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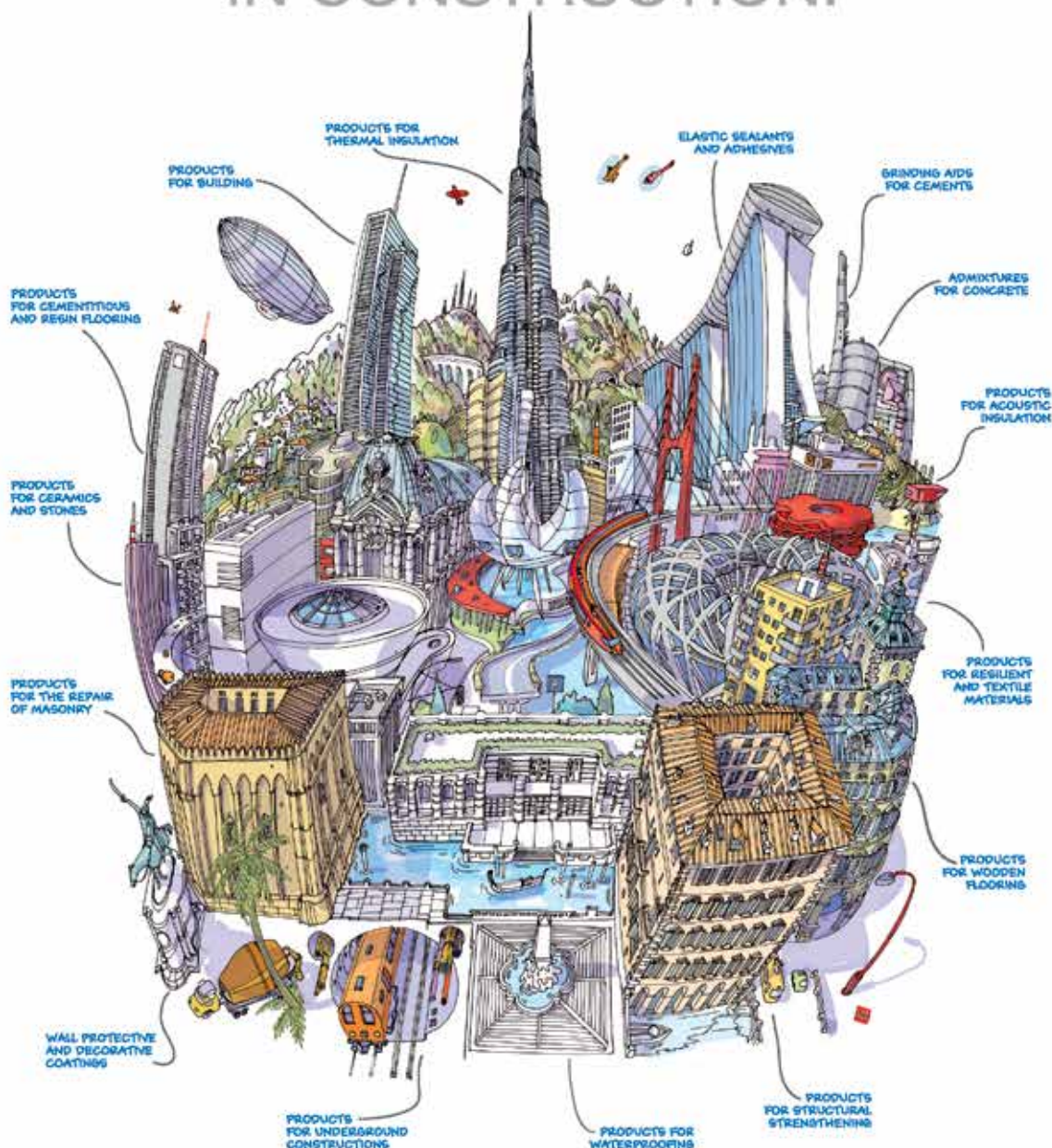
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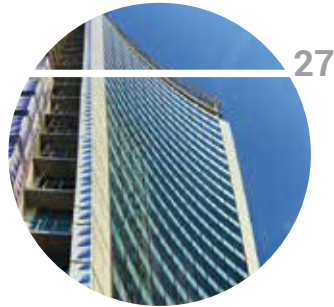
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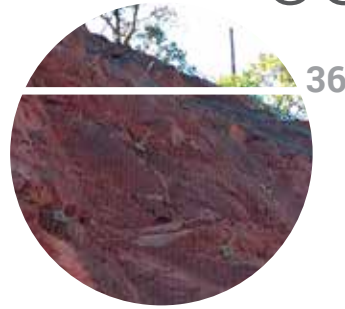
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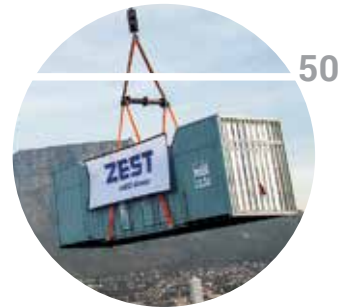
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ON THE COVER

AMDEC Property Development's The Yacht Club development is a picturesque, nautically inspired design, located on the Cape Town Foreshore in the Roggebaai Canal Tourism Precinct near to the Cape Town International Convention Centre (CTICC) and directly south of the new multi million rand cruise liner terminal.

The Yacht Club, a multi-use development including commercial and residential space, is destined to become one of Cape Town's most sought after destinations and is yet another prestigious AMDEC/Franki Africa partnership. Read the article on pages 20 and 21.

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COMMENT

The theme of the ASAQS' Annual Conference was 'Agility: Swift and Strong'. The main purpose of this conference is to add value to the quantity surveying profession – value that can be leveraged. The ultimate aim is to have a QS part and parcel of every professional team.

► To get there, however, Larry Feinberg, Executive Director of the ASAQS, says that it is imperative that the profession includes new methodologies and is seen to embrace a new way of thinking.

This is where the concept of 'agility' comes in. Businesses of today are, by and large, operationally not dissimilar from when things changed drastically with the industrial revolution that started in 1760. In 2017, some three centuries later, there is a need to adapt, change, and innovate to survive in the modern and ever-changing landscape.

Transcending industries

Agility is something that transcends industries. At its very core, agility is about being nimble, loose and relaxed – the opposite of tough and inflexible. Dr Dorothy Ndletyana, one of the keynote speakers, said that agility is about the ability to move and change direction when it is required. Whether you are a contractor or an engineer, being agile is crucial in these challenging times.

12 Principles of agility

Even though the 12 principles of agility were initially created to illustrate an effective software developer, these principles can be adjusted to fit any kind of business.



- The highest priority should be to satisfy the customer.
- One should welcome changing requirements – even late in delivery.
- Offer new and innovative services/products at regular intervals.
- It is imperative that you do not operate in isolation.
- Employees must be motivated and an environment of support must be created.
- Face-to-face communication is the most efficient and effective within a team.
- A working product/service is the only measure of progress.
- Agility promotes sustainability: the product/service should be able to be maintained indefinitely.
- Continuous attention to excellence enhances agility.
- Simplicity – the art of maximising the amount of work not done – is essential.
- The best products, services and effectiveness emerge from self-organising teams.
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

Whether you are a civil contractor, builder, engineer or architect: how agile are you?

Wilhelm du Plessis

Editor

LAST CHANCE

There is less than a month left to enter Best Projects. Please turn to pages 34 and 35 to learn more. We are looking forward to your entries.



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Inaugural Educational Trust BURSARY RECIPIENTS

AECOM has announced the first three beneficiaries of its newly-established Educational Trust.

The trust has been set up pursuant to the company's broad-based black economic empowerment (B-BBEE) objectives, including contributing to skills development and gender inclusivity in the consulting engineering industry.

Speaking at an official ceremony at AECOM's Sandton head office on 29 June, Marketing and Communications Director, Rashree Maharaj commented that the Educational Trust had been a long time coming. "We are excited that it has finally gotten off the ground," she added. Maharaj is a trustee, along with Human Resources Director for Africa Senika Devsheel, and Bowmans Attorney, Gomolemo Kekesi. The three members of the AECOM Educational Trust had looked at numerous CVs and conducted extensive interviews. Following the receipt of about 50 bursary applications, the three successful recipients were Doreen Legasa Makweng, Nontuthuzelo Pamela Mlotshwa, and Tshlidzi Bridget Lutsinge.

"We are very comfortable that the three students selected are not just smart, all having performed above average in their respective fields of study, but that they are truly empowered women and go-getters," Maharaj explained.

Kekesi oversaw the necessary legal process. She explained that, instead of a purely equity-based B-BBEE deal with a qualifying party, AECOM Chief Executive for Africa Carlos Poñe had a vision for an education trust that would add to the company's empowerment credentials, while simultaneously empowering young black women.

Makweng, an Honours student in Industrial Systems at the University of Pretoria, said she was humbled at being selected as a recipient, as the bursary made it possible for her to focus on her MA studies next year. She had selected engineering as a subject as it combined science and technology to help improve quality of life for all. "My success as a woman shows that it is not impossible, as long as you apply yourself and work hard."

Mlotshwa, a first-year Mining Engineering student at the University of the Witwatersrand, said that mining interested her as commodities were the building blocks of everything from smartphones to buildings. "The AECOM Educational Trust has allowed me to achieve a dream that is generally out of the reach for a child from a public school in an informal settlement. My aim is to make my mark on the mining industry as a woman, and to be respected as a result."

Doreen Legasa Makweng.



BELOW LEFT:

Nontuthuzelo Pamela Mlotshwa.

RIGHT: *Tshlidzi Bridget Lutsinge.*



Lutsinge, an MA student in Water Utilisation under the Faculty of Chemical Engineering at the University of Pretoria, explained that the bursary had removed the financial burden of worrying about how to pay for her studies, basic necessities, and accommodation. "There are a lot of opportunities available if you study hard." She highlighted that her field of study is critical in finding long-term solutions in a water-stressed country like South Africa.

Mlotshwa added: "There is a dearth of role models in townships for young learners to look up to and to expand their educational horizons. Often they do not think beyond the traditional career paths of nurses and teachers, as they have no exposure to other vocations. I would also say to prospective students to focus on what they are passionate about, instead of just opting for the highest remuneration, as your job is your life."

The three recipients of the inaugural AECOM Educational Trust demonstrate that, while the professional entry barriers are different for men and women, the latter not only have to work hard, but have to have perseverance and tenacity, in addition to exceptional commitment and self-discipline. "Women also have to perform at a default level higher than that of men, in order to defy preconceptions about women in the workplace," Kekesi stressed.

She concluded that the guiding principle in her life and career has been to not let her desires and goals be dictated by her circumstances. "Whatever the barrier, I will break it down. It is hard, and sometimes you do become discouraged. Sometimes you second-guess yourself, and think you cannot do it. What we have demonstrated is that our ultimate worth is not determined by what other people think, or as dictated by the prevailing situation. You simply define your goals, and set out to achieve them, which is what the AECOM Educational Trust is all about." ●

AECOM Educational Trust trustees Gomolemo Kekesi, Rashree Maharaj, and Senika Devsheel.





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SCANIA

NEW APPROACH to engineering in Africa

Global engineering and infrastructure advisory firm Aurecon is proud to launch its pioneering approach to engineering in Africa, **Afrikan Design Innovation (ADI)**, which focuses on fusing traditional technical skills with design thinking to find innovative solutions to the complex problems confronting Africa.

Centred on anticipating disruption, connecting the dots between various global events and developing human-centric solutions, Aurecon believes that ADI has the potential to revolutionise the way engineers approach Africa's problems.

It's an approach that's already making a difference, with several case studies incorporating design thinking demonstrating its efficacy in developing targeted, relevant solutions which are readily championed by end users.

This impact will echo into the future as the company develops a sustainable vision for Africa. "These case studies will provide the blueprint for a movement that will be replicated in projects across Africa as we collaborate with several continental and global organisations – in addition to a wide range of stakeholders – to future-proof Africa," says Abbas Jamie, Aurecon's Director for Innovation and Transformation, Africa.

