critical for industries undergoing green transitions.

There is also a growing recognition of Africa's vast renewable energy potential, which is drawing interest from investors focused on sustainable infrastructure. This shift is attracting significant foreign investment from emerging markets like China, India and the UAE, which are financing a substantial portion of infrastructure projects.

As sustainability increasingly becomes a key focus in construction and development, du Pisani emphasises the vital role of value engineering in addressing environmental impacts across projects. Expressing optimism about the evolving investment landscape, Du Pisani states: "It is encouraging to see sustainability becoming the norm."

AECOM is now incorporating green practices into every design. "There is definitely a shift in client demands towards more sustainable solutions," adds Du Pisani. Africa is also an emerging hotspot for renewable energy investment. "Foreign investment is growing, and we need to tap into those opportunities."

Building inflation is currently between 5% and 6% annually, a significant factor that clients typically manage well. However, concerns about financing for larger projects persist. "Our main clients do not face issues accessing funds, but smaller companies might struggle," says Du Pisani.

The constant demand for cost-effective solutions remains a priority. "We always focus on achieving a balance in project costs," says Du Pisani, acknowledging the delicate balancing act required to optimise both construction and operational efficiency.

"The Africa Cost Guide not only enhances AECOM's value proposition but also benefits clients seeking to navigate the complexities of modern development. As the industry continues to evolve, the integration of sustainability and value engineering will be critical in shaping a more resilient future," says Du Pisani.

"Our message to clients emphasises resilience and innovation. Despite local and international challenges, we are committed to delivering value-driven, sustainable solutions to meet the evolving needs of our clients. We leverage our global expertise, digital tools and adaptability to navigate our clients' complex projects in uncertain times," concludes Bezuidenhout. ©

The future of Public-Private Partnerships (PPPs) in **GOVERNMENT'S NEW UTILITY STRATEGY**

South Africa's Government's New Utility (GNU) strategy aims to revolutionise infrastructure development by leveraging the strengths of the private sector through Public-Private Partnerships (PPPs). This approach allows the government to access private sector expertise, technology, and funding, facilitating essential infrastructure projects that drive economic growth and improve public services.

PPPs are long-term agreements between public and private sectors for delivering public services or infrastructure. The private partner is responsible for designing, building, financing, and operating the infrastructure, while the public sector maintains ownership and oversight. This model enhances service delivery and fosters innovation.

Robert Palmer, Head of Professional Services at Afroteq Advisory, a leading provider of integrated, multi-disciplinary support for the built environment, facilities and property sectors, notes that “integrating private sector capabilities within public projects can lead to significant improvements in efficiency and quality.” He emphasises the need for robust partnerships that adapt to the evolving landscape of infrastructure development.

Key areas for private sector involvement

The GNU strategy identifies key areas for private sector participation, including:

- Energy: Involving the private sector in renewable energy projects to diversify the energy grid.
- Transportation: Utilising PPPs for road maintenance and public transport development.
- Water and Sanitation: Partnering with the private sector for sustainable access to clean water.
- Information and Communication Technology (ICT): Collaborating on digital infrastructure development.

Benefits of PPPs in infrastructure development

Palmer highlights several significant benefits of PPPs in South Africa's infrastructure landscape, including:

- Increased Efficiency and Innovation: Private sector expertise leads to more innovative project execution.
- Improved Service Delivery: Enhanced management practices elevate public service quality.
- Access to Funding and Expertise: The private sector provides critical funding and specialist knowledge.
- Risk Sharing and Management: Effective distribution of risks across stakeholders.
- Job Creation and Skills Transfer: Stimulating local economies through job creation and skills development.

“By leveraging both public and private sector strengths, PPPs facilitate efficient project delivery, enhance

service quality and promote sustainable development,” Palmer asserts.

Regulatory framework and institutional support

To support successful PPPs, the South African government has established institutions and frameworks, including the PPP Unit for technical support, the Infrastructure Development Act for transparency, and the National Treasury's PPP Manual for project guidelines.

Engagement models for private sector participation

Private companies can engage in South Africa's infrastructure development through several models:

- Build, Operate and Transfer (BOT): The private entity builds an infrastructure project, operates it for a set period, then transfers ownership back to the government.
- Design, Build, Finance and Operate (DBFO): This model encompasses all project phases within a single contract.
- Concession Agreements: Contracts that grant the private sector the right to operate a public service or facility for a defined period.

Requirements for success

For successful PPP arrangements, private sector partners must:

- Demonstrate technical expertise.
- Offer innovative solutions.
- Ensure financial sustainability.
- Engage local communities for support.
- Comply with regulatory frameworks.

Conclusion

The GNU strategy offers significant opportunities for private sector involvement in South Africa's infrastructure development through PPPs.

By leveraging private sector expertise and funding, the government can deliver critical infrastructure projects that drive economic growth and enhance service delivery.

As Palmer states, “The future of infrastructure in South Africa lies in forging strong, collaborative relationships between public and private sectors, paving the way for a sustainable and prosperous nation.” ©



*Robert Palmer,
Head of Professional Services at
Afroteq Advisory.*

Project Management Institute champions a **NEW ERA OF “PROJECT SUCCESS”**

Project Management Institute (PMI) has launched the most ambitious research initiative in its 55-year history, challenging long-standing views on what defines project success and the role of project professionals. PMI aims to ignite a global movement by shifting the focus from traditional metrics like schedule, budget, and scope to a broader perspective that prioritises stakeholder value and accountability. The research unveils a new definition of project success: successful projects deliver value that justifies the effort and expense. This broader definition incorporates both hard facts and perception, igniting a major shift in how project professionals should view their roles.

“This is about going beyond project management success to simply project success,” said Pierre Le Manh, President and CEO of PMI. “We must take accountability beyond the technical side of our work. The research shows that what truly matters is how stakeholders perceive the value of a project relative to what it took to get there. Our profession must embrace this shift and hold ourselves accountable for the ultimate success of the projects we lead, not just their proper management. Recognition and career opportunities will follow when we are seen as the key drivers of this value, especially as AI automates more tasks.” Based on this new definition, PMI research reveals that 48% of projects are considered successful, while 40% fall into a gray area – neither failures nor successes – and 12% are outright failures.

This shift comes at a critical moment, as AI delivers new productivity breakthroughs and forces many professions to

reinvent themselves, while the acceleration of transformation demands professionals who can lead it. In the next decade, industries worldwide will need millions of new project professionals. A recent LinkedIn study ranked project management as the fourth most in-demand competency for 2024. The research also reveals that project success varies across industries. Sectors like industrials, construction, and healthcare report the highest success rates, while government and consulting projects lag behind. Projects that deliver value in the form of social impact are 1,6 times more likely to be deemed successful. Meeting defined requirements (1,5 times) and customer satisfaction (1,6 times) further underscore the importance of a value-focused approach to project success.

Projects with clear goals, performance management systems, and tracked metrics over the project’s life were nearly twice as likely to succeed. Other important levers include a sound business case, positive team morale, adequate funding, and effective resource management. PMI is leading a global conversation on project success, engaging professionals worldwide to rethink how their projects deliver value. ☺

ABOUT PROJECT MANAGEMENT INSTITUTE (PMI)

Since 1969, PMI has been the leading authority in project management, empowering professionals with knowledge, certifications, and community to lead successful projects. PMI drives innovation and elevates project professionals and organisations globally, aiming to create an impact that benefits both businesses and society.

CNN’s *Connecting Africa* explores the impact of the AfCFTA

In a new episode of *Connecting Africa*, CNN’s Eleni Giokos and Victoria Rubadiri explore the impact of the African Continental Free Trade Area (AfCFTA) so far.

The AfCFTA is the world’s largest free trade agreement and 54 of Africa’s 55 countries have signed up to the deal, covering a market of 1,3 billion people. Established in 2018, it aims to boost economic growth, intra-African trade, and investment across the continent.

Giokos spoke to Wamkele Mene, the Secretary General of the African Continental Free Trade Area, about the agreement’s successes and what can be improved. He responded to criticism that the implementation of the AfCFTA has been slow, “We are overcoming 60 years of market fragmentation. It’s not going to happen overnight. And we know this from the experience of the European Union, the market integration, which is arguably the most successful market integration model in the world.”

Mene discussed the challenges posed by the various visa processes to travel around the continent, “It’s a significant barrier and constraint to intra-Africa trade and intra-Africa investment. There are only four countries that to date have ratified the African Union’s protocol on movement of persons, only four countries. There is an emotional instinct to allowing



movement in some countries.

Investment in big infrastructure projects is seen as key to the AfCFTA’s success. In South Africa, two mega bridges are under construction on the N2 Wild Coast Road that should boost trade and economic growth. Reginald Demana, CEO of SANRAL, talked about the importance of the project, “It’s probably the only part of the country without a rail connection, which means that you don’t even have an alternative of moving freight except

on the road. Secondly, we have also seen an explosion of freight moving into Durban and also related congestion issues. So naturally, once you have the route that is able to connect Durban and other Eastern Cape ports, safer, shorter, flatter route will certainly lead to, route efficiency that will certainly reduce the cost of travel.”

Demana said they hope the construction will be completed by 2027, with the Mtentu Bridge set to be the highest in Africa. SANRAL’s Regional Manager Mbulelo Peterson explained the benefits the development will open up, “The construction of this road will actually result in time savings, especially for trucks. Anything from one and a half hours to three hours. It is more economical, less toxic in the emissions, and it is opening up the most important area of the Eastern Cape.” ☺

A woman with a prosthetic left arm is sitting on a wooden bench in a locker room. She is wearing a dark blue long-sleeved shirt and patterned leggings. She is holding a black water bottle with her prosthetic arm. The locker room has blue lockers and shelves with folded towels. The word "Unempowered." is overlaid in large white text with a purple rectangular block covering the letter 'U'.

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Breaking construction's **'TOUGH-GUY' CULTURE**

Traditional and institutionalised beliefs about masculinity play a significant role in shaping men's behaviours and attitudes toward the mental pressures related to their occupation. But few industries struggle with this issue as much as construction. Concerningly, research by the Construction Industry Rehabilitation Plan (CIRP) reveals that around 80% of construction workers have experienced moderate to severe mental issues. The industry also has one of the highest suicide rates among men, according to the Center for Disease Control (CDC).

By Roelof van den Berg, CEO of the Gap Infrastructure Corporation (GIC)

The idea of traditional masculine behaviour is often named as a major reason that some men have trouble expressing their emotions. This may make them uncomfortable sharing their feelings or finding the right words to describe their emotional state, often due to fear of what others may think. It also discourages workers from seeking help for mental health issues, which may lead to serious consequences like increased rates of depression, anxiety, and even suicide.

For workers, this mental health crisis may affect the way they behave in and outside of work, and even negatively impact their long-term health. Chronic stress, for example, may increase the risk of hypertension and heart disease, which have long-lasting negative effects. Workers struggling with mental health issues may also have impaired concentration and decision-making abilities, increasing the likelihood of accidents and safety violations, and endangering their own lives and the lives of the people around them – especially in high-risk construction zones.

Meanwhile, employers who fail to address these issues adequately may face higher rates of absenteeism, reduced productivity, higher turnover rates, higher healthcare costs, and increased liability. Moreover, a workforce struggling with mental health issues is less likely to be

engaged and motivated, negatively impacting the overall morale and efficiency of the team.