Design thinking methodology

Instead of having a solution imposed on them, the end-users' needs become the nucleus around which a co-design process is driven. This entails applying design thinking to the process. Design thinking is a methodology that focuses on engaging with the people who we're creating for. In Nairobi for example, in collaboration with the University of Nairobi, the company has run design workshops with the youth of Nairobi to reframe their participation and activism in 'claiming back the river' – which is fundamental to designing a sustainable waterway solution.

"Empathy for our end user involves

considering the developmental challenges and issues that we as Africans face," says Jamie, "which is why the case studies we've undertaken are so essential to mapping the way forward."

At Aurecon, this mapping implies embracing the unknown and exploring every possibility. It's a process involving innovation, co-design, applying design thinking to key case studies, engaging in crucial partnerships with a range of stakeholders, as well as getting involved in events instrumental to shaping an African developmental narrative.

"It's an incontrovertible truth that copy-paste solutions from the West will not work in an African context. Using design methodologies which view our continent through a uniquely African lens is the only way we're going to be able to develop innovative and sustainable solutions to future-proof Africa," says Jamie.

"Which is why we ask ourselves two critical questions across every aspect of the projects we design: 'what if?' and 'why not?'"

"Their importance cannot be overstated because the responses to these questions form the bedrock for the future scenarios we create. Scenarios that anticipate whatever changes disruptive technology may bring about and find new ways to transform our clients' businesses," says Portia Derby, Aurecon's Senior Regional Director for Gauteng.

A case in point is 'Afrikanist in Motion', a collaboration which will help inform better infrastructure design and transport planning. Aurecon approached this by partnering with professional photographer, Yasser Booley; the World Design Organisation and



Abbas Jamie, Aurecon's Director for Innovation and Transformation, Africa.

WhereIsMyTransport to capture uniquely African transport challenges confronting the majority of Africans.

In this way, the company's engineers get a glimpse into the day-to-day lives of public transport commuters from which they glean invaluable insights to inform their design solutions.

Why Afrikan with a 'k'?

ADI acknowledges that the continent's people and entrepreneurial promise are like none other globally; and it places them at the centre of the design process in order to create innovative solutions.

This is why it has intentionally used 'Afrika' with a 'k' – to express Afrika as seen from the 'inside out', as opposed to Africa as viewed from the outside in.

It's not business as usual

Turning tradition on its head, Aurecon fuses the creative and technical worlds to find a sweet spot where innovation can flourish. This culture is encapsulated in Aurecon's future-facing ADI approach.

"By aligning our solutions to the broader developmental agenda for Africa, we're helping create livable, vibrant, economically-thriving African cities. Cities that speak to the hopes and aspirations of Africa," says Derby. ●



Building contracts only read when problems arise

Too many building contracts are read only when one or more of the parties involved encounters problems, says Uwe Putlitz, CEO of the Joint Building Contracts Committee (JBCC).

JBCC is a non-profit company that represents building owners and developers, professional consultants, and general and specialist contractors who all provide input for the compilation of JBCC Agreements that portray the consensus view of the committee's constituent members

Putlitz says most of the contractual queries received by JBCC relate to changes to the specified works, the consequent revision of the construction period, partial or late payment and, ultimately, the termination of the contractor's appointment.

"This, sadly, is usually the time when the building contract is now read – for the first time – so that the disadvantaged party can look for a solution to his or her problems. JBCC repeatedly advises its clients that the pre-contract phase of a project, when the employer is about to initiate the project, is the time to ask the really vital questions," he states.

"First of all, there are points the developer or property-owner must decide on. Business decisions like where to locate a project bearing in mind aspects such as transport nodes, environmental and other statutory criteria. Then it must be decided between new or refurbished buildings, the type of buildings, and the methods of construction and operational standards must be clearly defined.

"The employer must also make sure that sufficient funds are available for the proposed project – in a lump sum, or to suit the anticipated cash flow during the implementation phase. Too often employers and consultants attempt to have a project completed with limited funds.

"Then a designer must be appointed. Should the design be handled from within the employer's organisation or by professional consultants? Or should a contractor be employed on a 'design and build' basis?

"The employer/developer should investigate if specialist design and execution skills would be needed – skilled input from the likes of geotechnical engineers, town planners, urban designers, acoustic experts, interior designers, or landscapers. If needed, these disciplines should form part of the contractual agreement.

"It should also be established if the planned facility need to comply with international or local standards for an 'operating licence' to be granted.

"Another aspect on which many of the parties involved in a project find themselves in a fool's paradise is the timing of the facility. Employers and consultants so often believe the inception, design, procurement, and execution of the works can be completed in a totally unrealistic time frame.

"Finally, particularly for the times we now live in, political and business environment changes must be considered. Have 'project gateways', for example, been included in the master plan to review the project status – including a fall-back plan if the project must be totally aborted," Putlitz adds.

He adds: "All of these criteria must be captured in project charter or definition or similar document issued under the auspices of an authorised person such as the CEO of the employer organisation or a project manager with delegated authority. Dispute avoidance starts with the initial definition of the project so it must right at the outset be decided if a standard building contract or a bespoke agreement - in which all potential risks are clearly defined and apportioned between the contracting parties – should be the contractual document." ●

Acquisition completed

On 24 March 2017, international private equity firm Cinven entered into exclusive negotiations to acquire CHRYSO from LBO France. The acquisition was completed on 28 June 2017, making it the fourth investment from The Sixth Cinven Fund.

Thierry Bernard, President and CEO of the CHRYSO Group, comments: "Over the past three years, our Group has conducted significant transformations and reinforced its presence in emerging economies, by acquiring local businesses with strong potential, and creating some new subsidiaries." These are:

- Sri Lanka – November 2014: acquisition of Concrete Solutions Technologies, now CHRYSO Lanka;
- Algeria – November 2014: creation of CHRYSO Hydipco;
- Kenya – May 2015: creation of CHRYSO Eastern Africa;
- Sweden – July 2015: acquisition of Betongkemi AB, now CHRYSO Nordic AB;
- Qatar – December 2015: acquisition of Corrotech Qatar, now CHRYSO Gulf;
- The Philippines – April 2016: acquisition of Philprime Global Corporation; and
- The simultaneous acquisition in France of MODERNE MÉTHODE and BÉTON ACADEMY, in November 2016, which has allowed the creation of a unique offering for decorative concrete. It comprises a certified training centre on the techniques of application, as well as a large and effective range for the New Construction and Restoration markets.

In parallel, CHRYSO has upgraded and completed its industrial footprint. Some new facilities were built in the United Kingdom and Algeria, while a third plant was built in Adana, Turkey. Moreover, the Group has maintained an important focus on innovation. Indeed, some new leading technologies, such as concrete superplasticiser CHRYSO®Optima 1000 and cement activator CHRYSO®AMA EL 100 series, were launched recently to provide customers' materials with even more added value.

"Thanks to its enlarged geographic imprint and its portfolio of leading technologies, CHRYSO has participated to some exceptional realisations and prestigious jobsites across the globe: the new seaside road on the Reunion island, Sultan Yavuz Selim Bridge in Istanbul, the Greater Paris project, and many others."

Thierry Bernard concludes: "We look forward to continuing the development of our ambitious strategy to become a global leader with the support of Cinven." ●

*Thierry Bernard,
President and CEO of
The Chryso Group.*



Big business can help small ENTREPRENEURS EXCEL

According to the ANC policy document on activating small businesses and co-operatives, many black entrepreneurs would be more successful if they had some form of targeted financial support, such as tax breaks and improved market access. Tommy Strydom, acting CEO of Inyatsi Construction, explains how supply chains in the public and private sectors can be opened up to small and medium-sized black businesses to reach this target.

▶ A targeted programme to assist black entrepreneurs set up small businesses and co-operatives will fill a gap in the assistance currently offered to black industrialists. While current efforts to support black entrepreneurs are valuable, it is important to consider access to the complete range of services they need to be successful.

Governments should create incentives for big businesses to help small and medium enterprises gain a competitive advantage. Good deals in insurance and the financial markets, for instance, are only available to entrepreneurs with an established

reputation and sound financial footing. Therefore governments should ensure that projects run cash positive to enable small and medium enterprises (SMEs) to meet their commitments and build a track record. SMEs do not have large cash reserves and need to be paid regularly and on time to ensure their financial stability.

Black SMEs are efficient because they have a very low overhead structure. But they cannot get the same credit or pricing as large businesses and therefore are unable to get good deals from established businesses.

The best way to promote black SMEs is to involve them in public/private partnerships, where the expertise of the private sector is incorporated into infrastructure projects traditionally carried out as public projects, making them more efficient. SMEs often have the required skills for a project and their employees benefit directly from their success.

Successful SMEs can use the opportunity offered by the construction of infrastructure to invest in African countries. SMEs can also mobilise large numbers of workers, in turn spreading the wealth and opportunity much wider than organised business and in a more sustainable way. Therefore it is important to ensure opportunities for SMEs and black entrepreneurs to learn the skills of tendering and procurement. Governments are the biggest investors in infrastructure, so they are key to unlocking the business potential of SMEs, by creating the environment conducive to investment in business on the long term. On the other hand, private sector funding accounts for a large portion of the funds entering developing countries in Africa from developed countries.

The private sector has been expanding in



Tommy Strydom, acting CEO of Inyatsi Construction.

developing countries and businesses have started to focus on activities such as public/private infrastructure projects, which in turn contribute to job creation and enable SMEs to contribute to the gross domestic product of developing countries in Africa.

Access to public procurement contracts can reduce the failure rate of SMEs. Governments must ensure that policy and procedures allow them to enter the market, by adhering to the principles of the New African Contract that is less rigid than traditional contracts. The New African Contract is well-suited to SMEs, because is relationship driven and accepts uncertainty as a reality of life and all parties enter the relationship with a willingness to adapt and compromise.

The New African Contract can assist the industry overcome challenges, such as a lack of capacity in government and professional structures tasked to implement infrastructure projects, which lead to the substandard quality of products and a drop in infrastructure development.

World markets are volatile which has a negative influence on developing economies and therefore it is vital that SMEs have access to improved technology, better quality and service delivery and a large capacity base so they can create employment.

As big business in the construction industry, we should encourage SMEs to build strategic relationships with us so that all of us can benefit from this demand. ●

About Inyatsi Construction

Inyatsi Construction Group Holdings is a construction company that specialises in infrastructure projects, including roads and earth works, civil work, bridge construction, buildings, storm water drainage, water reticulation, water treatment plants, sewer works, dams and reservoirs. Inyatsi Construction Group Holdings was formed in 2007 as the holding company of Inyatsi Construction and its regional subsidiaries. The company has operations in Swaziland (where it is head-quartered), South Africa, Zambia and Mozambique, and registered companies in Botswana and Namibia. Inyatsi and all its subsidiaries are ISO 9001:2008 certified. It has completed the NOSA 5 Star Audit and was awarded four Platinum Stars.

The company's growth accelerated after restructing and diversifying four years ago. After focusing mainly on roads and earthworks, Inyatsi Construction widened its focus to include civil work, bridge construction, buildings and township infrastructure and high quality, fast-track houses at new mines for example.

The company is named after the Swazi word for buffalo to capture the indigenous and hard-working heart of the company.

Governments should create incentives for big businesses to help small and medium enterprises gain a competitive advantage.

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The IoT can make a major impact on AFRICA

“The Internet of Things (IoT), which bridges the digital and physical world, is already making its mark in Africa as smart connected devices are being deployed and the use of connected hardware emerges. However, it has the potential to make a far more significant impact on the region, as long as circumstances specific to the continent are taken into consideration.”

► This is according to Bradley Hemphill, Managing Director, EES Live, an ISO 9001:2008 compliant company, which provides network, electronics and electrical services and solutions. EES Live specialises in the integration of multiple system infrastructure including ICT, data centres, security, audio visual, building automation systems and special systems coordination.

The global association for the mobile telecoms industry, Groupe Speciale Mobile Association (GSMA), states that sub-Saharan Africa has in recent years been the world’s fastest-growing mobile region in terms of both mobile subscribers and mobile connections.

It predicts that the number of individual mobile subscribers in sub-Saharan Africa is set to surpass the half billion mark by 2020 as mobile services become more affordable and accessible.

However, the IoT, which has a staggering reach globally and is driving companies the world over to redefine their business processes, can make a far more significant impact on Africa and facilitate major digital transformation.

“The IoT can be further developed in Africa to provide a range of innovative new services and solutions to people across the

continent, and to gather data and gain insights to bolster efficiency and productivity.

It can make a marked impact on numerous industries, as diverse as security, energy, finance and healthcare, and contribute significantly to the economy and wellbeing of the continent’s people,” Hemphill contends.

He emphasises however that when adopting IoT it is vital that issues and circumstances specific to Africa are carefully considered and defined within their unique context, before devising and implementing an appropriate strategy and course of action. The continent’s unique business challenges and socioeconomic conditions must be addressed. An American or European strategy may not be the best fit for the local environment.

There are, for example, some unique barriers to adoption in Africa, such as effective connectivity. “In order for the IoT to work effectively it relies on high speed internet connections and this increases demands on available resources, such as bandwidth and network capacity.”

It is necessary to analyse the digital skills, infrastructure and technology required to connect so many devices and evaluate the data obtained.

There is however potential across the continent for using Big Data Analytics in significant new ways. Research by global scientific research body, ResearchGate, on IoT deployment in Africa, reveals that the introduction of Big Data Analytics means that the abundance of data which is generated daily by the various connected “things” in the IoT network can be processed faster and better.

Another barrier or challenge in Africa is the need to contain the cost of devices and new technology. A positive development here, also according to ResearchGate, is the decline of sensor and bandwidth prices and decrease in the cost of processing in the past ten years. Ubiquitous wireless networks, such as Wi-Fi, too have become cheaper and more accessible.

The availability of power to supply most devices that require automation has been a concern for the continent, but alternative technologies for energy harvesting and ultra-low power devices have been beneficial to IoT.

The sharing of content and data across multiple platforms is integral to IoT. As this initiative gains pace around the world, it becomes increasingly important that this information is secure. Prioritising cyber security is essential to successful digital transformation.

IoT can be facilitated and the transition made easier through collaboration and the formation of strategic alliances. “Key players, such as government, regulatory authorities, mobile operators, the private sector and other stakeholders, need to work together to optimise the potential of IoT,” Hemphill advises. “This will ensure a shared, integrated, inclusive digital environment facilitating socioeconomic development.”

The IoT and the global technological revolution, the Fourth Industrial Revolution, are profoundly transforming client interactions.

“One of the strategic initiatives of EES Live this year is to grow our business and further expand our footprint in Africa. Our ventures this year into Nigeria and Botswana form part of this initiative. We have a new partner in Lagos and new offices in Gaborone.”

Hemphill concludes: “We are proud to be a part of the digital transformation throughout the African continent and to be working in conjunction with our clients and associates on far-reaching, leading edge developments. Together we strive to make a significant impact and positive difference to the region.” ●





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Historic win for young South African welder

Samukelo Mbambani from ArcelorMittal has won first prize in the student category at the 5th International Arc Cup Welding Competition in Shanghai, China during the week of 24 – 28 June 2017. In total 16 countries participated in the event with Russia alone entering 26 competitors.

"This is an absolutely amazing result," says Etienne Nell, SAIW business development manager, SA team leader in China and senior category judge.

"Mbambani simply blew everyone away with his attitude, skill and application. Given the facts that he had never even been on an overseas trip before, that he competed against dozens of the best young welders in the world in a strange country and that the marking was amongst the strictest of any world competition, what he achieved was nothing short of miraculous," Nell says.

He adds that Mbambani's relaxed, humorous and easy-going approach was matched with an incredible discipline and willingness to give of his best. "He was the perfect competitor and was a credit to himself, the SAIW and South Africa."

There were four categories of welding in the competition:

- Student welder (max. age 22) – here

the competitor firstly welds a plate, pipe and fillet weld using a specific process – GMAW in the case of Mbambani. Then they enter the Finished Welding category where they assemble and weld, in all positions, a carbon steel project with all four processes i.e. GTAW, GMAW, SMAW and FCAW. Mbambani participated in both categories.

- Senior welder (max. age 35) – process as per the student welder above. Houston Isaacs the multi-winning welder in the various local SAIW welding competitions represented South Africa in this category. While Jaco van Deventer achieved second place in this category last year, Houston was unable to attain his usual winning standards this year.
- Robotic Welding (no entry from SA)
- Technology/Theory (no entry from SA)

Mbambani was thrilled with his achievement. "China and the Arc Cup was an incredible experience. I never expected to



Samukelo Mbambani won first prize in the Student category at the 5th International Arc Cup Welding Competition in Shanghai, China.

win, but it goes to show that one can only do one's best and hope that it's enough. This time it was. I must thank Etienne, the sponsors and the whole team for their support," he said.

The ARC Cup is the Chinese version of the WordSkills competition and this highly regarded by the welding industry globally including the International Institute of Welding (IIW).

The South Africa Welding Team was sponsored by the Merseta. The team consisted of four people: Etienne Nell, team leader and senior category judge; Valencia Hendriks coach and junior judge; and competitors Houston Isaacs and Samukelo Mbambani. ●

Continuing a culture of success

Studies have shown that a company's culture – the unique business environment that results from the values and actions of management and staff – has a major impact on its bottom line. This is because the culture has a direct bearing on employee turnover, which influences productivity and, in turn, success.

Recognising this, GVK-Siya Zama, one of the most successful and profitable privately-owned and empowered construction companies in South Africa, has recently embarked on a roadshow – driven by the group's CEO, Eben Meyburgh – to educate employees across the country on the values that are core to its culture and have been crucial to its success over the past 57 years. In addition, a short animated video, which lives on the company's website, was created to appeal to the growing millennial workforce.

Meyburgh says: "We have a long-standing reputation for our family feel – valuing our employees, treating them as partners, engaging and motivating them as well as encouraging an owner-management style. I believe that this unique culture was established because the original founders, Gordon Verhoef and Earl

Krause, were involved in the business for so long. Their values have been the backbone of the business for decades and remain instilled in the numerous individuals with long service. These employees are prepared to go the extra mile and have a strong sense of entrepreneurial ownership."

He continues: "With the growth of the business necessitating the recruitment of new staff, particularly from the millennial talent pool, we wanted to ensure that we maintain our unique culture and perpetuate the core beliefs upon which our company was built for future generations of GVK-Siya Zama family members."

Regarding the roadshow, Meyburgh shares: "Such a refresher does wonders for existing staff and also assists us in pursuing our objective of becoming the employer of choice in the construction industry by attracting and retaining talent whose values align with our own."

GVK-Siya Zama's values – such as learning and sharing, working and winning in teams, respect and care as well as accountability with integrity – have been distilled into a range of relevant, work-related, desirable behaviours. These will form an integral part of the company's quarterly performance appraisals and each employee will be measured on how they live these values. The aim is to entrench these behaviours in service to the company's culture.

"I believe that a values-based business provides a fertile ground for talented employees to excel. Furthermore, a skilled, engaged and energised workforce who are united around shared values is integral to the delivery of consistent quality and exceptional service to clients. Ultimately, values provide the foundation and framework to build a successful and sustainable business," concludes Meyburgh. ●



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Applying best SAFETY standards

ASP Fire not only supplies and installs the necessary fire-protection equipment, but its technical maintenance teams provide ongoing support for the maintenance and repair of existing fire-protection equipment. "We can even reinstall systems that do not comply with the appropriate standards," CEO Michael van Niekerk highlights.



ASP Fire CEO, Michael van Niekerk.

Shopping centres pose a different fire risk to traditional buildings as they have multiple tenants within a complex single structure, all with varying fire loads and hazards, combined with a large number of members of the public.

Multi-storey malls with inter-connecting floors increase the risk of a fire spreading if they are not equipped with adequate or fully operational fire-safety equipment.

"ASP Fire has completed a number of risk assessments in shopping centres, either at the request of a single tenant, or at the request of the property owner and managing agent. These have ranged from multi-storey buildings to single-storey strip malls and high-rise buildings in the centre of Johannesburg," Van Niekerk reveals. ASP Fire has also completed fire-protection plan designs for tenants and property owners, both for existing and proposed shopping malls.

The National Building Standard and Building Regulations Act prescribe minimum fire-safety requirements for all buildings, including shopping centres, as per the SANS 10400-T fire-protection standard. However, most shopping centres do not fit the generic building type contemplated in the standard, which means that a 'rational design' approach has to be adopted in accordance with the BS7974 framework.

Shopping centres are also often 'green' buildings. Here the requirements fall into two broad categories. Firstly, the SANS XA

standard requires a building to be energy-efficient. The use of insulation materials that are not fire-retardant, or which do not comply with SANS 428, increase the fire risk. Large glass windows or door-separation elements within a building that are not fire-rated will not prevent the spread of a fire or hot smoke.

The use of organic materials, either in the construction of the building, or in the decoration of the walls or shops within the structure, increase the fire load, which may result in a rapidly-developing fire, a very large or hot fire, or a fire that produces a large quantity of smoke or toxic gases. All of these factors need to be taken into account in terms of the safety of shoppers.

Some of the latest trends in terms of fire-prevention strategies for shopping centres are very-early fire detection, and the compartmentalisation of shopping centres using lightweight fire-rated dry walling. "The prevention of any fire remains the most effective strategy," Van Niekerk cautions. Here the inclusion of fire-safety elements in the electrical system design and high-piled storage layout are essential to an effective fire-protection system.

In addition, the regular maintenance and monthly inspection of fire-safety equipment is often more important than installing the correct equipment in the first place. "All too often we come across a well-designed and installed fire-detection system that is either switched off, or that has been disabled, with

several fire and fault alarms showing on the control panel," Van Niekerk adds.

Weekly tests of fire-pump or sprinkler-alarm valves are not carried out. "Fire-protection systems are an anomaly as they are critical to life safety, but they are only used or needed when there is a fire. They are largely ignored for the most part, and often forgotten by key personnel in shopping centres," Van Niekerk notes. ASP Fire provides a monthly service to ensure that fire-safety equipment is inspected and tested, and that any defects are attended to immediately, so that the systems are always available in the event of a fire.

Looking at the differing obligations for tenants and property developers, van Niekerk explains that the former must be aware of their fire-safety obligations when signing a lease. Once in a shop, they must inspect and test their fire-protection equipment regularly. Tenants must also practice evacuation drills regularly to ensure that all exits are unblocked and can be opened quickly in the event of an emergency.

Property developers, on the other hand, need to ensure that shopping malls are designed, constructed, and equipped in accordance with the minimum fire-safety requirements. They need to carry out regular checks on tenants to ensure that the storage and stacking in shops complies with the permitted limitations, and that the fire-protection equipment is installed and readily available for use.

"Shoppers should familiarise themselves with the layout of a mall, and take careful note of emergency escape routes, especially if they are visiting for the first time, or if they have very young or elderly people with them. We all tend to ignore fire alarms in shopping malls. Shoppers should be vigilant when an alarm sounds, as it may make the difference in terms of the few seconds needed to safely evacuate a busy mall that is on fire," Van Niekerk concludes. ●

Menlyn Mall. Multi-storey malls with inter-connecting floors increase the risk of a fire spreading.



Bumper year

Leading Gauteng-based retail property developers and investors, Flanagan & Gerard Property Development & Investment are set for a groundbreaking year with two successful mall openings in the first half of 2017 and another scheduled for this August.

A quarter-of-a-million people shopped at the new world-class Springs Mall during its first 10 days of trading. It opened on 16 March to become the first regional shopping mall in the Ekurhuleni city of Springs.