At the Gap Infrastructure Corporation, for example, we have realised substantial benefits from focusing on mental health at our worksites, and ensuring that our employees feel cared for and empowered to seek the help they need.

As an industry, it's time to resolve the 'tough-guy dilemma' by further encouraging key stakeholders to join in changing the culture surrounding mental health, beginning with three key steps:

Encouraging help-seeking behaviour

The first step to addressing mental health in the industry is for employers to make support more easily accessible and, more importantly, normalised. Many workers are reluctant to share their struggles because they fear being judged or seen as weak. Workplaces need to shift the narrative, and reposition help-seeking behaviour as a positive for long-term wellbeing.

Employers should also introduce a workplace culture where mental health is openly discussed as a form of injury prevention in the same way as other safety protocols, making it clear that psychological health is just as important as physical safety.

This positive cultural shift can be further supported by offering confidential counselling services and providing access to mental health professionals, or by partnering with organisations that specialise in workplace mental health. Most importantly, workers need to know that their employer supports them, and that reaching out for support will not lead to negative repercussions.

Providing training for supervisors

Supervisors and managers play a critical role in determining how mental health is viewed and talked about in their workplace. These leaders serve on the front lines, interacting with workers daily, and are often the first to notice signs of distress. However, many supervisors may not know how to handle mental health issues appropriately or may feel uncomfortable addressing them. As such, supervisors need to be equipped with the knowledge and tools to recognise when someone is struggling and how best to respond. Training programmes that focus on championing mental health, active listening, and crisis intervention can make a significant difference. These programmes can help supervisors understand how to approach sensitive conversations, making sure workers feel heard and supported rather than dismissed or marginalised.

Redesigning work environments

Beyond cultural changes, the industry also needs to rethink the physical environment of construction sites. These are often high-pressure, high-stress sites where workers are constantly exposed to physical danger. By incorporating mental health considerations into site design and management, companies can create spaces that support workers' wellbeing.

This might involve creating quiet areas where workers can take a break from the noise and stress of the site, or offering wellness programmes that encourage physical and mental health practices such as meditation, yoga, or relaxation techniques.

Small changes to the physical environment can make a big difference, giving workers the opportunity to decompress during their shift and manage their stress levels more effectively.

Ultimately, creating a healthy workplace and culture requires commitment from the top. Leadership sets the tone for the entire organisation, and if the leadership team isn't committed to making mental health a priority, the message won't resonate with workers.

Employers need to lead by example, and show workers that we care about their wellbeing, not just through words, but through action. ☺

CIOB SIGNS UP TO #GreenSkillsAtCop campaign

The world's leading professional body for construction management and leadership has pledged its signature to the #GreenSkillsAtCop campaign.

Kickstarted by the Institute of Environmental Management and Assessment, the campaign calls for green skills to be integrated into national action plans for biodiversity and climate change.

The Chartered Institute of Building (CIOB) has joined the cause ahead of November's Climate Change Conference in Baku, Azerbaijan, to highlight the significant lack of green skills within the construction industry.

Amanda Williams, head of environmental sustainability at CIOB, said: "Addressing the significant green skills gap will be essential in creating a more sustainable built environment.

"By joining the #GreenSkillsAtCop campaign, we hope to encourage governments across the globe to give proper focus to the issues the industry is facing and to put measures in place to address the deficit."

Findings from LinkedIn data's Global Climate Talent Stocktake estimate the talent pool for green skills in key industries, like construction, needs to double just to keep up with the projected demand.

For example, Australia needs a massive 200 000 more people working in clean energy jobs by 2030 alone.

Meanwhile, the World Green Building Council recently revealed a lack of trained green building professionals as the sixth most substantial barrier to sustainable building globally and the biggest block in South Asia.

Williams continued: "Clearly, there is a global lack of trained workers with green skills and the construction industry is not immune to the deficit.

"Governments across the world need to accept the severity of the situation and do more to fund the right

training so we get more people in the critical roles which are essential for construction projects to meet sustainability targets."

CIOB will attend this year's COP29 conference and will continue to highlight the skills issue with policymakers and other industry stakeholders.

Williams concluded: "We know the built environment is responsible for almost 40 per cent of energy-related CO₂ emissions, and addressing this has the potential to accelerate the transition to a net zero future.

"We must ensure the built environment is at the front and centre of the discussion, so global leaders recognise the importance of engagement with our industry."

For more information on the #GreenSkillsAtCop campaign, visit: www.greenskillsatcop.iema.net ☺





BABCOCK TO LAUNCH NEW 21-36 t range of Volvo excavators



In early 2025, Babcock will introduce a new range of Volvo excavators in the 21-36 tonne (t) segment. In addition to pushing the boundaries of productivity, fuel efficiency and lower total cost of ownership, the range will be price-competitive, a critical factor in the price-conscious 21-t plus excavator market in Southern Africa.

With its new range of excavators set to make its southern African debut early next year, Volvo Construction Equipment (Volvo CE) placed a special design focus on simplicity, without sacrificing on innovative features that speak directly to increased reliability, productivity and fuel efficiency.

While Volvo CE excavators for the southern African market have traditionally come from South Korea, the new range will be made in the company's Chinese factory, under strict Volvo CE quality standards. With over 50 000 m² of office and testing space, Volvo CE's advanced research and development (R&D) centre in Jinan, China, focuses on the development and testing of Volvo CE products. Through the development of cutting-edge products and technologies, the centre, which employs some of the brightest technical minds within Volvo CE globally, has been one of the forces behind the Swedish manufacturer's ability to stay ahead of its competition.

"Simplicity is a core design value of the new Volvo excavators in the 21-36 t size class, allowing us to offer a price-competitive machine that is also cost-effective to run and maintain. This is particularly important in such a price-sensitive segment where there are more choices of suppliers for the customer to choose from," says David Vaughan, MD of Babcock's Equipment business. Lance Mannix, General Manager Sales – Babcock,



Left and right: Babcock's current range of excavators.



says that the 21-t segment is the most popular size class in the Southern African excavator market. However, with more than 20 suppliers competing for a share of the market, the 21-36 t size range remains one of the most competitive segments of the market. With such competition comes a price war – an aggressive and intense competition tactic used by several suppliers to gain more market share.

“Ideal for construction, earthworks, plant hire and small-scale quarrying operations, the new range of excavators from Volvo CE was designed with cost-efficiency in mind, which allows us to compete in this lucrative but price-conscious segment of the market,” says Mannix.

Key talking points

Building on the success of the previous DL range, comprising the EC210DL, the EC300DL and the EC350DL, the new range benefits from a simplified, yet innovative hydraulic system, resulting in smoother, faster, powerful and efficient operation. The range is designed to lower fuel consumption and reduce operating costs. The powerful Volvo engines work in harmony with the machines’ proven hydraulics to provide high torque at low revolutions per minute (rpm) for the ultimate combination of performance and improved fuel efficiency.

“The new range features increased hydraulic flow for responsive, accurate control in digging and loading operations. Operators benefit from smoother, easier movement when digging as well as travelling and lifting simultaneously due to the harmonised boom and arm movement,” says Mannix.

The new models have been revamped to be more spacious and ergonomic as part of a design concept to help customers achieve outstanding results. This modern design significantly improves the operator experience, allowing machine and human to deliver a powerful performance fit for the challenges of today’s worksites.

“Ahead of the launch, I had the privilege of putting these machines through their paces in China. I was blown away by the power and speed of the machines. The 21-t machine felt like I was operating a 30-t machine, while the 30-t machine felt like I was working with a bigger unit. The power, speed and smoothness of operation were unbelievable,” says Mannix.

Getting the most out of the machine, says Vaughan, is a key factor in today’s fleet owners’ buying decisions. With that in mind, the new Volvo range can be equipped with a range of

attachments, making it the ultimate tool carrier and a go-to machine for various tasks on any site. In fact, the 21-t and 22-t models come standard with hammer piping, which allows for installation of an array of hydraulic attachments.

Support

With the new range, customers in southern Africa will benefit from the premium Babcock aftermarket service offering to which they have become accustomed. The company has already started bringing in the necessary parts well ahead of the official launch early next year. Availability of parts, stresses Vaughan, is crucial in ensuring machine uptime for customers.

In addition, technicians are being trained on the new excavator range, equipping them with the necessary technical knowhow to support the machines once they are operational in the field. With the new excavators, customers will also benefit from Babcock’s service contracts, which are flexible and tailored to meet each customer’s unique operational needs. In fact, Babcock has seen increased uptake of its service contracts in recent years. To provide context, more than 1 350 Volvo CE machines are currently on service contracts.

“Local fleet owners are increasingly giving the responsibility of servicing machines to the original equipment manufacturer (OEM) or supplier through service contracts, allowing them to focus on their core business of production,” says Vaughan. “For our customers, service contracts are invaluable tools for ensuring uninterrupted operations and protecting their high-value capital equipment assets.”

Service contracts, adds Mannix, help mitigate the risk of unexpected breakdowns, reduce costly repairs and extend the lifespan of critical assets. In addition, contracts offer a predictable cost structure, allowing businesses to plan budgets and avoid unexpected expenses associated with unplanned maintenance events.

“A major benefit of Babcock’s service contracts is increased machine uptime. The machines are serviced by experts, thus the scheduled downtime related to maintenance is kept to a minimum. Machines are also serviced according to OEM specifications all the time, resulting in longer asset lifecycles. Volvo machines on service contracts are monitored via CareTrack, Volvo CE’s telematics system. CareTrack gives us a wide range of machine monitoring information designed to save customers time and money,” concludes Mannix. ©

Riverlands development brings significant public infrastructure UPGRADES TO THE CITY OF CAPE TOWN

The Riverlands Development, in Observatory, Cape Town, will soon be able to hand over significant services upgrades to the City of Cape Town and the Western Cape Provincial Government. These upgrades include the new roadway and bridge linking Observatory with Ndabeni, the upgrade to Berkley Road, external bulk works surrounding the development, the Liesbeek riverine rehabilitation, upgraded sewerage works, and other external services upgrades. This R120 million project is part of the developer Zenprop's commitment to upgrade public infrastructure surrounding the Riverlands commercial, retail and residential precinct.

Significantly, the new road and bridge spanning the Black River will soon connect Liesbeek Parkway with Berkley Road and the M5, offering Cape Town a new way to connect the economic and industrial hubs from the city centre through Woodstock to Epping.

"The City welcomes the progress made on this critical infrastructure, which will be of great economic benefit and improve mobility in a critical part of Cape Town," said Mayor Geordin Hill-Lewis. Speaking during a ribbon-cutting event, James Tannenberger of the Liesbeek Leisure Properties Trust (LLPT) said that the project will be a permanent and positive enhancement to the daily lives of those who live in Cape Town. "This project isn't just about a road or a bridge – it's about enhancing the quality of life for every Capetonian, creating opportunities for businesses to thrive, and laying a foundation for future growth," he said. The riverine rehabilitation has

included removing the concrete bedding previously installed in a section of the Liesbeek River and returning the area to a more natural state. The section of the Liesbeek has now been replanted, and special care has been taken to create habitat for indigenous animal and birdlife. By cleaning up pollution, improving water quality, and restoring natural habitats, Riverlands is not just helping the environment, but also creating the structures to make Cape Town's waterways more resilient in extreme weather events. During the recent elevated rain levels Cape Town, the newly rehabilitated riverine section did not flood.