The R950-million two-level Springs Mall features a mix of 170 shops, restaurants and services, led by anchor retailers Woolworths, Checkers, Pick n Pay and Edgars. The 48 000 m² development saw a joint venture between Flanagan & Gerard, Blue Crane Eco Mall, Vukile Property Fund and Murinda Investments, part of the Giuricich Bros Group, with the mall's overall vision inspired by the Springs-based D'Arrigo family.

This was closely followed by Ballito Junction Regional Mall, a major expansion of the existing 10 000 m² shopping centre, which was transformed to an impressive 80 000 m², to open its doors fully-let on the Dolphin Coast of KwaZulu-Natal on 23 March.

Owned and developed by the consortium of Menlyn Maine Investment Holdings together with Flanagan & Gerard, Ballito Junction brings an array of comprehensive, quality shopping to the growing, diverse and flourishing consumers of Ballito and its surrounds, in 200 stores.

Paul Gerard, Managing Director of Flanagan & Gerard Property Development and Investment says, "the company's latest developments were motivated by the long-term vision to provide exceptional shopping with every detail carefully considered to support trading success and relevance for each region's residents".

Complementing the successful duo of Springs Mall and Ballito Junction is the eagerly awaited Thavhani Mall which will officially celebrate its grand opening on Thursday, 24 August.

The 50 000 m² regional shopping centre will be the largest in the thriving town of Thohoyandou, Limpopo as well as the greater Thulamela Municipality with the introduction of a wide variety of retail firsts to the region, boasting over 134 shops, restaurants and service outlets.

Developing shopping centres which open fully let and on time has become a distinguishing hallmark of Flanagan & Gerard. "Springs Mall, Ballito Junction and Thavhani Mall each represent top quality shopping destinations in the appropriate location," notes Gerard. "The benefits of these centres also go beyond this to support job creation in addition to long-term positive impacts such as keeping residents' vital retail spend within the local economy," he adds. ●

Paul Gerard, Managing Director of Flanagan & Gerard Property Development.



TOP TO BOTTOM:
Ballito Junction, Springs Mall, and Thavhani Mall.



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JOINING FORCES

Companies and residential buyers who are looking for a prominent but convenient address, quality office premises or state-of-the-art apartments that still offer good value for money, need look no further than Sandton Gate.

► This mixed-use precinct, will offer a quality office, retail, residential and lifestyle environment on the doorstep of Sandton, with the added benefits of highly convenient access, a vast choice of public transport options and a secure precinct environment.

Abland and Tiber have joined forces to develop the Sandton Gate precinct, combining their respective strengths to deliver a carefully conceived, and ultimately well-executed, product.

The sizeable site on which the precinct will unfold, has been assembled over several years by Tiber. Therefore, when Tiber's CEO Fernando Cardoso was approached by Abland's MD Jurgens Prinsloo to consider a JV approach for the development of a precinct, incorporating properties that Abland had purchased in the same area, discussions commenced and it was soon very evident that the synergies and complementary experience and expertise could be combined to create a world-class mixed-use precinct, to be known as Sandton Gate.

"We believe that the strong complementary skills and expertise within our two companies can be harnessed to deliver, execute and manage a development of this magnitude," comments Cardoso.

Prinsloo adds: "We have the opportunity to do something special here. This is an exceptional site for a strong nodal development."

Situated on William Nicol Drive between Sandton Drive and Republic Road, Sandton Gate will be right on the doorstep of South Africa's economic business centre. The precinct is easily accessible via a number of major arterial routes from Sandton, Hyde Park and the N1 freeway as well as finding itself alongside the current S5 Sandton – Fourways Gautrain Bus Route. It is also located on one of the planned routes for the extended Bus Rapid Transit (BRT) system, which in turn will link it conveniently to the Rosebank and Sandton Gautrain stations.

The site provides 130 000 m² of developable floor area made up of approximately 80 000 m² of offices, 400 residential units and a variety of lifestyle and smaller retail amenities. This will include a health club, restaurants or cafés, and other smaller format convenience amenities which will contribute to the overall appeal of the precinct.

The site is adjacent to the Braamfontein Spruit, which is a very popular mountain biking route. The entire stretch of river adjoining the site will be rehabilitated and upgraded as part of the project, thereby encouraging cyclists and local residents to

make use of this open space and the other amenities provided.

The concept of a mixed-use precinct is strongly aligned with the new urbanist principles of creating pedestrian friendly, live-work-play environments. Such environments are also more eco-friendly in that they reduce people's commutes and carbon footprints. Building on these important sustainability goals, the intention is for every commercial building in Sandton Gate to obtain a minimum Four Star Green Star SA rating.

"We are also proud to say that the entire precinct will be Green Star SA rated and that Sandton Gate is one of the sites being used as a pilot in the development of the precinct rating tool by the Green Building Council of South Africa," Prinsloo notes.

Engagement with the City of Johannesburg and local residents has been very positive to date. The first phase of Sandton Gate will include all the necessary infrastructure, plus 10 000 to 15 000 m² of commercial office space, and a residential component which will commence in the latter part of 2017. Thereafter, the development will progress according to market demand.

The commercial buildings will be developed as high-end A-Grade and P-Grade buildings offering maximum flexibility to accommodate large, medium and smaller users. The residential units will be available for sale and/or leasing while the commercial buildings will be available for leasing.

The Abland/Tiber Joint Venture will manage all aspects of the development, from the initial planning, design, construction, leasing and ultimately the management of the entire precinct.

The joint venture's ability to expertly manage the development process from inception to completion is a major strength. Tiber's track record is evidenced by some of South Africa's most iconic buildings which can be seen dotted along the Sandton skyline. This, blended with Abland's pedigree in responsibly developing best-in-class, innovative and sustainable developments across the country, lays the foundation for the delivery of an inimitable world-class precinct development.

"Having decades of experience in this environment and a solid understanding of the process, will enable the Abland/Tiber JV to control the delivery from the outset right through to the professional management of the precinct. This lends great strength to our partnership and will ensure that we can roll out a well-conceived, value-engineered and efficiently managed product, ensuring the delivery of high quality but competitive pricing to the market," comments Prinsloo.

Savings achieved through efficiencies in the development process can be passed on to occupiers, who will benefit from highly competitive rentals in a prime node. This factor, combined with Sandton Gate's safe, secure and attractive precinct nature, its easily accessible location, and its focus on sustainability, are sure to make it a highly desirable location to live and work in. ●



LWF connects mobile transformer

Loeriesfontein Wind Farm, in the Northern Cape, has been making use of a mobile transformer to allow for an early connection to the grid for commissioning of the turbines, prior to the energisation of the Helios substation, which is the permanent grid connection.

“The mobile transformer will do two things, firstly, it will provide a temporary supply to the project, to mitigate the risk that Eskom transmission is delayed with energisation of Helios. Secondly, it will allow for early grid code testing of Loeriesfontein Wind Farm, which will ultimately increase the chances of early operations, ahead of the Commercial Operations Date.

“We have worked very closely with Eskom to supply and operate the mobile transformer, which is typically used by the Utility to temporarily connect to substations during maintenance or unplanned shutdowns to allow continued use of substations. Mobile transformers are not normally used to connect Wind Farms to the distribution system,” explained Kevin Foster, Country Construction Manager for Mainstream Renewable Power.

The Helios substation energisation is on track for 15 August 2017, at which point the Loeriesfontein Wind Farm will be able to commence with final grid code testing prior to commercial operations. CONCO is responsible for the electrical component of the balance of plant works, including the engineering, procurement and construction of the medium voltage collector system, substation, overhead line connection and the temporary transformer.

How the transformer fits into the plant

Each wind turbine is connected to a step-up transformer which boosts the generating output of the wind turbine generator from 690 V to 33 kV. These transformers are located at the base of the wind turbine. From here the cables throughout the wind farm bring the 33 kV current from the step up transformers to convene at the substation where the main transformer is situated. The main transformer at the substation increases the voltage further from 33 kV to 132 kV – the voltage required to transfer the power to Eskom.

The Loeriesfontein and Khobab Wind Farms are part of the South African Government’s Round 3 Renewable Energy Independent Power Producer Procurement Programme (REIPPP) and are managed both in terms of construction and operations by Mainstream Renewable Power South Africa. The Loeriesfontein and Khobab Wind Farms, are expected to be operational by December 2017. ●



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FUTURE PROOFING Africa's cities to be SMART and SUSTAINABLE

There is no denying that Africa is experiencing unprecedented growth and rapid urbanisation. But have all of these developments been well-thought out and planned to see cities come to ground that are smart and sustainable – and will these cities be habitable far into the future?

► To address this question, leading experts have shared their insights on what it will take to design and build smart and sustainable cities fit for Africa's future.

"The World Bank's latest report on African Cities states that improving conditions for people and businesses in Africa's cities is key to growth. The report further highlights that the continent needs more affordable, connected and liveable cities. This is certainly true to meet the immediate demand felt due to rapid populous migration to city centres or urban nodes.

But governments and city planners across the continent cannot afford to focus on this narrow narrative alone," says William Johnston, Regional Director, WSP, Structures, Africa.

"To succeed in their planning and development efforts, there needs to be a split strategy and focus. The first focus will naturally be on securing much needed infrastructure and services to meet growing demand in the medium-term. Concurrent to this, however, significant focus also needs to be placed on future planned upgrades and/or new builds that will be smart, sustainable and thereby future proof in the long-term."

"Designing and building a future proofed city that is both smart and sustainable covers the entire city infrastructure, where much of sustainable and smart design also relates to doing the basics better and less in silos. An integrated and holistic design of basic services must be considered upfront; everything from access to basic services – including water and sanitation, energy/ power, housing and transport – to intelligent systems that use internet access to leverage technology trends such as cloud computing, mobility, the Internet of Things (IoT), Big Data and automation, to provide smart services and functions for the city and its inhabitants," continues Johnston.

In this age of digital, a mindset change is rapidly taking place, with growing adoption of solutions to improve connectivity –

through the roll-out of large scale fibre or Wi-Fi projects.

Based on this, markets are also seeing increased interest in offering services for the smart city that are underpinned by emerging disruptive technologies; to drive improved service delivery and social change for the betterment of society and to increase sustainability.

Embracing new technology

Riaan Graham, Sales Director for Ruckus sub-Saharan Africa, agrees, and indicates that the growth of connected devices and their potential impact is resulting in an increased awareness of the benefits that a smart city has to offer.

"There is significant movement towards embracing this new technology-rich eco-system. However, this extends to beyond just dropping in technology and hoping for the best. A truly smart city is one that is focused on integrating technology to interconnect different governmental departments to create a single infrastructure that provides better service delivery, improved municipal services, infrastructure enhancements, and utilising real-time monitoring systems for the betterment of all citizens, to name just a few things. For me, this interconnectedness should exist seamlessly across at least the top six components to designing a smart city, including; smart energy, smart transport, smart data, smart infrastructure, smart mobility and smart IoT."

Additionally, given how quickly IoT application has grown over the past few years, Graham believes that the adoption of IoT-lead initiatives will be a starting point for a number of African countries and regions towards smart city initiatives. "Part of this IoT drive is the connectivity that surrounds it. While mobile infrastructure in Africa is being continuously upgraded, Wi-Fi networks are being rolled out throughout the continent. There is already a growing reliance on this kind of connectivity, as it is aiding in the evolution of smart cities

– where more services are being offered digitally than before."

There is no denying that technology continues to have a transformative impact on how we live and work today.

However, it must be noted that establishing a smart city, takes a lot more than an intelligent city network, reliable connectivity, or clever applications.

Cyber security

Kaspersky Lab warns, that there is a tremendous need for more awareness on the issue of cyber security in smart cities. Cities continue to get smarter and constantly incorporate new technologies into their infrastructure, but they cannot ignore the importance of cybersecurity.