The services upgrade, including the road and bridge project, was completed recently and will soon be handed over to relevant authorities to manage. The Riverlands precinct will also soon be open to the public. Commercial tenants will start to occupy the precinct by this month, and the retail section will open in November. The retail section will include blue chip anchor tenants such as Woolworths, Checkers, Clicks, Mr Price, Vida e Caffè, Cattle Barron, Nando's Restaurant and a full range of smaller retailers. The residential units at Riverlands have proven popular owing to the central location of the development, with over 65% of residential units already pre-sold.

Riverlands's integration of commercial, retail and residential elements will create a vibrant and interconnected community where residents can live, work, and play within a single, safe precinct. ☺

Safety tips for LPG cylinders for heating and cooking

With many residents turning to LPG for heating and cooking, media reports have emerged about consumers buying or refilling LPG cylinders from unlicensed resellers. "It is important to note such resellers might not comply with safety regulations and could even sell defective or tampered cylinders," highlights ASP Fire CEO Michael van Niekerk.

In addition, they may not have the necessary accountability or insurance to cover any damages or injuries. This practice also contributes to the illegal market and undermines regulatory efforts to ensure safe and fair-trade practices.

All LPG cylinders and related equipment must comply with the South African Bureau of Standards (SABS) and other relevant regulations. Only purchase LPG from distributors registered with the South African Petroleum Industry Association (SAPIA) or other recognised regulatory bodies.

In addition, home owners and businesses with LPG or flammable gas cylinders on their premises must have the necessary safety systems in place to deal with any gas leaks and be cognisant of the necessary regulations and bylaws pertaining to gas cylinders.

Despite many home owners and businesses using gas, whether for cooking and heating or even hot work, many are unaware of safe handling and storage practices. Here van Niekerk offers the following pointers:

- **Proper Storage:** Store cylinders in a well-ventilated area away from direct sunlight, heat sources, and flammable materials. Keep the cylinders upright and secure them to prevent them from falling.

- **Regular Inspections:** Regularly inspect the cylinder for signs of damage, rust, or corrosion. Check for gas leaks by applying soapy water to the cylinder connections and valves. Bubbles indicate a leak.
- **Correct Installation:** Ensure that installation of any LPG cylinder and connection to appliances are carried out by a qualified technician. Use only approved and compatible regulators and hoses.
- **Use in Well-Ventilated Areas:** Always use LPG cylinders in well-ventilated areas to prevent the accumulation of gas, which can lead to explosions or asphyxiation.
- **Emergency Procedures:** Know the emergency procedures in case of a gas leak, such as turning off the gas supply, ventilating the area, and avoiding the use of electrical switches or open flames. Have the emergency contact numbers of your gas supplier and local emergency services on hand.

Although home owners do not require certification to operate gas cylinders, it is important that any gas system is only installed by an accredited company. All LPG installations that exceed 100 kg must be registered with the local fire department on an annual basis. This may also require a set of fire plans to be submitted to the fire department before they approve and certify the LPG installation. "We recommend that a business owner engage the services of a fire-risk consultant such as ASP Fire to conduct an audit of the premises in order to identify any potential risk factors and to prepare a set of fire protection plans for the gas installation," concludes Van Niekerk. ☺

The Futuregrowth Community Property Fund's Bridge City shopping CENTRE WINS PRESTIGIOUS SAPOA AWARD

Bridge City Shopping Centre, owned by the Futuregrowth Community Property Fund, has been awarded the 2024 South African Property Owners Association (SAPOA) Award for Innovative Excellence for the best Refurbishment.

The SAPOA Awards celebrate excellence in the realm of real estate, recognising groundbreaking achievements in architecture, development, and design across South Africa. Globally recognised, the awards shine a spotlight on innovation, sustainability, and community impact, and honour the visionaries and projects that are setting new standards in the industry.

The entries are judged on a range of criteria including Overall Impact, Design Concept, Social Transformation, Functionality and Environmental Sustainability.

The iconic 40 000m² Bridge City Shopping Centre, located in KwaMashu, KwaZulu-Natal, was reconstructed, following devastation in the July 2021 riots, to create a dominant superior regional centre and to further enhance and integrate the transport nodes with the centre. The Bridge City Shopping Centre project was managed by Capital Land Asset Management and the professional team included MDS Architects, Betts Townsend Taylor, MLC Group, Steffanutti Stocks and ARUP.


The contemporary aesthetics of Bridge City Shopping Centre are modern, light and inviting. The aesthetic concept was inspired by the centre's location and use as a transport hub in KwaMashu, where retail intersects with transport in the forms of a train station and a new taxi rank. Railway sleeper and track details are prominent in the ceiling and floor tile design throughout the shopping centre.

The tenant mix was actively enhanced to increase footfall to the centre and to create local employment opportunities, and the most technically advanced plant and equipment was installed to reduce the carbon

footprint. A key emphasis was placed on the use of local service providers to support local communities through employment. An Unjani Clinic, established adjacent to the new taxi rank, provides accessible, quality, affordable healthcare and a range of CSI projects take place on an ongoing basis to uplift the community through educational support and sports programmes. Smital Rambhai, the Fund Manager of Comprop said, "What turned into tragedy on July 2021 when the centre was completely destroyed internally, today has become a beacon and symbol of hope for residents of KwaMashu, Inanda and Ntuzuma with over 1 500 jobs being restored within 18 months. The re-opening of the centre was quite an emotional day with singing and celebration in and around the centre, giving us a reminder of how important Bridge City Shopping Centre is in terms of delivering essential goods and services at affordable prices to the community."

Comprop is a flagship fund in Futuregrowth Asset Management's suite of developmental investments and has been existence for more than 25 years. All Comprop's shopping centres are located in prime locations within townships and rural areas around the country. The Comprop portfolio comprises 25 shopping centres, with a total gross lettable area of more than 438 000 m², valued at in excess of R8,2 billion.

Capital Land Asset Management is the appointed property and asset manager of Comprop. Capital Land and is a leading investment property boutique involved in the asset and property management of institutional and private commercial property portfolios in South Africa. ©



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South African non-profit showcases transformative **APPROACH TO GLOBAL HOUSING CRISIS**



Urban Think Tank Empower (UTTE), a South African non-profit dedicated to addressing the country's affordable housing challenges, made a groundbreaking presentation at the Clinton Global Initiative (CGI) 2024, held in New York City on 23 and 24 September. UTTE's inclusion at this prestigious global event highlights the international recognition of its innovative Empower Upgrade Model, which takes a holistic approach to housing by integrating infrastructure, energy access, food security, social amenities, and economic opportunities into the communities it serves.

The CGI, an annual gathering of global leaders, is renowned for catalysing actionable solutions to the world's most pressing problems. UTTE's invitation to present their Empower Upgrade Model on such a stage represents a significant milestone not just for the organisation, but for the broader conversation around housing as a human right. South Africa's housing crisis, marked by a backlog of over 1.5 million homes, leaves millions living in informal settlements with limited access to essential services. The Empower Upgrade Model directly tackles these challenges by transforming land within informal settlements into sustainable, and empowering community-led developments.

"Our participation at the Clinton Global Initiative was not just an opportunity to showcase our work but a reminder of the global nature of housing insecurity," says Delana Finlayson, Managing Director of UTTE, reflecting on the significance of UTTE's presentation. "Hearing from leaders in cities like Philadelphia, Los Angeles, and New York about their struggles with housing reminded me that this is a shared crisis across borders. If countries with vast resources like the US face these same issues, it's a testament to how vital community-driven, sustainable solutions like ours are in addressing housing challenges worldwide." Knowledge sharing and community building play a crucial role in this process – UTTE's goal at CGI was not only to present their solution but to gather international feedback, learn from other innovative approaches, and explore how these could be adapted and utilised in our local context.

A global platform, a local solution

Finlayson was particularly moved by the words of Suyen Barahona, a fellow CGI participant, who stated that governments must stop implementing poor solutions for poor people. This resonated deeply with UTTE's mission, especially in light of South Africa's Reconstruction

and Development Programme (RDP), which Finlayson described as an example of how housing solutions can sometimes fall short. "We cannot and must not ever provide poor solutions for poor people," she emphasised. "Our model is built on dignity and empowerment, not just housing."

Throughout the event, UTTE's interactive display, which demonstrated its community-driven design approach, garnered significant interest. High-profile attendees, including US Secretary of Housing Adrienne Todman, engaged deeply with UTTE's vision. "Secretary Todman and her team were incredibly encouraging," noted Finlayson. "They were impressed with our model and expressed that they could learn a lot from our approach. That validation, especially from such a prominent figure in global housing policy, was a huge affirmation for us."

Expanding horizons and building partnerships

UTTE's work attracted the attention of numerous international delegations, including representatives from Haiti, who expressed keen interest in adapting the Empower Upgrade Model to address their own housing needs. "The potential for future partnerships across Africa and beyond is immense," Finlayson shared. "We had several conversations about funding support and collaborations, which could amplify the impact of our work on a much larger scale."

As UTTE continues to scale its Empower Upgrade Model in South Africa, with plans to build 1 000 homes and create 7 000 jobs over the next five years, their experience at CGI 2024 has only strengthened their resolve. The presentation underscored the importance of global collaboration in tackling the housing crisis and the potential for locally-developed solutions like theirs to offer hope far beyond South Africa's borders. ☉

The greenest residential **DEVELOPMENT IN AFRICA?**

Similan Properties is set to be honoured at the African Property Awards on 17 October 2024 in London for their pioneering sustainable residential development, Newinbosch Neighbourhood Estate, situated in Stellenbosch. Similan will compete with top property professionals across Africa, to be recognised in the 'Sustainable Residential Development' and 'Residential Development 20+ Units' categories. The outcome of the regional awards will put them in the running for the prestigious International Property Awards.

“Our vision has always been to set a new benchmark for sustainable living in Africa,” says Harold Spies, founder and CEO of Similan Properties. “Receiving these awards is a testament to our team’s dedication and innovative spirit.”

A growing collection of accolades

Newinbosch Neighbourhood Estate has been building a notable collection of accolades, starting with its 6-Star Green Star Sustainable Precincts certification from the Green Building Council South Africa (GBCSA) in June 2024. The 6-Star rating signifies world leadership and innovation in the green building realm, making Newinbosch the first development on the African continent to achieve such a high rating.

“Newinbosch’s 6-Star Sustainable Precincts certification exemplifies greening at the scale we need to really drive transformation within the built environment,” says GBCSA head of technical, Georgina Smit. “If we are serious about transitioning our carbon trajectory and enhancing ecological value, we need more neighbourhoods designed like this to create systemic change. Their holistic approach serves as a model for future developments in South Africa and beyond.”

The African Property Awards will add further to Newinbosch’s growing list of achievements. These awards, now celebrating their 31st year, are the largest, most prestigious, and widely recognised on the continent. Judged by an independent panel of over 100 industry experts, the awards celebrate the best in design, quality, service, innovation, originality, and commitment to sustainability.