Riaan Badenhorst, General Manager, Kaspersky Lab Africa, says; "As the technology and networks become increasingly integrated, there is also the potential that this will expose more vulnerabilities in co-dependent systems that cybercriminals may look to target. In fact, in exploring security issues in smart city transport infrastructure, our research has proven that data gathered and processed by road sensors, as an example, can be dramatically compromised. Transport infrastructure in a modern megalopolis represents a very complicated system,

"The world around us is changing – and quickly. While digital and smarter technology is certainly becoming embedded in all aspects of the built environment, building a smart city is a complex and ambitious undertaking that requires a multi-disciplinary approach."



containing different sorts of traffic and road sensors, cameras, and even smart traffic light systems. All the information gathered by these devices is delivered and analysed in real-time by the special city authorities. If the data is compromised it can cause millions in losses to the city.

“As a result, multi-layered security for smart cities, that includes security of critical infrastructures, different types of terminals, mobile security and security for data centres needs to be considered – and in the planning phase. When it comes to city safety, it is essential to have profound testing before rolling out any critical infrastructure. For example, our experts can conduct penetration tests, give advice and provide data feeds on the most recent threats. Cyberattacks can therefore be planned for in the same way a city plans for earthquakes and floods – with a reliable, thorough system of prediction, prevention and response”, adds Badenhorst.

“The world around us is changing – and quickly. While digital and

smarter technology is certainly becoming embedded in all aspects of the built environment, building a smart city is a complex and ambitious undertaking that requires a multi-disciplinary approach. Succeeding will take a broad set of stakeholders who are open minded and forward thinking enough to break the mould of the tried and tested and have the courage to make good design and

investment decisions. And, starting with integrated and holistically designed outlook of basic services – and integrating digital technology at this first level – offers keen avenues to address challenges and opportunities of urbanisation in the face of climate change, thereby making these environments innovatively smarter, more ergonomic, efficient and sustainable; as the cities for Africa’s future,” concludes Johnston. ●



*William Johnston,
Regional Director, WSP,
Structures, Africa.*



*Riaan Badenhorst, General
Manager, Kaspersky Lab*

Plain Sailing with Franki ...

The Yacht Club, a testament to

FRANKI'S FORESHORE EXPERIENCE

AMDEC Property Development's (AMDEC) The Yacht Club development is a picturesque, nautically inspired design, located on the Cape Town Foreshore in the Roggebaai Canal Tourism Precinct near to the Cape Town International Convention Centre (CTICC) and directly south of the new multi million Rand cruise liner terminal.

▶ The Yacht Club, a multi-use development including commercial and residential space, is destined to become one of Cape Town's most sought after destinations and is yet another prestigious AMDEC/Franki Africa partnership.

The site is situated on the Malmesbury group deposition of the Cape Peninsula, Cape Supergroup in the Foreshore area of the harbour reclamation development of the 1920s and 1940s. The shale bedrock is overlain by very stiff residual material followed by marine deposits and fill comprising old harbour facilities, general tipped rubble and dredged sands.

The ground water table was intersected at an average depth of 0,86 m with the bedrock falling from around -0,84 m in the west to -2,9 m in the east (elevation levels in ASML).

Special attention was required to an existing sub-surface canal running south to north which intersects the eastern portion of the site with both the lateral support and piled foundation design modified to accommodate and maintain the integrity of this structure.

"It is evident that from a geotechnical perspective the Cape Town Foreshore is not the easiest area in which to operate. The varying ground conditions with old rock-filled docks and piers and the high-water table as described above present a significant challenge," says Franki's Rod Schultz. "But our previous experience on the neighbouring Harbour Bridge and Canal Quays projects gave us a thorough understanding of the prevailing ground conditions in the area and enabled us to quickly offer our client the most cost-effective solution," he says.

Schultz says that it took some years of on-and-off development proposals by all, before AMDEC succeeded in producing a workable solution by securing the land and obtaining the necessary partnerships to go ahead.

Due to the past successful working partnerships between Franki and AMDEC, Franki was the preferred contractor for this challenging geotechnical work. "We know Franki's exceptional capabilities in the Foreshore area, which requires a special understanding of its complex geological conditions. We had no hesitation in awarding Franki this contract and their performance certainly lived up to expectations," says AMDEC's Project Manager Arnon van As.

Franki's scope of works included the design and installation of the lateral support and foundation piling to this multi-storeyed, double-basement project, the excavation and disposal of some 65 000 m³ of bulk earthworks, 508 lm of lateral support and 271 no. foundation piles. The soldier piles for the lateral support were a combination of 400 mmØ Continuous Flight Auger (CFA) piles and 325 mmØ Rotapiles tied back with a single row of anchors and gunite arches. The anchors had to be carefully positioned and inclined sufficiently to not intersect with the canal, which runs very close to the site.

CFA piling is a fast and economical system with no vibration and limited noise levels associated with it. "This was particularly advantageous on a site which is close to live canals and railway lines, contains a labyrinth of existing services and has neighbours who are particularly sensitive to noise," says Schultz.

The main feature of the Rotapile system is its ability to penetrate boulders and rock formations. Socketing into hard rock



Piling and bulk earthworks operations at peak with upwards of five piling rigs, two excavators and more than 200 tipper truck loads per day.



Some of the existing live services which required special attention to maintain supply to neighbours.

is effected rapidly using the ‘Down The Hole Hammer’ (DTH) percussion drilling technique. As with CFA, noise levels are low and vibration limited. Schultz says that the foundation piles were designed with flexibility in mind to meet the varying and sometimes unpredictable ground conditions. Three pile types were used: the Franki Driven Cast-in-Situ piles, Temporary Cased Augers and Oscillator piles with individual load bearing capacities from 2 300 kN to 10 000 kN.

To say that the Franki Pile is the most well-known piling system in southern Africa is certainly no exaggeration. Developed circa 70 years ago it is still one of the most popular pile types in this region. Its main feature is the large base formed at the toe of the pile and, in forming it, the end-bearing area is considerably increased.

It is generally a very economical system, has an extensive range of pile sizes and, like the other piling systems used on The Yacht Club site, its noise levels are relatively low.

Another significant challenge on this project was the very demanding schedule. “This meant that the works not only had to be very carefully planned but also executed to perfection,” says Schultz.

He explains that AMDEC required a phased handover to the main building contractor so that the critical-path tower cores and basement sections could be started whilst Franki were still busy on site. “We started operations during the latter half of 2016 and completed everything on time and within budget by mid-March 2017,” he says.

Schultz paid tribute to Franki’s client, AMDEC, and to bulk earthworks contractor, Ross Demolition. “To have successfully completed this project on time we needed it to run like clockwork. This was facilitated by these two professional companies which pulled out all the stops to ensure that we could do it,” Schultz concluded. ●

Installation of Franki Piles.

“The varying ground conditions with old rock-filled docks and piers and the high-water table as described above present a significant challenge.”



MAJOR DEVELOPMENT breaks ground

Leading SA REIT Growthpoint Properties has commenced its multi-million rand development of a new head office for Exxaro, one of the largest and foremost empowered South African-based diversified resources companies.

The development of the new Exxaro headquarters is the second phase of Growthpoint's redevelopment of the prime Lakeside office site on West Street, Centurion, directly opposite the Centurion Gautrain Station.

Exxaro's new corporate headquarters will consolidate its current offices in Pretoria and Johannesburg into a single thriving workspace, located at a convenient midpoint in an accessible location for staff and business partners. Exxaro has business interest locally as well as in Europe and United States of America.

Growthpoint's highly skilled development and workspace design team is delivering an innovative green building, integrating P-grade aesthetics and finishes and high-performance workspace. Exxaro will occupy all of the new building's 18 500 m² of gross lettable area on a long lease. The development broke ground in February 2017. Construction will start in September this year, and be complete in early 2019 when it will be able to accommodate up to 1 400 Exxaro staff members.

Growthpoint Properties Office Division Director, Rudolf Pienaar says: "We are excited to develop this new head office, tailored to meet Exxaro's specific requirements that will be a healthy and energising working environment for this leading business, its people and its partners to thrive."

Growthpoint is the largest South African primary listed REIT and is well on its way to becoming a leading international property company. It provides space to thrive with innovative and sustainable property solutions in a diversified portfolio of 533 properties it owns and manages, including 473 properties in South Africa, 59 properties in Australia through its investment in Australian Stock Exchange listed Growthpoint Properties Australia and a 50% interest in the properties of the V&A Waterfront, Cape Town. It also owns a 26,9% stake in the EUR1-billion property portfolio of London Stock Exchange Alternative Investment Market listed Globalworth Real Estate Investment, the largest owner of office space in Romania.

For its design, construction and operation, the new Exxaro head office is in tune with top commercial buildings in the world's most prominent urban centres.

Designed by award-winning AMA Architects, the signature office building flows with a series of layered fluid curvaceous forms, in flushed glaze detail. Its welcoming triple-volume entrance and reception open onto an airy atrium that soars upwards through at the core of five floors of efficient workspace.

Custom designed to support Exxaro's business goals, ethos, values and vision, the building's five storeys of offices will sit atop four storeys of structured basement parking, creating a powerful scale for this new landmark. This will give it excellent visibility, not only for anyone stepping out of the Gautrain Station but also when viewed across Centurion Lake.

Reflecting Exxaro's environmental commitment, the building is designed for a 4 Star Green Star SA certification from the Green Building Council of South Africa (GBCSA), which is also in line with Growthpoint's high environmental standards for its offices.

Mxolisi Mgojo, CEO of Exxaro, comments: "The new location and style of the building is aligned with our strategy on innovation and consideration for carbon emissions reduction. Hence, creating a working space with ease of access, which will enable interactivity, collaboration and creativity among our employees and business partners, was an important consideration in the design of the building."

Growthpoint has established itself as South Africa's leader in providing signature green corporate headquarters tailored to the exacting requirements of leading local and multi-national businesses. It is the listed property company that owns the largest number of Green Star SA rated buildings in South Africa, providing quality spaces that work best for its clients. Exxaro's new energy-efficient building will foster a healthy workplace environment and high productivity levels.

Working with the development's appointed green building professionals, Aurecon, the design team has incorporated several environmentally sustainable

initiatives into the building. Green measures include zoned lighting, energy-efficient building services and systems, water-efficient fixtures, rainwater harvesting for use in toilets and landscape irrigation, water-wise landscaping, and low VOC interior finishes to ensure high level of indoor air quality, in addition to abundant fresh air.

While its performance glazed façade will let in generous natural light, its clever design also shields actual sun penetration into the building, helping to keep its interior refreshingly cool while offering inspiring outdoor views.

Also supporting the building's lighter carbon footprint is its access to alternative modes of transport for commuting to work. It is on the doorstep of the Centurion Gautrain Station and at the heart of a public transport node. It is also close to many retail, banking, health and medical facilities. The property provides dedicated parking for more fuel-efficient vehicles, such as hybrids, electric cars and mopeds or scooters, as well as bicycle racks.

Generous terraces skirt the building, creating outdoor park-like pause areas for staff that are designed to complement the building, which also connects to the outdoors with balconies and a roof terrace with 360-degree views. The building dedicates an entire vibrant level to meeting, interacting, engaging and collaborating. It features a restaurant and canteen with its own kitchen, a state-of-the-art auditorium, and a coffee shop.

"Growthpoint's new development for Exxaro also signifies the beginning of the urban transformation along the commercial edge of Centurion and approaching the Gautrain Station," says Nico de Jager, Regional Asset Manager for the Office Sector of Growthpoint.

"Working with the City of Tshwane, Growthpoint is upgrading the roads and traffic flows in the area, including adding a new right turn lane from Gerhard Street into West Avenue," explains de Jager. Traffic signal settings on West Street, around the building, will be refined. Also, Growthpoint is working with the city to create a vibrant pedestrian walkway along the development's street boundary.

"We are invested in improving the areas surrounding the new Exxaro head office. This responds to the growing popularity of the area, increasing development in the immediate vicinity and the higher number of people who access the area through West Street," says De Jager. ●



Exxaro CEO, Mxolisi Mgojo, and Growthpoint Properties Office Division Director, Rudolf Pienaar.

Major new investment in SA operations

Since its arrival in the South African market in April 2015 with the acquisition of a majority stake in Wasteman Holdings, Averda's operations in the region have gone from strength to strength.

Spurred by a number of major new contract wins, including three year municipal waste collection contracts in the City of Cape Town and on-site waste management service contracts for major industrial players in the Cape and Gauteng regions, Averda's Group Board have today announced a stronger drive towards investing in new innovative solutions and further diversification of its waste related business.

Building on Averda's existing integrated waste management offerings, the new funding will substantially expand Averda's waste-handling capacity and infrastructure, and signals the Board's commitment and long-term investment in South Africa. Operations will be bolstered by the following:

- The acquisition of two medical waste companies, with the aim of building a world-class end-to-end national healthcare waste solution. Current facilities will be upgraded in partnership with state-of-the-art specialist technology providers, alongside investment into a new medical waste treatment plant.
- Further investment in Vlakfontein hazardous waste landfill to further promote international best practice in environmentally low impact waste storage.
- Introduction of new technologies in on site waste minimization and handling tailored to the needs of the producers in the various industrial sectors

Commenting on these initiatives Malek Sukkar, Averda CEO said, "This is an unequivocal declaration of Averda's commitment to doing business in South Africa. This is a market with huge opportunities to develop innovative solutions to one of the most pressing challenges facing the world today: the sustainable treatment and disposal of the myriad forms of waste produced by our societies. While building new low-impact waste storage facilities and pioneering medical waste management solutions, we also aim to bring new jobs to the communities we serve. We are hugely excited for our future here in South Africa, and its vital role to our continued strategic growth." ●

About Averda South Africa

- Averda is headquartered in Dubai, with regional operations centres in Abu Dhabi, Johannesburg and Casablanca. It operates in 14 countries on three continents: Angola, Gabon, Republic of Congo, Morocco, South Africa, Jordan, Lebanon, Oman; Qatar; Saudi Arabia; UAE; Ireland and the United Kingdom.
- In 2016, Averda established its South African operation through a number of acquisitions, including Wasteman, SharpMed and Solid Waste Technologies (SWT) to become Averda South Africa.
- Averda South Africa now offers a complete waste management solution under one banner and draws on global expertise and experience to offer South Africa end-to-end waste management solutions, from the point of generation to suitable diversion (e.g. recycling, composting etc.) or responsible landfill.
- Averda South Africa offers services in the following portfolios – general waste collection, hazardous waste management, onsite waste management, specialised industrial cleaning, pipe inspection and analysis, landfill management and healthcare waste management.



Civic centre showcases a BETTER WAY TO BUILD

The Greater Giyani Municipality will soon take ownership of its new modern administration offices, with the second and final phase of the development in the heart of the Giyani central business district now nearing completion.

By February this year, HBC Construction and its team of subcontractors were making steady progress on the works programme, fitting out the superstructure that was built entirely with a modular pre-cast concrete building system.

Corestruc designed, manufactured and installed the 1 000 t of precast concrete elements, including 190 columns and beams, as well as 2 900 m² of floor and roof slabs, that make up the new administration block. They play a critical role in helping meet dbm Architects' design requirements for a durable structure that will continue to add value for the Greater Giyani Municipality for many years.

All of the precast concrete items are no less than 60 MPa, and were manufactured to exacting standards under tightly-controlled conditions at the company's state-of-the-art batching plant.

The high levels of batching accuracy achieved in a factory setting are also a major contributor towards Corestruc's impressive installation track record on sites.

Benefits

Precast concrete structures are swiftly assembled by small teams.

This highly efficient manner of building does away with the need for the erection of scaffolding and propping, as well as the assembly of shuttering and formwork, while eliminating the need to co-ordinate

ready-mix concrete deliveries.

Corestruc's Russell Hobbs says these were all major advantages on this heavily-congested site where the company had to deploy its a 160 t unit, to provide the necessary reach to lift and place each pre-cast concrete element.

"We had just enough space to strategically position the crane half-way on the site to efficiently handle the various elements. Certainly, our system helped overcome many major logistical complexities that would have hindered conventional in-situ construction techniques," the senior contracts manager says.

Hobbs explains that the columns were installed according to a template that is placed on top of the building's foundations, and then aligned to achieve the required dimensional accuracy, before installing the pre-cast concrete beams and floor slabs.

By this stage of the build, a stable construction sequence had been established, and the process was repeated all the way to the fourth floor, ending with the placement of the roof slabs. The floor and roof slabs were then filled with a specially-designed non-shrinking grout to provide high weather-proofing properties. Work on the second phase of the project commenced in the beginning of 2016.

Additional work

Based on its stellar workmanship during the earlier phase of the programme, Corestruc was also invited to extend the existing council chambers in line with later amendments made to the original design.

Hobbs says the work scope entailed installing 18 additional precast concrete wall panels to lengthen

By this stage of the build, a stable construction sequence had been established, and the process was repeated all the way to the fourth floor.



This highly efficient manner of building does away with the need for the installation of scaffolding and propping as well as the assembly of shuttering and formwork.

the existing curved wall consisting of 46 wall panels.

Each 5,4 t panel is 9,7 m high, one metre wide and 200 mm thick, and are joined with quality Bartec Type couplers, which have been imported from Germany.

Again, Corestruc's teams made light work of this aspect of the programme, completing the installation of the additional panels in four shifts using a team comprising seven people, including a supervisor.

They arrived following the demolition of a section of the existing chambers and the construction of the foundation by Corestruc.

The wall panels were placed and the connections then grouted, ahead of the completion of the second stage in-situ concrete foundations.

"Once the panels were securely supported by propping that was attached to the existing structure, the 320 mm-thick hollow-core roof slabs, with spans of 11,6 m, were installed in a day. A 100 mm-thick reinforced in-situ structural topping layer was then placed over the pre-cast roof elements to complete the extension," Hobbs says.

The occupation of the building by municipal staff will be another major milestone for Corestruc, which already boasts an impressive portfolio of successful property-related projects. These include a satellite office for the Department of Energy and a six-storey hotel, its largest building-related project to date.

More recently, the company also mobilised its teams to another building project associated with a prominent airport in South Africa – a development that again mirrors the growing popularity of Corestruc's modular building systems in the country.

Hobbs is convinced that this buoyant outlook will continue as more developers and their professional teams explore a better way of building. ●



Swift rebuilding of burnt-down school

After the recent raging fires in the Van Stadens Gorge area in the Eastern Cape, Kwikspace Modular Buildings (Kwikspace) was quick off the mark when most of the buildings at Woodridge College and Preparatory School were burnt to the ground, forcing non-local borders and staff to evacuate the premises.

The school suffered devastating losses to its reception hall, main hall, some of the hostels, school church, junior classrooms and music school. Additionally, a number of private residences burnt down, displacing 39 teachers, members of ground staff and their families.

On 21 June – only a few days since firefighters had to surrender to the flames – Kwikspace brought relief when the local manufacturer of prefabricated modular buildings supplied/erected/built 16 classrooms, four ablution units and an office unit.

Comments Glen Moss, Kwikspace Regional Sales Manager Eastern Cape: “Time was not on anybody’s side as the school was to re-open on 4 July. As the leading provider of quality prefab rentals, we

rose to the occasion to provide a reliable temporary solution to create a safe, clean learning and working environment for its learners and staff.”

A total of 21 units were provided, covering nearly 1 000 m² and accommodating up to 20 students per structure. Kwikspace units are manufactured in a controlled factory environment according to strict ISO (International Standards Organisation) standards.

Moss adds: “It was a privilege to be in a position with the stockholding Kwikspace carries, to be able to assist Woodridge with the classrooms and ablutions they needed. Working with such a dedicated,

highly motivated team was a pleasure.”

Comments Derek Bradley, College Headmaster: “Woodridge College recognise the impact that these units will have in restoring order and normality to our daily lives, and we are thus very pleased with the flexibility, efficiency and professional services offered by Kwikspace.” ●



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Riverside Park at Extension 24 in Nelspruit has been constructed using Corobrik Bergendal Satin Light FBS with Corobrik 65 mm Cedarberg Pavers being used to complement this office block. (photo Fortsch+Associates Architects)

ENHANCING OFFICE park development

One of Nelspruit’s burgeoning business regions, Riverside Office Park, has just undergone a massive upgrade with Corobrik’s durable and attractive face brick and paving ranges incorporated into the new structures.

Situated north of Nelspruit’s central business district, Riverside Office Park is a City Improvement District which forms part of a mixed-use node attracting many new businesses because of the area’s high-level management and convenient location.

Conceived by Halls Properties, original owners of the land, the buildings have been designed within a sectional title set-up with several consortiums taking ownership of the five blocks which make up Riverside Office Park.

Halls Properties identified a need for an office node within the Riverside area and decided to open up this expansive block for an office park development, with ranging office space sizes for a diverse market.

Construction began in September 2015 on the development which consists of five office blocks and two parking levels. There is a shared parking basement for blocks two and three, considered the central block, while blocks 1 and 4 have central garden courts which form the public spaces for tenants. This court is essentially the heart of the offices, creating an attractive feature which provides a necessary space for relaxation in between hectic working schedules.

The development was constructed using up to 900 000 of Corobrik’s Bergendal Satin Light face bricks and more than 200 000 Tuscan Blend pavers with final completion anticipated for the end of 2017.

Corobrik Commercial Director, Musa Shangase, praised the building’s aesthetics and said the choice of Corobrik’s range was ideal for the location.

“Nelspruit is renowned for its fluctuating temperatures and this

can put undue pressure on building products,” he explained. “This is not the case with clay face brick because of the superior thermal capacity.”

He said the only challenges encountered with this particular project were managing the stock and consistency of the product over the construction time frame, however, the end result was an exceptional development.

“Riverside Office Park proves that the smart use and application of Corobrik clay face bricks promotes efficient design, while the carefully plotted architecture – combined with all the relevant and complementing building materials – creates a really unique visual aesthetic.”

Architect, Reiner Fortsch of Fortsch+Associates Architects, said quality and appearance are two of the most important elements when selecting a product.

“I, personally, have always been fond of the Bergendal range because it is available in various shades,” he explained. “I find the texture and colours appealing and it is my preferred face brick which I have used on various projects before. Corobrik is a reliable company to work with, always ensuring the bricks were delivered to site.”

He said that, for this particular project, the Bergendal face brick’s attractive light colour was a good match for the colour of the soil found around the office park.

“The brick has pinks and oranges, which makes for a very lively and warm brick. The finish is relatively smooth, but not too ‘machined’.”

The face bricks were used to give expression to the thick solid walls which are a strong conceptual aspect to the buildings. They were used on the east and west elevations to guard against harsh sunlight because much lighter glass facades dominate the north and south elevations.

Fortsch said the Tuscan paver was an ideal choice because the attractive colour worked well against the face brick walls while its thickness ensures longevity with repeated use. ●

Tower commended

The iconic 'twisty' PwC Tower in Midrand, together with its slipform, received a Commendation in the buildings greater than three-storeys category at the 2017 biennial Fulton Awards hosted by the Concrete Society of South Africa in June 2017. The PwC Tower is the 24th tallest twisted building in the world and the only twisted building in Africa.

Arup was the structural consultant responsible for achieving the iconic twist in the tower as well as designing the façade. The project was submitted for consideration by Afrisam and CHRYSO SA.

Richard Lawson, associate director at Arup and project manager on the PwC Tower said, "We are delighted to have shared in this Commendation by the Fulton Awards judging panel, and we congratulate the client Attacq Waterfall Investment Company and LYT Architecture, together with Afrisam, CHRYSO and all contractors who are involved with the project. For the Arup team, this has been a major achievement in twisted building design, and we are exceptionally proud".