The top winners in each region will automatically be entered into the overall International Property Awards, culminating in a glittering awards ceremony at the end of the year.

What makes Newinbosch the greenest residential development in Africa?

Nestled near the lush vineyards of Stellenbosch, Newinbosch Neighbourhood Estate is a middle-class residential development offering affordable, high-quality, sustainable homes to residents and investors alike. What really sets the development apart, however, is the approach to creating an inclusive ‘neighbourhood’ environment which encourages community interaction and social cohesion.

The development is EDGE Advanced (Level 2) certified which recognises homes that are at least 40% more energy-efficient and 20% more water- and material-efficient than conventional buildings.

EDGE-certified properties also qualify for a 0,25% interest rate concession from participating banks. Notably, ABSA offers clients up to an additional R55,000 cashback into their bond, and it is hopeful that the homes at Newinbosch will receive another 0,25% interest rate reduction thanks to the 6-Star Sustainable Precincts rating.

Newinbosch is targeting several other GBCSA Green Star certifications, including:

- GBCSA Net Zero Ecology to verify the positive ecological contribution of the landscaping initiatives to the regeneration of biodiversity, featuring local indigenous planting, pocket forests, and an urban farm.
- GBCSA 5-Star Green Star rating for the on-site lifestyle centre, the Grappa Shed.
- GBCSA Net Zero Carbon for the Grappa Shed to recognise the energy efficiency of the design as well as that the building’s operational energy is sourced from renewable sources via an on-site solar – and battery-powered microgrid.

Prestigious awards aside, the EDGE, Green Star, and Net Zero certifications provide independent, third-party verification of the sustainability claims at Newinbosch.

“Third-party certification is important as it ensures we are actually ‘walking the talk’ and not simply greenwashing the public,” says Spies.

Newinbosch’s far-reaching impact

Newinbosch represents a new approach to residential developments within Africa by addressing the urgent need for sustainable and affordable housing in a region beset by economic challenges and a growing environmental crisis.

Recently moved-in residents, local entrepreneurs, Dirk and Micke du Toit, are excited to see how the plans and dreams for Newinbosch will be set in motion. “We are really proud to be part of this milestone and the example Newinbosch is setting for other developments and homeowners.” ☺

ABOUT SIMILAN

Similan is a leading residential property development and project management company dedicated to creating homes for every stage of life. Known for award-winning projects, they focus on sustainable developments for the emerging middle-class market, redefining urban living through innovative design. Similan manages the entire property lifecycle, from land acquisition to development and sales, and collaborates with partners like Staylonger for property sales and rental management.

The KAROO50 is the industry's first 100% mobile batching plant producing high-quality concrete readymix.



KAROO50 - ECEM'S MOBILE READYMIX SUCCESS STORY

ECEM is a success story of more than 34 years, which has seen the company emerge as the leading manufacturer of readymix batching plant and mixer trucks in South Africa.

A pivotal product for the company was the ground-up development of the revolutionary KAROO50, the industry's first 100% mobile batching plant producing high-quality concrete readymix.

Developed in cooperation with customers, the innovative KAROO50 has eliminated the traditional impediments to efficient batch mixing plant such as time-consuming set-up and breakdown.

The KAROO50 design enables the operator to contain production costs. Central to this advantage is the KAROO50 capability to be rapidly assembled and disassembled and driven to another site where it is ready to produce concrete again within 24 hours at capacities up to 50 m³ per hour.

Quality readymix

With Batchman software, the batching process is completely automated, and concrete mixes to SABS, EN or UL standards are produced.

Overall, KAROO50 operators benefit from:

- Simplified set-up and operation that lowers costs significantly.
- Limited civils — each plant only requires a levelled site and a water connection. No more trenches needed for cables etc.
- No cranes are necessary for build-up and break-down.
- Dramatically reduced time to operation; with the KAROO50 having a setup/takedown time of approximately seven hours, the plant can be operational within the same day of arriving at site.
- Lower capex costs as a KAROO50 plant can be easily disassembled for transportation from one location to another.
- Less hassle and cost for site rehabilitation.
- The risk of losing equipment such as cables and water pipes is eliminated due to the plug and play system design which integrates them within the machine.
- Compact design makes the KAROO50 easy to store when not in use.

All the peripheral requirements needed to operate a fully

functional batching plant, including silos, screw conveyors, weigh hoppers, aggregate hoppers, electrical panels, and general fabrication, are available.

Supply to Africa

The KAROO50 is supplied to more than 25 countries in Africa, including its South African home market where it is the leading supplier.

ECEM CEO Jacques Marais said the development of KAROO50 was a consequence of the ECEM preoccupation with customer service and support.

“It became clear over time that there was a need for a mobile readymix batching plant suited to African conditions, where a lack of infrastructure can be an impediment to project development,” he said.

Time consuming and logistically complicated deployment of static plant to remote locations for the construction and mining industries was an obvious problem. “Extensive, costly civils necessary for a static plant in areas where infrastructure cannot be easily uplifted and sent to another location were further issues

“Because such a system had never been produced before, we adopted a blank sheet approach, conceptualising a mobile plant from the ground up to help overcome these challenges.”

Manufacturing is at ECEM's modern Brakpan facility, which was opened in 2022, located close to the highway network for rapid product supply. A large part of the success of the KAROO50 has been the commitment to the aftermarket from the company. “Supplying a completely new concept has necessitated the development of a customer support capability which is difficult to replicate,” Marais says.

“Key to the KAROO50 operation is its successful set-up to ensure optimal performance and disassembly to prepare the plant to be driven to another location once work at one site is completed.”

Expert technicians and training

The company has expert technicians ready to respond to help



Left: The KAROO50 batching process is completely automated, and concrete mixes to SABS, EN or UL standards are produced. Right: The company also manufactures and supports concrete mixer drums.

customers with their set-up, dismantling, repair and maintenance requirements.

Training on the operation and basic maintenance of the KAROO50 is offered to enable customer personnel to perform plant set-up, operation and day-to-day maintenance.

Technical advice and scheduled maintenance of critical components such as scale calibration and repairs to sub-systems are also offered.

Each KAROO50 comes with a 12-month system warranty and the plant can be customised to individual requirements.

ECEM was established as Echar Construction Equipment Manufacturers by its founder, Charl Marais, in 1990.

The company grew rapidly, emerging as a leading manufacturer of readymix batching plants and mixer trucks in South Africa.

ECEM is currently owned by Jacques Marais and Shane Wheeler and employs 60 staff members, including general workers, fabricators, electricians, welders, boiler makers and office staff.

In addition to mobile readymix batching plant, ECEM produces a slew of quality plant and products for the construction and readymix industries.

Among these are the Namib ready mix plant with production rates of up to 80 m³ per hour dry and wet batchers up to 120 m³/h (twin shaft mixers).

Concrete mixer drums

Another important pillar of the ECEM operation is the manufacture of drum mixers to match most trucks sold in Africa.

The standard sizes for trucks are 6 m³, 8 m³ and 9 m³ drums, which can also be produced for export.

The concrete mixers feature the following:

- ECEM type replacement and all other brand replacements.
- ECEM design, suitable for all truck chassis.
- Innovations on the drums that reduce mixing times.
- Performance enhancing innovations on the track rings (solid, seamless, machined track rings).

- Easy access to greasing points.
- Easy access to water filling lines.
- Adjustable and detachable V-chutes.
- Safe and easy on-site drum roller replacing – (no crane required).
- Gravity fed overhead hydraulic oil coolers.
- PMP Transmission.
- Domex sub-frames.

ECEM also refurbishes, repairs and maintains all makes of concrete mixer drums:

- Re-blading of concrete mixer drums (6 m³ and 8 m³).
- Replacement of track rings.
- Refurbishment of complete mixer assemblies.
- Sandblasting of truck chassis and sub-assemblies.
- Refurbishment and service exchange on all hydraulics (transmission, pump, motor etc).

The company supplies a complete range of spares and accessories for all makes of mixer drums.

Spares are supplied, but not limited to, drum rollers, chutes, extension chutes, drum cables and ZF and PMP transmissions.

A drum thickness testing service is also available.

Cement silos ranging from 40 tons to 250 tons are fabricated to strict quality standards and are custom built to client specifications, with structural engineering certificates supplied on request.

All silos are fitted with access ladders, hand railings, filtration units, filling pipes, butterfly valves, aeration rings, inspection hatches, pressure valves, inverted cones and universal filling couplings.

Parts such as filter bags are stocked for ready supply to customers.

Screw conveyors ranging in diameter from 168 mm to 325 mm are available in varying lengths according to the customer's specification.

Aggregate weigh hoppers and overhead bins are built to client specification, as are water, cement and chemical batchers. ©



Manufacturing for the KAROO50 and other ECEM products is undertaken the company's modern factory in Brakpan.

Fibre-reinforced concrete minimises labour, time and waste, resulting in long-term savings for infrastructure projects.



The environmental and practical benefits of **USING FIBRE IN CONCRETE**

In today's construction industry, the twin imperatives of sustainability and efficiency are driving transformative innovations. One such advancement making waves is the use of fibre in concrete, replacing traditional steel reinforcement. This shift not only results in substantial time and labour savings leading to significant cost efficiencies, but also plays a pivotal role in reducing the carbon footprint associated with construction projects.



Michelle Fick, BU Development Manager: Concrete Aesthetics at CHRYSO Southern Africa.

Steel reinforcement, while indispensable for its strength and durability, exacts a heavy toll on the environment. The production of steel involves substantial energy consumption and emits significant amounts of carbon dioxide (CO₂). According to the World Steel Association, the steel industry accounts for approximately 8% of global CO₂ emissions, making it a prominent contributor to climate change.

Michelle Fick, BU Development Manager: Concrete Aesthetics at CHRYSO Southern Africa, says that fibres, in contrast, are made from synthetic and natural materials and offer a far more sustainable alternative. Concrete containing fibres is thus easily recycled for reuse as crushed aggregates for other projects.

The environmental benefits of this shift are significant. The production of fibre materials, particularly synthetic ones, generates considerably less CO₂ compared to steel production. Additionally, the energy requirements for manufacturing fibres are significantly lower.

“By substituting steel with fibres, construction companies can markedly decrease their carbon emissions,” Fick says. “Further unlike steel reinforcement, which often involves

cutting and fitting, leading to substantial scrap material which needs to be managed, our Advil fibres can be precisely mixed into concrete, minimising waste on construction sites. This reduction in waste contributes further to the sustainability credentials of fibre-reinforced concrete.”

Beyond the environmental advantages, fibre reinforced concrete offers several practical benefits that enhance construction efficiency. Integrating fibres into concrete is straightforward and can be done during mixing, eliminating the labour-intensive steps of placing and tying steel reinforcement.

This streamlined process significantly accelerates construction timelines. The simplicity of using fibres reduces the need for specialised labour typically required for handling and installing steel reinforcement. This not only cuts down on labour costs but also mitigates the risk of on-site injuries associated with traditional steel handling.

Fick says that while the initial cost of fibres may be close to that of traditional steel reinforcement, the overall savings in labour, time and reduced waste translate into lower total project costs over the lifecycle of the construction project.