The judges' citation highlighted that "the design solution balanced gravity loads on the corner columns and reduced the torsion on the core of the tower, making stresses on the core wall decrease by a factor of four. This meant that the structure used a 450 mm core wall that is a similar thickness to what a typical straight tower of that height would have needed. By taking this approach, both time and cost efficiencies were realised resulting in better integrated and well considered design that satisfied the architectural vision of the building and space planning constraints".

Afrisam is one of South Africa's leading suppliers of construction materials and technical solutions, and the main concrete supplier on the PwC Tower development. CHRYSO Southern Africa formulates, manufactures, sells and distributes admixtures and additives that service the cement, readymix, precast, new construction, mining and gypsum industries. ●



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Bridge City comes of age

Tongaat Hulett Developments and NJR Steel are officially celebrating the opening of the Bridge City Business Estate's first greenfields project – a purpose built 4 000 m² warehouse and distribution facility.

"Bridge City is coming of age because of its strategic location and completion of the half diamond interchange giving direct access to the M25. This successful project demonstrates just what can be achieved at Bridge City," says Brian Ive, a development executive at Tongaat Hulett Developments, which is driving the development of this mixed-use precinct in partnership with eThekweni Municipality

Situated on a 7 761 m² site within the 17 hectare business estate, the new NJR Steel facility is already fully operational.

It is home to a fully stocked shop that is open to members of the public and offers steel as well as hardware products, a distribution centre which serves as a hub from which customers can collect and the company can deliver product and a reinforcing bar line which cuts and bends reinforcing bar as per engineering schedules for all sectors of the building industry.

According to Durban branch manager, Mike Smith, NJR Steel acquired the property about two years ago. Construction commenced in earnest in May 2016 and the new Durban operation was completed in just under a year. They officially took occupation on 1 May 2017.

The end result offers "a bigger yard, easier access and greater convenience," he says. "We were previously located in New Germany but had sadly outgrown the facility about six years ago. The design of the building that we have erected in Bridge City has taken into account our customers and suppliers and allows ease of access for both loading and offloading of materials. We are able to service up to four interlinks within the facility at any given time, as well as cater for customers collecting daily requirements," he explains.

Both Ive and Smith believe that location is the key reason why businesses will choose Bridge City. NJR Steel, which has a network of 16 branches in five provinces, serves customers all the way from Richards Bay to the Eastern Cape.

"We offer a large selection of mild steel products and steel hardware accessories and serve all facets of the market – from the largest fabrication business to construction businesses to the average DIY enthusiast who may require some steel or an allied product. "With the location of the airport at La Mercy, many business have moved north. In particular, there is a lot of development in uMhlanga and the Northern

Region. We believe that our business is now centrally situated in order to provide fast and efficient service, Smith explains.

Ive notes that the completion of the M25 half-diamond interchange and freeway leading to Bridge City at the beginning of the year has significantly improved access to both the town centre and the business estate for both road users and for the R20-billion GO!Durban bus rapid transport network (BRT).

In addition, he says, Bridge City businesses will also benefit from good visibility from the busy M25 and the convenience of being just three kilometres from the N2. Bridge City Business Estate offers fully serviced and platformed sites, making them immediately available to buy, take transfer and start construction. This overcomes protracted delays experienced by many potential investors in other parts of the city. However, according to Ive, at present, there are just six sites left ranging in size from 2 500 m² to 2,9 hectares.

He adds that the location of Phoenix Industrial Park directly across the M25 is another important consideration for businesses. Since its launch in 1982, Phoenix Industrial Park has evolved into an important economic hub along the burgeoning northern corridor of Durban. It is home to over 460 businesses, making it one of the largest industrial complexes in the country. As far back as 2013, one of the chief challenges to growth in the area has been the availability of affordable land for business expansion.

Bridge City is the second leg of the highly successful Effingham joint venture public private sector partnership between Tongaat Hulett Developments and the eThekweni municipality. It is a mixed use development that includes residential, retail (including the 48 000 m² Bridge City shopping centre), recreational, medical and commercial and light industrial facilities. ●





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BREAKING CONCRETE BOUNDARIES

This year's prestigious Fulton Awards have again showcased the extent of concrete expertise and capability enshrined within the Murray & Dickson Construction Group, a leading and black-owned contracting company.

► This proficiency played a prominent role in the highly successful outcome of the extensive and complex concrete works associated with the Sol Plaatje University Library construction project, the overall winner in the Category for buildings of more than three storeys.

The expert panel of adjudicators described the project as 'bold and original, pushing the boundaries of architectural and engineering design', while relying on 'very high expectations from concrete to perform both as a structural and aesthetic material'.

Murray & Dickson Construction Group's building division has been closely associated with the Sol Plaatje University since 2014, when it was awarded its first contract by the institution of higher learning in Kimberley, Northern Cape.

Its stellar work on this aspect of the rapidly expanding precinct led to its appointment as the main contractor on the library build, which commenced in 2015.

Here, the building division continued working alongside Aecom, the principal agent. It was joined by Lafarge and Unispan, specialist suppliers, as well as OIK, a Kimberley-based emerging contractor that was trained in steel fixing and shuttering by Murray & Dickson Construction Group in line with its own *Khula Nathi* policy. *Khula Nathi* is Zulu for 'Grow with Us', and this policy was also applied in the extensive training of the Kimberley locals working on the contract.

The library is not only a central feature of the rapidly expanding Sol Plaatje University development, but also currently the most sophisticated building in the larger Kimberley central-business district. Located on the main pedestrian spine of the campus, the structure is immediately noticeable by the refined and consistent silky off-steel finish of the concrete façade. The latter is an impressive 'wall-and-roof' concrete shell that is functionally, structurally and technically independent of the 'building' housed within.

This structural engineering feat called for the construction of a three-dimensional envelope that allows a 2,7 m-wide perimeter void between the external envelope and the floor plates. The void acts as a thermal duvet between the non-insulated external shell and its habitable building, and in which all vertical movement and services are located. The walls were slid while supported off the ground on very slender columns, facilitating a ground level that is transparent and that can be used as a

M&D Construction Group provided critical expertise for the successful delivery of the very complex Sol Plaatje University library.

public space. Meanwhile, infill panels in the shell manage shrinkage stresses.

Murray & Dickson Construction's Renell Samuel says the project relied heavily upon the group's long legacy on other complex building projects. "We are acknowledged as an expert in the field of off-shutter concrete finishes. This is a reputation we have earned as a result of our very long association with the University of Witwatersrand, among other highly successful related builds. Certainly, this was one of the other reasons why the University of Sol Plaatje entrusted us with what was intended to be the showpiece of the entire precinct," says the group's building construction director.

Samuel and his team provided valuable insight right from the very early design phases, again bringing to the fore the uniqueness of a NEC 3 Target Cost Contract that was awarded to the Murray & Dickson Construction Group on open tender. He attributes many of the division's successes to this form of contract that transfers more responsibility to the contractor.

Not only did the contracting team transfer essential knowledge on optimal shuttering and staging technology, sequencing and concrete lifts, but also paid meticulous attention to consistent colour variation, programme optimisation and costs that were aligned to the budget. Working closely with the energy consultant, the professional team also took into consideration climate and light-harvesting objectives, bringing a strong sustainable engineering aspect to the overall build.

Samuel concludes that he is proud of Murray & Dickson Construction's association with yet another successful building contract that has also received due recognition from a biennial event that is widely acknowledged by South African built environment professionals as the foremost platform for recognising excellence in the design and use of concrete. ●

The project was described as 'bold and original, pushing the boundaries of architectural and engineering design', while relying on 'high expectations from concrete to perform both as a structural and aesthetic material'.



UNAPOLOGETICALLY AFRICAN

The inaugural Africa Architecture Awards announced 20 shortlisted projects out of an unprecedented 307 entered projects situated in 32 African countries.

► The inaugural Africa Architecture Awards founded by Saint-Gobain attracted an unprecedented number of entries for an architecture awards programme in its first edition. More than 500 projects registered to enter the awards before the closing date of 14 July 2017, and a total of 307 projects from across the continent, situated in 32 African countries, completed the registration process and qualified to enter.

All 307 projects have since been published on www.AfricaArchitectureAwards.com, with the awards website now acting as a repository of thought-provoking projects spanning the African continent. As a yardstick to gauge the depth and breadth of contemporary African architectural practice, the site alone is an invaluable resource, visited by over 40 000 unique users from mid-May to end-July 2017, with 800-1 000 unique visitors accessing the site per day.

Thus far, over 450 African broadcast, print and digital publications have given published attention to the awards. More than 100 000 people have participated in the public voting component of the Africa Architecture Awards People's Choice award. Only one vote per person per day is permitted and voting closed on 18 August 2017.

Although still in its infancy, this ambitious awards programme has already become one of the most successful architecture awards programmes on the continent – and it hasn't yet announced its winners. It is also the only one of its kind due to its Pan-African scope; it being the first to invite entries from across Africa, for any project that pertains to Africa, regardless of where the architectural firm is located.

"The Africa Architecture Awards," explains Evan Lockhart-Barker, the Managing Director of the Saint-Gobain Retail Business Development Initiative, "have been established to highlight the continent's innovative and collaborative style of solving problems – architectural or otherwise.

"Saint-Gobain has engaged with some of the best minds in the field to establish this programme, so that the awards are relevant, contextual and progressive. We are more than thrilled to see the response that the competition has received to date."

On 27 July 2017, the awards announced a shortlist of 20 projects, which now stand in line for a trophy in either the Built, Speculative, Emerging Voices or Critical Dialogue category; or, the overall Grand Prix award of USD10 000. There were 139 entries in the Built category, 91 entries in the Speculative category, 44 entries in the Emerging Voices category and 34 entries in the Critical Dialogue category.

The shortlist was chosen by a Master Jury comprising a Pan-African panel of architects and industry experts, including: Anna Abengowe (Nigeria), Guillaume Koffi (Côte d'Ivoire), Professor Edgar Pieterse (South Africa), Patti Anahory (Cape Verde), Professor Mark Olweny (Uganda), Tanzeem Razak (South Africa), and Phill Mashabane (South Africa).

The trophy winners in each of the four entry categories, and the overall grand prize, will be announced at a gala awards ceremony to be held at the newly opened Zeitz Museum of Contemporary Art Africa (Zeitz MOCAA) in Cape Town. The architects of each of the 20 shortlisted projects will be flown to Cape Town by Saint-Gobain to attend the awards ceremony, which will be held on 28 September 2017.