Fibre-reinforced concrete has been successfully deployed in



Left: Using fibre in construction helps companies reduce carbon emissions, minimise energy consumption and cut waste, significantly lowering their environmental impact. Right: Embracing innovative materials like fibre is key to a sustainable construction sector, aligning with global environmental goals and positioning companies at the forefront of eco-friendly practices.

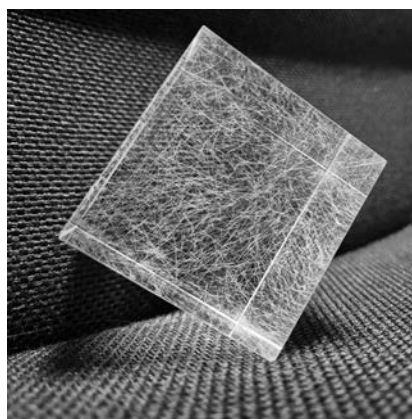
numerous projects globally as well as locally, highlighting both its practical and environmental benefits. Infrastructure projects like roadways and bridges have reported enhanced durability and reduced maintenance costs due to the use of fibres.

Moreover, residential and commercial buildings have benefited from faster construction times and improved structural performance, highlighting the versatility and effectiveness of fibre-reinforced concrete across diverse applications.

Available from CHRYSO, Adfil's range of high quality fibre reinforcement solutions are designed to enhance the performance of concrete by improving its durability, reducing cracking and increasing its structural integrity. By integrating Adfil fibres into concrete, construction projects can achieve superior results while also benefiting from the environmental advantages of reduced carbon emissions and lower energy consumption.

Adfil offers a range of fibres tailored to various construction needs including macro-synthetic fibres, micro-synthetic fibres and steel fibres. These products are engineered to provide optimal reinforcement, ensuring that concrete structures can withstand the demands of modern construction without the drawbacks associated with traditional steel reinforcement.

"We believe that the adoption of fibre in concrete represents a paradigm shift in the construction industry, and offers contractors a sustainable and efficient alternative to traditional steel reinforcement," Fick says. "By reducing carbon emissions, minimising energy consumption and cutting down



Left: Fibre in concrete is transforming the construction industry, providing contractors with a sustainable and efficient alternative to traditional steel reinforcement. Right: Synthetic microfibre for concrete.

on waste, construction companies can significantly lessen their environmental impact while bolstering their operational efficiencies.

"As the construction sector continues to prioritise sustainability, embracing innovative materials like fibre will be pivotal in fostering a greener future. These advancements not only align with global environmental goals but also position construction companies at the forefront of sustainable practices, driving both environmental stewardship and economic viability," Fick concludes. ☺

The ultimate readymix solution for modern construction

AfriSam Starmix®, a premium readymix concrete solution, answers the need for high quality, reliable and efficient building materials. Available from leading construction materials company, AfriSam, this product is designed to cater to a wide range of construction applications.

This versatile, high performance readymix concrete combines the finest raw materials with advanced technology to ensure superior quality and consistency. It is specifically formulated to meet the stringent demands of modern construction projects, offering unmatched durability, workability and strength.

One of the standout features of AfriSam Starmix® is its exceptional workability. The mix is designed to flow easily and settle smoothly, making it ideal for a variety of applications. This improved workability also reduces the time and effort required for placement, ultimately speeding up the construction process.

AfriSam Starmix® is engineered to provide outstanding durability and strength, ensuring that structures built with this concrete can withstand the test of time and harsh

environmental conditions. Another key advantage of AfriSam Starmix® is its versatility. The product is highly adaptable and can be customised to meet specific project requirements.

AfriSam is committed to sustainable practices, and Starmix® is no exception. The product is designed with environmental considerations in mind, incorporating eco-friendly materials and production methods that minimise the carbon footprint. This aligns with AfriSam's broader commitment to sustainability and responsible construction.

AfriSam not only provides a superior product but also offers exceptional customer support and service. The company's team of experts is available to assist with mix design, technical advice and on-site support to ensure that every project runs smoothly and efficiently. ☺



Astec cold planer makes its debut in SA road **BUILDING AND REHABILITATION**

A durable, powerful, high performance machine is making its debut in South Africa and is poised to set new standards in road construction and rehabilitation. The Astec RX-600ex cold planer is being used for the first time ever in South Africa on the rehabilitation of the R21 highway in Gauteng.

Cold planing, also known as asphalt milling, is the removal or milling up of an asphalt surface to provide an improved surface for repaving or resurfacing. It ensures smooth and uniform roadways. The amount of asphalt removed depends on the condition of the original surface and the intended use. According to Philip Saunders, product sales manager for Astec's Materials and Infrastructure Solutions divisions, cold planing is a cost-effective and sustainable process that can be repeated as needed. He notes that in addition to motorway rehabilitation and milling, the RX-600ex's applications include urban road projects. Its lighter weight and versatility ensure manoeuvrability in urban locations. It is also suitable for lane profiling and maintenance, Saunders explains.

Powered by a 630 horsepower Cummins QSX 15Tier III engine, the Astec RX-600ex has a 2007 mm wide QX1 asphalt milling drum with 16 mm tool spacing. Its key features include a dust extraction system, hydraulically folding conveyor, Astec's ACE Grade & Slope Automation with auto-cut entry, dual water spray bars and bolt-on track pads – all of which are standard on the machine. It also boasts an Astec QX1 quick change cutter drum, integrated dual operator platform with simplified intuitive controls and dual water spray bars.

Saunders expands on the benefits that these features deliver: "A standard dust extraction system improves operator comfort and safety. The dust extraction system removes dust

and debris from the milling operation through a hydraulic fan at the primary conveyor. The dust is ejected at the end of the secondary conveyor into the dump truck. As the dust is ejected, the material exiting the secondary conveyor belt helps to channel the fine material into the dump truck.

"The folding secondary conveyor available on the Astec RX-600ex as 'standard' simplifies transport and loading. A boost function, also offered as a standard feature on the machine, temporarily speeds up the conveyor should it become overloaded." He notes that the cold planer's Astec QX1 cutter drum improves access for bit and insert removal. "It has notches in the seating face, which allows for the use of a small wedge to remove inserts. Notches in the nose are for front bit removal with a fork tool. Shorter base blocks provide additional space at the end rings while the machine's shorter shank allows for easier bit removal from the rear of the shank," Saunders explains.

Astec cold planers like the RX-600ex have two independent spray bars to inject water in the cutter housing. The front spray bar is primarily for dust suppression. The rear spray bar cools the drum.

The ACE system provides the ability to automatically calibrate specific hydraulic parameters ensuring the machine consistently achieves the precise milling depth, while the grade and slope sensors maintain the prescribed parameters when



in full operation. New graphic displays allow the milling crew to easily select, calibrate, and control sensors with minimal time and effort. The ACE Auto-Cut Entry system automatically controls the drum's depth when initiating a cut, rather than requiring the operator to do so manually. It ensures that the drum connects with the pavement at the required depth and angle for the milling task.

This machine's operator platform is conveniently accessed from the right or the left side. Two control stations allow machine operation from either side. Saunders states that the simplified controls allow for easy operation from either side of the platform. "With multifunctional joysticks and accessible controls, operating the cold planer is clear and intuitive. The controls are designed to be operated with one hand to allow for truck signalling.

"When your track pads are ready to be replaced, you can simply unbolt the old ones and bolt on new ones, saving road builders time and money," he asserts. Because the bolts are not exposed to the surface, there is also the benefit of no asphalt build-up. "Traditional track pads utilise 'through bolts' which build up with asphalt and take longer to remove and replace," Saunders explains.

The RX-600ex is part of Astec's expansive Rock to Road range, which includes equipment for every phase of road building - from quarrying, crushing and processing the aggregate to concrete production and road construction. Astec supplies more than 100 products to a global customer base in the aggregates, construction, infrastructure and mining sectors, and offers worldwide training, education, service and support. The group's operations are divided into two primary business segments. Materials Solutions includes aggregate and other material handling and processing solutions, including crushers, screens, apron feeders and rock breakers. Infrastructure Solutions includes road building, asphalt and concrete plants, thermal and storage solutions. High-performance, fuel-saving machines like the Astec RX-600ex are ideally suited for infrastructure programmes in Africa. ©





Transforming Moloto Road from safety hazard **TO CORRIDOR OF OPPORTUNITY**

*The R573 Moloto Road corridor, stretching 162 kilometres through Gauteng, Mpumalanga and Limpopo, is a crucial artery for commuter traffic. This busy route, often referred to as the “road of death” due to its notoriously high accident rate, serves up to 60,000 passengers travelling to and from Pretoria each day. Recognising the urgent need for intervention, the South African National Roads Agency (SANRAL) embarked on a significant upgrade to transform the road into a safer, more efficient corridor. **By Progress Hlahla***

This was shared at an information session at the Engcobo Indoor Sports Centre in the Eastern Cape, which aimed to empower small, medium and micro enterprises (SMMEs) by providing comprehensive insights into SANRAL's procurement processes and support mechanisms. Dr AB Xuma Local Municipality Acting Mayor, Councillor Sandiso Ngxangu, welcomed SANRAL's drive to ensure safe infrastructure.

“The R61 on both sides of Ngcobo town has always recorded crashes that claim human lives every month. The projects SANRAL is set to bring will therefore make a big difference in people's lives and households while attempting to reduce road accidents. It's about the safety of road users and access to essential services in

town using safer roads. We want Ngcobo to change in terms of infrastructure,” said Ngxangu.

Participants were enlightened on various aspects critical to their participation in SANRAL projects. The discussions covered the mobilisation period, the tender process and the criteria for participation in SANRAL's initiatives. Thandile Makwabe, SANRAL's Regional Transformation Officer, emphasised the processes prescribed to main contractors for appointing subcontractors to meet SANRAL's contract participation goals.

“SANRAL ensures that there's a percentage set aside for SMMEs while empowering them to participate in construction projects in their local communities and elsewhere. We provide information



and training to enable businesses to be ready when projects come. Also, to assist them in having compliance documents valid and ready,” Makwabe noted.

Makwabe delved into the tender processes tailored for targeted enterprises, highlighting the essential steps required for tender preparation. He stressed the importance of adhering to these processes to ensure successful participation.

The tender evaluation process, as explained by Makwabe, comprises four stages: eligibility assessment, functionality analysis, price and preference consideration as well as a compliance check.

He remarked on the critical nature of realistic bidding, cautioning against unviable low bids that could jeopardise profitability and lead to misplaced claims of exploitation by SANRAL.

Lusanda Kali, from the Indyebo Fund, provided an overview of the funding tools available for SMMEs. She elaborated on the various short-, medium- and long-term funding options, offering valuable guidance to businesses on how to access and use these financial resources effectively.

The session also featured a presentation from the Construction Industry Development Board (CIDB) Assessment Officer, Lusindiso Nocha, who discussed the grading criteria, contractor competence, contractor performance, grading requirements and registration fees. “It’s important to pay your annual registration fees because failure to do so for two years will lead to the deregistration of your company,” noted Nocha.

This provided participants with crucial information on maintaining and improving their standing within the industry.

“We have now assigned transformation officers across all our

projects in an effort to enhance our monitoring and evaluation and to ensure that our transformation efforts are being implemented thoroughly on the ground. This will help us ensure that the targeted enterprises (TEs) receive supervision and mentorship from the dedicated TE Mentors on site. This will greatly contribute to their development and safeguard them from any threat of exploitation,” added Makwabe. ©

Rapid progress on the Bertrams MULTIPURPOSE CENTRE

The Johannesburg Development Agency (JDA), the City of Johannesburg's infrastructure development arm, has been making steady progress on the construction of the Bertrams Multipurpose Centre.

This R220m, state-of-the-art facility is located in Bertrams, one of Johannesburg's oldest suburbs. The facility is set to become a landmark hub for social development and community engagement in Region F, marking a significant milestone in the redevelopment of the area.

The Bertrams Multipurpose Centre, situated on the eastern edge of the Inner-City Central Business District, is designed to offer a range of services aimed at uplifting and empowering local residents.

The eco-conscious building will house a variety of facilities, including a community hall, youth and skills development areas, a women's empowerment centre, and support for senior citizens. In addition, it will feature a basketball court, greenhouses, childcare facilities, and spaces dedicated to early childhood development.

The JDA has prioritised sustainability in the design of the Bertrams Multipurpose Centre, ensuring that the facility incorporates green elements that promote energy efficiency and reduce its carbon footprint.

The building will feature ample daylight through extensive glazing, along with vertical gardens and a street-facing agricultural space with hydroponic and aquaponic training facilities. These initiatives are part of the City of Joburg's commitment to sustainable urban development and align with the Joburg 2040 Growth and Development Strategy.

Strategically located near public transport services such as Rea Vaya Bus Rapid Transport (BRT), buses, and taxi routes,

the Bertrams Multipurpose Centre will be easily accessible to residents from surrounding areas like Jeppestown, Troyeville, New Doornfontein, and Kensington.

The project also forms part of the larger revitalisation of the Greater Ellis Park sports precinct, aimed at creating an interconnected hub for sports, education, and residential activities. The construction of the Bertrams Multipurpose Centre underscores the City's goal of fostering local economic development and promoting social cohesion.

Through this project, the City is meeting its 30% local spend policy by involving Small, Medium, and Micro Enterprises (SMMEs) and creating employment opportunities for local contractors. To date, eight SMMEs and 25 local workers have been appointed to support the project.

"The JDA remains committed to delivering on its vision of a competitive, resilient Johannesburg. The Bertrams Multipurpose Centre is a key part of this vision, bringing valuable social infrastructure to the heart of the community," JDA CEO Themba Mathibe noted.

"This facility is more than just a building - it's a vital investment in the community, promoting local economic growth and social development.

The JDA is focused on building infrastructure that enhances the quality of life for all Joburg residents, and this project is a prime example of that vision in action," he noted. ☺

AECOM to support delivery of one of SA's largest water supply schemes

AECOM, the world's trusted infrastructure consulting firm, today announced that it has been awarded a contract by the Trans-Caledon Tunnel Authority (TCTA) for the consultancy services for the uMkhomazi Water Project Phase One (uMWP-1) for the development of the Smithfield Dam and associated infrastructure in KwaZulu-Natal, South Africa. The project comprises the 81-m-high Smithfield Dam, forming part of the uMkhomazi Water Supply Scheme, which also includes a 32-km-long tunnel. The tunnel will be delivered under a separate contract. The scheme will augment the Mgeni Water Supply System (MWSS) with water from the uMkhomazi River.

"As the industry's top water supply and dams design firm, our teams are well suited to advance TCTA's unprecedented investments in addressing the pressing issue of local water scarcity," said Beverley Stinson, Chief Executive of AECOM's global Water business.

"Our experience developing some of the world's most ambitious and sustainable water supply projects will guide our work on this programme, supporting lasting local benefits through a reliable supply of clean water," said Stinson.

The implementation of uMWP-1 involves storage and transfer of about 220 million cubic meters per year of raw water via construction of an 81-m-high earth core rockfill dam and a

26-m-high earth core rockfill saddle dam. AECOM's role will span project management, design engineering, construction supervision and environmental compliance.

Works will include the design and delivery of access roads, road deviations where required, three gauging weirs and a potential mini hydropower station. In line with the contract, AECOM will be contributing to sustainable socioeconomic development by subcontracting 30% of the work to black-owned enterprises and suppliers.

"uMWP-1 is one of the largest water supply programs in South Africa in recent years and presents a significant opportunity to strengthen the local industry and economy," said Hamed Zaghwa, Chief Executive of AECOM's Middle East and Africa region. "We look forward to delivering on TCTA's ambitious community involvement priorities for this project, and will deploy a structured process for empowerment, including skills development of previously disadvantaged people and companies." AECOM has significant local dam building expertise, having been the consulting engineer on the 37-m-high roller compacted concrete Spring Grove Dam on the Mooi River in KwaZulu-Natal.

Construction commenced in 2011 and the dam was officially launched in November 2013. It has a full capacity of 139,5 million cubic meters of water for municipal and industrial use. ☺

Ekulindeni to benefit from major water treatment **WORKS REFURBISHMENT PROJECT**

The refurbishment of the Ekulindeni Water Treatment Works, which is currently being carried out by Mpumalanga-based Lubisi Consulting Engineers, will address critical water supply issues and improve access to clean drinking water in the Chief Albert Luthuli Local Municipality area.

Residents currently face challenges due to inadequate clean water supply, often relying on rationed water from the treatment works. The refurbishment project aims to replace outdated infrastructure and obsolete equipment, while also repairing broken components, leading to a more reliable and consistent water supply. This improvement means that families will no longer have to depend on alternative water sources, which are often contaminated or unreliable.

The refurbishment project, which began on 1 November 2023, and is set to be completed in October this year, will upgrade the existing facilities and enhance the overall water quality. “Representing a crucial step towards ensuring that every community member has access to clean and safe drinking water, this project is not only a response to the immediate water supply issues, but also aligns with South Africa’s long-term water security goals,” notes Chalmers Pagiswa, MD of Lubisi Consulting Engineers.

“Adequate water supply is essential for public health. The refurbishment project is designed to achieve a high Blue Drop score, indicating that the water supplied will meet stringent safety and quality standards. This will help reduce waterborne diseases, which are prevalent in areas with poor water quality, thereby improving the overall health and well-being of the community,” he adds. Key activities in the refurbishment



include finalising the construction of a concrete weir across the Komati River to optimise water abstraction and upgrading the main treatment works building – including the installation of a new polymer dosing system, safety equipment and a water quality testing laboratory. Another major component of the project includes the refurbishment of clarifiers and filters to improve water treatment processes. The clarifiers are located at a depth of 6 metres, and the contractor needed to comply with the detailed plan designed by Lubisi Consulting Engineers to complete this complex aspect of the project successfully.

Lubisi has also been tasked with installing two new submersible pumps and optimising the raw water pump station. “The refurbishment of the raw water pump station has been challenging during times of high river flow as the pump station is designed with a wet sump,” notes Pagiswa.

The project also promotes long-term community development. “By investing in infrastructure, the municipality is taking a significant step towards alleviating poverty and enhancing the quality of life for residents. This project is not just about water; it’s about creating equal access to resources that empower communities and foster sustainable development. The refurbishment of the Ekulindeni Water Treatment Works is a vital investment in the community’s future,” concludes Pagiswa. ☺

Waterfall City wins Best Masterplan in South Africa Award

At the recent African Property Awards ceremony held at the exclusive London Marriott Hotel Grosvenor Square on 17 October 2024, Waterfall City Management Company received the *Best Masterplan South Africa 2024-2025* award for Waterfall City, speaking to the innovative urban design framework guiding the growth of this smart city.

In addition to this prestigious accolade, Waterfall City also received a nomination for Best Masterplan Africa 2024-2025 award from the International Property Awards – Africa chapter.

The African Property Awards are the largest, most prestigious, and widely recognised programme in the region. Now in their 31st year, the African Awards are judged by an independent panel of over 100 industry experts.

The highest scoring, five-star winners from each category in Africa will be automatically put forward for re-judging against the five-star winners in the other regions of the world. Following this re-assessment, the 2024 International winners in each category will be identified as the ‘World’s Best’. These winners will be announced at a glittering awards ceremony at the end of the year. After having won Best International Mixed-use Development five times in six

years, this is the first time that Waterfall City has entered the Masterplan category, specially created in 2024 by the International Property Awards association for large-scale developments covering a minimum of 20 000 m² and including at least five of the following uses: residential, retail, commercial, leisure, cultural, institutional, public service and industrial. Property types within this category can range from a single building, complex of buildings or district within a town/city. ☺



SkyJacks **ELEVATES INNOVATION**

SkyJacks, a trusted leader in powered access, lifting and handling equipment, made a strong impact at Electra Mining Africa 2024, held in September at the Expo Centre in Nasrec, Johannesburg. The company's participation highlighted its commitment to innovation, safety, and customer satisfaction.

Showcasing cutting-edge solutions

During the five-day exhibition, SkyJacks introduced a range of advanced equipment that captured the attention of industry professionals. Allistair Bennett, Managing Director at SkyJacks, shared his enthusiasm, "Our latest equipment offerings, such as the Dingli S Series Scissor Lifts, JCPT2212DC electric 22 m self-propelled scissor lift, and the FARESIN Telehandler Range, demonstrate our dedication to providing solutions that cater to the diverse needs of our clients in the mining, construction, and industrial maintenance sectors."

The JCPT2212DC electric 22 m self-propelled scissor lift, for instance, is designed to provide a safe and efficient solution for working at height in tight spaces. Its compact size and zero-emission electric motor make it ideal for indoor use, while its powerful performance ensures that it can handle demanding tasks with ease. The S Series Scissor Lift, another innovative offering from SkyJacks, boasts a range of features that enhance productivity and safety, such as intuitive controls and advanced safety systems.

In addition, SkyJacks displayed other innovative equipment, including the DINGLi BA44RT articulating diesel 44 m self-propelled boom lift, and the DINGLi BA11NE electric 11 m articulating boom lift, reinforcing its leadership in the powered access equipment sector. These products illustrate SkyJacks' commitment to providing a comprehensive range of solutions that cater to the diverse needs of its clients, from vertical lifts for tight spaces to boom lifts for hard-to-reach areas.

SkyJacks also featured the Italian-made FARESIN telehandlers, a valuable addition for customers in industries such as mining, logistics, retail, and construction. These telehandlers offer impressive capabilities, with a load capacity ranging from 2,6 tons to 7 tons and a reach extending from 6 meters to 17 meters including some full electric models.

In addition, SkyJacks showcased the Jekko range of mini-cranes, which can lift between 2,8 tons and 8 tons with superior reach as well as the GEDA 1500 Z/ZP F construction hoist which can move people and equipment to heights of up to 100 m. These versatile machines were enthusiastically received by professionals in construction, energy, mining, and manufacturing, who quickly identified various applications for them in their operations.

A commitment to safety

Day three's focus was Safety and Lifting Day, highlighting the importance of occupational health and safety in the lifting industry – a priority that aligns closely with SkyJacks' core values. As part of the event, the Lifting Equipment Engineering Association of South Africa (LEEASA) hosted a two-day conference on occupational safety and safe industrial lifting operations, reinforcing best practices in the field. SkyJacks used Electra Mining to launch their new range of ALR Chain Blocks and Lever Hoists. "Safety remains a top priority for SkyJacks," Bennett stated. "Our products are designed to meet the highest safety standards, ensuring our customers can perform their tasks with confidence and security."

Engaging new and existing clients

Keith Freel, Sales Manager at SkyJacks, reflected on the success of the event, sharing insights on customer interactions, "The diverse range of customers we encountered at Electra Mining Africa 2024 underscores the broad appeal of our products. From cost-conscious clients to those ready to make purchasing decisions, our equipment caters to a wide spectrum of needs. Additionally, it was exciting to introduce first-time customers to our innovative solutions, opening up new opportunities for their operations."

Strengthening industry connections

Allistair Bennett further emphasised the strategic value of participating in Electra Mining Africa, "While immediate outcomes may not always be apparent, our presence at the event is a crucial branding exercise. By aligning with trusted partners like Dingli, Faresin, Jekko, GEDA, and ALR, we continue to strengthen SkyJacks' position as a market leader and foster lasting industry connections."

Looking ahead: a future of innovation

Electra Mining Africa 2024, featuring over 950 exhibitors, proved to be a successful platform for SkyJacks to showcase its latest products and services. As the company looks to the future, it remains dedicated to its core values of innovation, safety, and customer satisfaction. Through continuous investment in research, development and strategic partnerships, SkyJacks ensures that its offerings remain at the cutting edge of the industry, enabling clients to excel in their respective fields. ©



Rural road infrastructure **NEEDS MORE ATTENTION**

With South Africa's road network playing a pivotal role in the country's economic recovery and growth, proper planning and scheduled road maintenance in rural areas also need to be prioritised, says Ntsika Mhlanga, Route Manager at Zimile Consulting Engineers.



He adds that routine and periodic maintenance of the rural road infrastructure requires more attention as a significant portion of the country's roads are gravel roads, isolated in rural areas with little to no oversight, and often, these roads are in bad condition which makes mobility difficult.

The Department of Public Works' National Infrastructure Plan 2050 alludes to this by highlighting that more than 80% of the country's provincial roads are gravel, with only 1% being re-gravelled every year. This means that for every 100 km of the total gravel network, only 1 km is re-gravelled.

"We know there is a commitment from various stakeholders, such as SANRAL and national, provincial and local government, who drive new projects, maintaining and rehabilitating existing road infrastructure. These investments remain critical and need to be executed to have safe roads for the benefit of the public."

"With regard to the growing maintenance backlog, in our experience, the best way to reduce this, is through collaboration with provincial governments and local municipalities to plan and schedule these routine activities," says Mhlanga.

He proposes a system where road data for each road is captured and tracked per maintenance period, while maintenance activities are scheduled based on the needs of each road to ensure design and construction life span are reached.

"The system should be able to identify fluctuations in road usage and assign road maintenance schedules aligned to a budget and a plan. We can also assist provincial departments in planning and road maintenance schedules".

"As responsible consulting engineers, producing quality upgrades for our clients, and with detailed planning, we are also able to incorporate appropriate designs, such as safety barriers and drainage systems to ensure safer roads with a longer lifespan," notes Mhlanga.

Most recently, Zimile conducted routine maintenance on a road in Piet Retief that was deteriorating rapidly as a result of use and heavy rains. "We are proud to have completed the maintenance activities on this road, which will increase the road's lifespan and allow for continued economic activity in the region."

Mhlanga argues that addressing the challenges of rural road infrastructure is not just about improving transportation but also about enhancing economic opportunities and quality of life for community members.

"The current state of many rural roads hinders access to markets, employment opportunities, and basic services, effectively isolating these communities and limiting their income potential. We should, therefore, continue to prioritise the development and maintenance of rural roads," concludes Mhlanga. ©

ABOUT ZIMILE CONSULTING ENGINEERS

Zimile Consulting Engineers is a 100% black-owned, multi-disciplinary consulting engineering, project and construction management firm. By embracing the dynamism that is in the built environment through technological advancement, Zimile Consulting Engineers seek to offer value-adding and innovative engineering solutions to South Africa's infrastructure landscape.

Fast track project implementation **UNDERScoreD BY SAFETY AWARD**

Concor once again showcased its remarkable ability to execute complex, fast track projects with exceptional efficiency and safety during the construction of the new drop-off and pick-up facility, along with the reconfiguration of an underground parking area into a taxi holding facility at Menlyn Park Shopping Centre. The company was honoured by the Master Builders Association (MBA) North, winning in the regional category for projects under R15 million. The MBA North regional safety competition saw 67 entries, including 60 principal contractors and seven sub-contractors.



Concor was honoured by the Master Builders Association (MBA) North, winning in the regional category for projects under R15 million, for the construction of the new drop-off and pick-up facility at Menlyn Park Shopping Centre, along with the reconfiguration of an underground parking area into a taxi holding facility.

Menlyn Park Shopping Centre, one of South Africa's largest mega shopping centres, boasts a diverse array of over 500 shops, restaurants and entertainment facilities. The centre attracts a vast number of shoppers and visitors each month, necessitating a significant workforce to support its operations. While some commuters use personal vehicles, the majority rely on minibus taxis for transportation. To streamline this process and enhance the commuter experience, a Public-Private Partnership was established for the construction of the taxi holding facility.

Concor Contract Manager, Martin Muller explains that the company is known for managing high-pressure construction programmes effectively, and applied attention to planning underpinned by effective programme management to ensure every phase of the project dovetailed seamlessly, meeting tight deadlines without compromising quality or safety.

“Our ability to deliver projects on time, within budget and to the highest safety standards was evident throughout this project,” he says. The project, initiated in February 2024 and completed by April 2024, was delivered on time and within budget, ready for the official opening by the Tshwane mayor.

Despite the tight timeline, the project was executed without any incidents, a testament to the rigorous safety protocols implemented. The construction site, active within a live retail environment, required meticulous traffic management and pedestrian safety measures. A full-time safety officer ensured compliance with all safety procedures, leading to a Five Star safety rating from the Master Builders Association (MBA) North.

Another of Concor's significant strengths lies in involving local SMMEs and individuals from the communities where it operates. On this project, Concor engaged with community representatives

to source, vet and employ SMME subcontractors, offering opportunities in trades such as brickwork, plasterwork, painting, paving and plumbing.

Muller says that while the contract period was too short for a formal skills development programme, local labourers were given the chance to work on the project, gaining valuable experience and mentorship.

The drop-off and pick-up facility is strategically located on the northern side of the centre, accessible from Atterbury Road. This facility enhances the movement of taxis, allowing for safe drop-off and pick-up of passengers. Commuters benefit from a designated pedestrian walkway leading directly into the mall, which is both safer and sheltered from the elements.

The facility can accommodate around 40 taxis at any given time within its spacious footprint. The construction involved extensive groundwork, soil stabilisation, and paving to ensure durability under high traffic volumes. Security measures include fencing around the area and structural steel canopies with reinforced concrete foundations. The pedestrian walkways were also designed with aesthetic landscaping.

In addition to the primary logistical infrastructure, provisions were made for registered informal traders to set up kiosks, offering food and other goods in a secure and sanitary environment with shelter from inclement weather. Nearby, 24/7 accessible ablution facilities ensure safe and hygienic conditions for commuters and taxi operators.

Muller explains that previously, taxis lined Lois Avenue on the eastern side of Menlyn Park Shopping Centre, creating hazardous conditions for both commuters and other vehicles. "The new facility alleviates these issues by providing a controlled

environment for taxi operations and commuter safety." The taxi holding facility was integrated within the centre's existing parking structure.

It includes 165 parking bays, with 135 for standard minibus taxis and the remainder for larger long-distance minibuses. Access is controlled via license plate recognition, with separate entrances for short-distance and long-distance operators. The area is secured with fencing, and the parking layout was upgraded with energy-efficient LED lighting and clear demarcation of bays.

The holding facility also features utility areas, including a rest area with a kitchen, ablution facilities catering to disabled individuals and a wash bay.

With a focus on the environment, sustainable design elements were incorporated such as sensor-based lighting and water-efficient fixtures to reduce resource consumption. The dedicated wash bay encourages water conservation among taxi operators while providing a suitable vehicle cleaning area.

As with all its contracts, Concor's commitment to community upliftment extended beyond the project site with the company identifying needs within local communities. In this instance the company donated building materials to a nearby school for an upgrade project, collaborating with the professional team to support local education infrastructure.

"Concor's successful execution of the Menlyn Taxi Integration Project underscores our capability in handling complex projects fast track projects with precision and excellence," Muller says.

"This project not only improved the commuter experience at Menlyn Park Shopping Centre but also, once again, showcased our dedication to quality, safety, and community engagement." ©

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Ensuring a quality legacy for **SOUTH AFRICAN STEEL**

While the Southern African Institute of Steel Construction (SAISC) is closely monitoring seismic changes happening upstream, it has taken a strategic decision to focus on ensuring a steady supply of good quality steel for downstream steel businesses, says Chief Executive Officer (CEO) Amanuel Gebremeskel.

Against a backdrop of economic and policy uncertainty and potential facility closures – albeit that, for now, these have been deferred – Gebremeskel says the SAISC will concentrate on supporting the steel supply chain rather than on the struggles of specific mills.

“While a steel mill might employ around 2 500 people, the downstream sector, which includes the automotive, construction, energy and mining sectors, is the far larger employer, supporting more than 600 000 jobs.

Therefore, the SAISC must prioritise building a dynamic sector similar to Canada’s, where downstream fabricators remain strong, despite the absence of large steel mills – rather than following Australia – where the closure of large mills has virtually incapacitated the downstream sector,” he explains.

Two streams of investment

As the custodian and sole representative of South Africa’s downstream steel industry, Gebremeskel says the SAISC is prioritising quality and availability: “We are most concerned about ensuring a steady supply and good diversity of steel in our market. This must be predicated on quality and not where steel comes from.”

He says the SAISC has identified two important areas for investment – the development of stringent quality standards through the South African Bureau of Standards (SABS) and the implementation of a sound quality regime.

“This includes the development of a SAISC ‘quality certification stamp’ – signifying that companies with the stamp have voluntarily completed SAISC quality training. The quality regime will also include the development of a database by the SAISC’s technical committee, which will allow designers to understand – and design around – the particular products which fabricators can access.

He notes that the SAISC’s input into contributing to SABS standards and then providing supporting literature which explains these standards – and illustrates how companies can comply with them – necessitates a considerable investment of time, technical expertise and related resources.

Strengthening sustainability

Another pivotal area where both the upstream and downstream industry needs to improve is sustainability –



SAISC's Chief Executive Officer (CEO), Amanuel Gebremeskel.

both from a business and an environmental perspective. While steel may be one of the most widely used – as well as the ‘greenest’ and most widely recycled materials of construction – it has a rather poor environmental record:

“Older mills which rely on dated technology – known as legacy mills – cannot compete with new mills in Asia and Europe that rely on modern technology. These newer mills use more energy-efficient arc furnaces, as opposed to dated oxygen furnaces which require large amounts of coking coal.

Although many newer steel mills across the world have also invested in renewable and cleaner energy – in contrast to the carbon-intensive coal-fired energy used locally – such investments are yet to reach South Africa,” he advises.

According to Gebremeskel, even though the so-called ‘mini’ (or smaller) mills which have sprung up to process scrap metal are using more energy-efficient induction furnaces, there is still some way to go.

“As they are relatively new – and because they rely on scrap that is often of poor quality – the mini-mills need to elevate themselves to meet the higher standards to which we are accustomed in the market – and that does take time,” he admits.

While some of these mini-mills have invested considerably to increase volumes, additional spend is now also required to expand product ranges if they are to

effectively take up the slack should the ArcelorMittal long products facilities ultimately lose capacity, he adds.

Building a digital 'skills bridge'

The South African steel sector is also navigating the loss of key skills to retirement and emigration.

The SAISC needs to respond by retaining the knowledge that is lost to the sector. The 'silver bullet' solution would be to upload much of the accumulated expertise onto a digital platform for SAISC members, according to Gebremeskel.

"Through our website and online learning platform, we are aiming to link the older generation of steel professionals with future generations. Hopefully, in this way, we can build a digital 'skills bridge' and make this invaluable information readily accessible," he says. The SAISC is also reaching out to engineers. Those who attended the Institute's breakfast discussion earlier this year - which focused on challenges to the availability and quality of steel - reported that the event was extremely beneficial, and an important opportunity to engage with the steel sector. Other events, including the annual SAISC Steel Awards, are similarly well attended by a wide range of SAISC members and steel supply chain participants - from designers and consulting engineers, to fabricators and construction contractors.

In addition, engineers are now being included on the SAISC Board.

Quality engagement

Gebremeskel concludes with a firm commitment that the

SAISC will provide further opportunities for stakeholders to engage: "We would like to energise everyone to work together to solve the problems that can be solved.

The SAISC needs to set the tone for the steel sector, so that people do not give up and lose out on important opportunities to further the skills, quality and sustainability of the steel industry." ©

ABOUT THE SOUTH AFRICAN INSTITUTE OF STEEL CONSTRUCTION (SAISC)

Founded in 1956, the South African Institute of Steel Construction (SAISC) represents all facets of the steel construction industry as well as those with an interest in the use of steel in all sectors of business and society as a whole. The mission of the SAISC is also to promote the holistic vigour and prosperity of the people and companies in South Africa that provide steel-related products or services to the construction and related industries.

The Southern African Metal Cladding and Roofing Association (SAMCRA) is a sub-association of the SAISC.

SAISC members include steel mills, merchants and value-added processors and service centres, steelwork contractors and companies which provide services (such as fabrication, galvanising or painting or products such as fasteners, paint and a variety of other products), client bodies, architects, specifiers, consulting engineers, project managers, quantity surveyors, engineering procurement and contract management contractors and assorted others.

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Adding to architectural appeal by successfully **COMBINING FUNCTIONALITY WITH AESTHETICS**

Hot dip galvanized steel is elegant, low-maintenance, durable, sustainable – and is becoming increasingly popular in contemporary architecture – according to Executive Director of the Hot Dip Galvanizers Association of South Africa (HDGASA), Robin Clarke.

Because galvanized steel has the unique ability to marry functionality with aesthetics, it has not only become an architectural feature in itself, but created a developing market for the galvanizing sector, which the HDGASA represents.

Form and function

Over the past 20 years, architects have used galvanized steel to create steel frames, skeletons and steel façades, designing so that structural steel is left exposed, highlighting the internal elements of buildings.

“The Glass House in Parktown North is an example of this. Designed by architect Karlien Thomashoff and artist/owner Roelof Petrus van Wyk, it was inspired by Johannesburg’s rich gold mining history. The surrounding buildings – and the hot dip galvanized steel electricity pylons located a few metres away from the site – add to this industrial aesthetic,” Clarke explains.

Architecture has also embraced sustainability, smart

construction and the reuse of building materials: “Architects have followed trends such as the optimal utilisation of space, and the ability to reuse materials. All of these elements have come together and sparked a move towards designing for sustainability,” Clarke adds.

Steel also highlights other natural materials. Referring to the New Tram Street Offices in Pretoria, Clarke says custom-designed galvanized planters and drain pipes integrated with softer textures and green foliage. A sun control structure on the northern and southern facades of the building was also made out of hot dip galvanized steel.

The highlight, however, is the entrance canopy of the office block: “This is framed with a horizontal hot dip galvanized channel supported from the building, giving the illusion of a floating roof. The design is distinctive in the way that galvanized steel has been used to improve the architectural environmental impact as a modular building element in a soft suburban node. Hot dip galvanized steel – due to its unique properties – is used to bind other

materials such as concrete, brick and glass into a coherent whole.”

Steel supply chain collaboration

Clarke and HDGASA Marketing Manager, Anthony Botha, agree that practicality will continue to drive design.

However, achieving the best outcomes requires innovative collaboration across the steel supply chain. Clarke explains that existing standards SANS 121 cover baseline hot dip galvanizing (for corrosion control) requirements. Architects requiring an aesthetic beyond this need to work closely with the fabricator and galvanizer, and the steel sections fabricated need to comply with SANS 14713 Parts 1 and 2.

This is where the HDGASA also fulfils a valuable role in providing guidance, thereby also ensuring that the responsibility to fabricate in a compliant manner is shared responsibly across the supply chain.

This includes advising architects and designers on the correct quality of steel selected for galvanizing: “In this regard, support from a fabricator working to a high standard will ensure that a galvanizer can deliver extra smoothness, with no lumps and bumps around the bolt holes, no oxide lines and also adequate provision for drainage holes,” Clarke advises.

He furthermore points out that steel supply chain collaboration between architects, fabricators and galvanizers has produced some impressive results. The Military Health Base Depot, located on an existing military property in Thaba Tshwane municipality, is an excellent example.

This award-winning project was designed by architect Jeremy Malan, tasked with creating a new facility for the improvement and centralising of the SA National Defence Force’s medical supply base. This incorporated and integrated five buildings of significant heritage value. Malan therefore created an eclectic, campus-type development which included the restored and creatively repurposed original structures. The historic hanger building – that was originally constructed out of structural steel – provided stark characteristic elements and strong aesthetics for this composite structure.

“All the major structural steel members – as well as a plethora of steel fittings and components intrinsic to the design – were hot dip galvanized. Colour-coated galvanized sheeting was also used on the roof and the side cladding of

the large warehouse. A key element of the success of this project was an excellent surface finish. Careful detailing of all the steel work, braces, joints and footing was done in accordance with international best practice. This together with close liaison between the architect, engineer, building contractor, fabricator and galvanizer – produced the desired results,” Clarke reveals.

Award-winning, landmark projects

He remarks that in South Africa, galvanized steel has amassed some “tremendous hot dip galvanizing disciples” in the local architectural and design sector, who have created landmark projects.

The HDGASA has accordingly recognised many of these through the Architectural category of its Hot Dip Galvanizing Awards events. One such award-winning project was the redevelopment of the 116-year-old Tramways Building, which triggered the rejuvenation of Gqeberha’s (Port Elizabeth’s) central business district (CBD).

Existing steel structures were hot dip galvanized and re-used. As the building was close to the harbour, corrosion control was improved through the use of a duplex paint system, adding the colour and texture which contributed to the visual aesthetic of the building.

“Spangling is another element that can be optimised in design. “Galvanizing is a living coating. Architects can use specific elements including the spangle (or ‘flowers of zinc’ as it is referred to) that develops during the cooling process. In very large spaces - such as the Nelson Mandela Metropolitan University’s South Campus Living and Learning Student Housing project designed by Matrix Urban Design - this can very effectively merge with architectural detailing,” Botha comments. A large amount of hot dip galvanized steel was used throughout this project - from structural columns to balustrades, staircases, bridges, balconies and pergolas. The patina of the natural hot dip galvanized surface finish was aesthetically noticeable, contrasting with the light-coloured wall finish of the buildings.

“In this manner, hot dip galvanizing very successfully blends elements such as steel, glass and concrete into a strong architectural statement: coherent, appealing and sustainable; and also fulfils an accentuating and framing function – over and above its inherent properties of corrosion control and long service life,” Clarke concludes. ☉



CONCOR PROJECTS shine at SAISC steel awards

Two of Concor's standout projects were recognised at this year's Southern Africa Institute of Steel Construction (SAISC) Steel Awards, celebrating innovative and complex use of steel in the construction industry. SAISC CEO Amanuel Gebremeskel highlighted the growing complexity and creativity within the industry, and Concor's projects were no exception, making significant impressions in two key categories.



The Eastgate Solar Phase 2 Project won the Innovation and Sustainability Category at this year's Southern Africa Institute of Steel Construction (SAISC) Steel Awards and brought an additional 6,4 MWp of solar power to the iconic Eastgate Shopping Centre in Johannesburg.

The Eastgate Solar Phase 2 Project, which won the Innovation and Sustainability Category, is a prime example of Concor's commitment to driving sustainable construction solutions. This project forms part of Liberty Two Degrees' larger sustainability journey to achieve Net Zero, and it brought an additional 6,04 MWp of solar power to the iconic Eastgate Shopping Centre in Johannesburg. The scale of the project was immense, covering an expansive 30 000m² rooftop area. The solar panel structure itself, which required over 560 tons of steel, was not only a technical feat but also an architectural highlight.

Nominated by steelwork contractor, Cadcon, the solar panel structure was constructed using circular and square hollow sections with the steel frame carefully designed to meet both functional and aesthetic demands. The use of tubular and square hollow sections allowed for the creation of a visually striking structure while ensuring the necessary strength and stability. These elements, including the trusses, columns, and edge plates, were fabricated to handle the load of the solar panels, while maintaining a lightweight and modern appearance. This careful balance between form and function was key to the project's success.

While Concor served as the main contractor, the steelwork contractor played a crucial role in delivering the detailed and precise work that was required for such an ambitious undertaking. The project was not only praised for its technical achievement but also received a commendation in the Tubular Category, further reinforcing its engineering excellence.

Another impressive project by Concor that garnered

recognition was the West Chimney Repairs and Related Works at the Kusile Power Station, which received a commendation in the Mining & Industrial Category. This project involved the construction of three temporary 116 metre stacks and bypass ducts as part of critical repairs at the power station. Once again, the versatility and strength of steel were on full display, as these elements were essential in meeting the project's demanding specifications and timeline.

The use of steel in this industrial application demonstrated its superior ability to withstand high temperatures, corrosion and structural load. Steel was the ideal material to ensure the durability and resilience of the temporary stacks, which had to be designed for long term stability despite their temporary nature. These structures were vital to keeping the power station operational while repairs were conducted, underscoring the importance of steel in critical infrastructure projects.

Both projects reflect the company's ability to execute large scale, technically demanding projects with precision and innovation. Concor's work on the Eastgate Solar Phase 2 Project and Kusile Power Station not only showcases the company's expertise but also highlights the critical role that steel plays in modern construction, whether in sustainability-driven projects or essential industrial applications.

Concor's recognition at the SAISC Steel Awards reinforces its standing as a leader in the construction industry, particularly in projects that require the highest standards of engineering, sustainability and innovation. ☉


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