Following the awards ceremony, a public colloquium titled 'Celebrating Architecture in Africa' will be held to discuss the winning projects and explain why they were chosen. This event will take place on 29 September 2017 at the Institute for Creative Arts at UCT Hiddingh Campus in Cape Town from 9:00. Participants include members of the Steering Panel and Master Jury for the Africa Architecture Awards. Admission is free. ●

The 20 shortlisted projects are as follows:

Built

- One Airport Square, Ghana – by MCA Architects
- Thread: Artists' Residency and Cultural Centre, Senegal – by Toshiko Mori Architect
- Dakar Conference Centre, Senegal – by Tabanlioglu Architects
- Umkhumbane Museum, South Africa – by Choromanski Architects
- Out of the Box Partnerships, Ethiopia – by Parallel Solutions

Speculative

- Ecree, Ecowski Centre for Renewable Energy & Energy Efficiency, Cape Verde – by Fernando Mauricio Dos Santos
- New Eye Sight Hospital, Republic of Congo – by Boogertman + Partners
- Kigali Genocide Memorial, Rwanda – by Mass Design Group
- The Territory Inbetween, South Africa – by Aissata Balde
- Beyond Entropy, Angola – by Paula Nascimento

Emerging Voices

- The Embassy of Mantanhas – Eclectic Atlases, Cape Verde – by Stephanie Ryder, Graduate School of Architecture, University of Johannesburg
- Architecture of Crisis: Windhoek Community Boreholes – by Elao Martin, Namibia University of Science and Technology
- Re-think Makoko, Lagos – by Mohamed Waheed Fareed Abdelfatah, Helwan University, Egypt
- The Monolith of Kasolo, Democratic Republic of the Congo – by Federico Fauli, Architectural Association, School of Architecture, London
- The Exchange Consulate: Trading Passports for Hyper-Performative Economic Enclaves, South Africa – by Ogundare Olawale Israel

Critical Dialogue

- Design Indaba, South Africa – by Interactive Africa
- APSAIDAL – by Ebano Wey Ekame Ikuga, Spain
- Forum de Arquitectura – by Ceica, Angola
- The Journey of Design and Critical Dialogue. Securing the Presence of Urban Livelihoods – by Richard Dobson, South Africa
- Revolution Room – by Visual Arts Network, South Africa & Waza Arts Centre, Democratic Republic of Congo

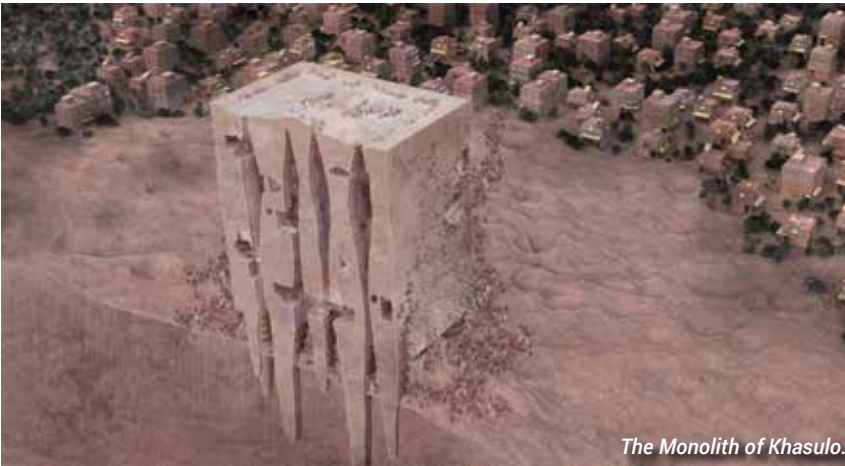
"Saint-Gobain has engaged with some of the best minds in the field to establish this programme, so that the awards are relevant, contextual and progressive. We are more than thrilled to see the response that the competition has received to date."



Dakar Conference Centre.



THREAD - Artists Residency.



The Monolith of Khasulo.



Out of the box partnerships.



Kigali Genocide Memorial.



New Eye Sight Hospital.



One Airport Square.



Architecture of Crisis-Windhoek Communal Borehole Wells.



Umkhumbane Museum.



Re-think Makoko.

Speeding up SOCIAL HOUSING DELIVERY in the Western Cape

In the picturesque region of Durbanville, just outside Cape Town, Portland Hollowcore's precast concrete panel production plant is running a six-day-a-week shift in order to manufacture concrete panels that are required for social housing developments around the Western Cape.

► The Portland Group, the holding company of Portland Hollowcore, which is a family-owned business, has been in existence since 1988 and in 2000 purchased the Portland Quarry. The company is well-known for the quality of aggregate their quarry produces. Portland Hollowcore manufactures precast concrete panels at their Durbanville premises in a purpose made factory. The panels are reinforced with pre-stressed cables and are formed in an extrusion process with machinery and technology supplied by Elematic, Finland.

Social housing is defined as rental units aimed at low income households, that are administered by Independent Social Housing Institutions, who are granted state-subsidies to build the units. The backlog in the development and delivery of social housing in the Western Cape is estimated to be over 350 000, with a national figure for South Africa of over two million units. Social housing is one form of housing delivery that is aimed at enabling those who are not able to obtain traditional financing options, to rent a property.

"The demand for social housing in the Western Cape, like elsewhere in the country, is enormous. With the time and cost efficiencies that can be achieved by utilising precast concrete panels, I believe that once developers, who are used to traditional and historical methods of building houses and apartments, embrace this technology further, we can make a substantial and positive impact on budgets

and delivery. The key to improving delivery of units, thereby reducing the backlog, is most certainly the precast concrete way, due to its faster and more financially competitive production time," said Nico Heyns, Managing Director of Portland Hollowcore.

"A critical factor to our improved production processes has been the Elematic technology. The new machinery enables us to cast at a faster speed and in more lanes per day – we are able to produce more meters of concrete per minute – and the quality is better. The Elematic machines have resulted in substantially less factory downtime, due to the preventative maintenance scheduling which we adhere to. The machines offer us a lifecycle of between 15-20 years. At any given point in time we are supplying a number of clients whose projects are either on-going or where numerous houses are being constructed. Our precast installations are completed within one day," he said.

"When we visited the BAUMA Expo in Munich in 2008 we were introduced to Elematic. We were impressed by their machines and technical support and how it could enhance our production processes and reduce costs; savings which we could pass on to the developers of social housing in the Western Cape," Heyns continued.

Projects and awards

Portland offers a full turnkey solution of design, the manufacture of specified

precast concrete panels at their factory and delivery to and installation at site. Portland Hollowcore is currently supplying over 150 000 m² of panels to projects developed by Calgro M3 around the greater Cape Town area. They have also supplied decking and stairs to the Belhar social housing project.

The application for Portland's precast concrete panels is not restricted to social housing. One of the projects the company is very proud of is the V & A Waterfront parking system – the first ever demountable parking deck in South Africa.

The concept was developed by V & A Waterfront and LH Consulting. Due to its popularity in high season, the V & A Waterfront needed additional parking capability, without tying up valuable land space permanently. The demountable parking system gives the V & A the opportunity to either sell the parking to another party for re-erection or they can move the parking to another area.

"We used 200 mm thick slabs at an 8 m span. There is no structural topping or screed done on top of the slabs as it is demountable. There was a special mix of 35 Mpa developed by Portland's technical team together with LH Consulting to do the grouting of the V joints. This mix design is being manipulated to bond the slabs together but also to ensure minimum broken panels when the parking is being dismantled. The super structure of this building was done in approximately 60 working days. It is a great way to build a parking deck and we are confident that no other system can compete with our erection speed," Heyns explains.

Portland Hollowcore joined the Concrete Manufacturer's Association (CMA) in 2014 and submitted The Gene Louw Primary School Activity Centre in Durbanville,



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LEFT: Cutting slabs. RIGHT: The V&A Waterfront parking area.

another of their projects, into the 2016 CMA Awards. The DF Malan High-School Multi-Purpose Centre project was a 2013 Fulton Awards Nominee.

More recently the company installed 200 mm precast concrete panels to the brand new Reddam House School in Durbanville. Nico said, "It was an honour to be part of the construction of such an amazing building which is situated right on our doorstep. This school is a state of the art development with the latest finishes and facilities throughout".

Future potential

"Using precast concrete slabs definitely offers substantial savings in time. It is less labour intensive for the contractor and offers up to 30 days less standing time on one simple deck. When we install the panels, the client only has to fill the joints and put a screed on top – that takes one day. So while the cost of prefabrication is not necessarily cheaper, the trickle down on-site activities such as transportation, labour and time are all either eliminated or substantially reduced," says Heyns.

Portland Hollowcore has two Elematic Extruders and an efficient Elematic saw assisting them to increase their production of precast concrete panels. "Due to a rising order book for our precast product, we chose to airfreight the new Elematic Extruder to South Africa. We needed more capacity and quickly. While the costs to do this were higher than sea freight, our

return on investment was within one month of operation".

Heyns highlighted the fact that the new extruder enables them to manufacture 250 mm thick slabs, whereas before they could only manufacture 160 mm and 200 mm thick slabs. The 160 mm slabs are mostly utilised in residential housing. "Our experience on the V & A Waterfront parking project using our thickest sized slab highlighted the potential for greater applications for our precast concrete products. The thicker the slab the longer you can span, therefore making it suitable for use in high-rise building developments in Cape Town, as well as parkades and office blocks. The Elematic Extruder offers us extra capability and flexibility, which in turn enables us to look at these opportunities in addition to servicing the social housing sector" she said.

Portland Hollowcore's investment into more advanced machinery enables them to manufacture concrete panels throughout the day, leaving the panels to cure overnight, and be ready for cutting and delivery all within a 24 hour window. "There is a better quality product being manufactured now that new processes have settled down. We hold weekly quality meetings and conduct quality tests in a controlled environment. In our line of work there is no room for error with our product, the consequences could be catastrophic. We are an extremely quality confident outfit," said Heyns. "We have a strong relationship with



Hollow core slab production.

Portland Hollowcore. Their factories have a well-planned layout that will allow them to expand their production when needed. Our warehouse in Dubai ensures that we are able to assist our South African customer base quickly and efficiently," says Curt Lindroth, Area Sales Director for Elematic, Finland.

"We hope to expand our production facility shortly. We do intend to stay with Elematic, their machinery is high quality and their support and service is their key differentiator," Heyns concludes. ●

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2 BEST PROJECTS 17

Construction World's Best Projects showcases excellence in the South African building, civil engineering and project management sectors.

In its 15th year, the aim of *Construction World's* Best Projects is to recognise projects across the entire construction industry: from civil and building projects to professional services to specialist suppliers and contracts.

There are six categories in which to enter. Projects may be entered in several categories, provided they meet the prerequisites for entering each one, as well as meet the entry criteria.

Judging

A panel of independent judges from the construction industry has been appointed. These judges represent ECSA, SAICE, MBA and CIOB. They are Trueman Goba, chairman of Hatch Goba and former ECSA and SAICE president; Nico Maas, chairman of Gauteng Piling and former president of the Master Builders' Association; and Rob Newberry, managing director of Newberry Development and founding president of the Chartered Institute of Building.

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

In each category an Overall Winner Award and one or two Highly Commended Award(s) will be made. A 'Special Mention' award may be given.

Awards evening

The awards ceremony will be held on **Wednesday, 8 November 2017** at the Royal and Kensington Golf Club in Johannesburg.

Entry criteria for each category

- Construction innovation technology
- Corporate social investment
- Design innovation *
- Environmental impact consideration
- Health and safety
- Quantifiable time, cost and quality *
- Risk management *
- Motivating facts about the project

(*The same criteria pertain to all categories except for 'Category B: Specialist Contractors or Suppliers' where the following do not apply: Design innovation; Quantifiable time, cost and quality; Risk management.)

Category A1: Civil Engineering Contractors

Prerequisites for entries

- Only South African construction and civil projects executed by locally based companies.
- Projects are eligible during the execution of the project and up to 12 months after completion.
- Projects must be 50% complete at time of entry.

REFER TO ENTRY CRITERIA

Category A2: Building Contractors

Prerequisites for entries

- Only South African construction and civil projects executed by locally based companies.
- Projects are eligible during the execution of the project and up to 12 months after completion.
- Projects must be 50% complete at time of entry.

REFER TO ENTRY CRITERIA

Bronze sponsor:



Category A3: Civil Engineering and Building Contractors (outside South Africa)

Prerequisites for entries

- Projects outside South Africa, executed by a South African contractor.
- Projects are eligible during the execution of the project and up to 12 months after completion.
- Projects must be 50% complete at time of entry.

REFER TO ENTRY CRITERIA

FINAL CALL FOR ENTRIES

Submitting entries

- Each entry must be accompanied by the completed entry form; available on www.constructionworldmagazine.co.za or by requesting it from constr@crowm.co.za.
- The maximum length for submissions is 2 000 words
- Each submission must clearly state which category is entered for*
- IMPORTANT It is to the entrants' own advantage to address ALL the criteria as set out in the category being entered. If a criterium fell outside the scope of the contract, please state this.
- The written submission must be accompanied by up to six high resolution photographs with applicable captions.
- The photopgraphs and copy must be submitted separately – NOT in PDF format.
- The submission must also contain a summary list of important project information such as client, main contractor etc. – i.e. the professional team involved in the project.
- Electronic submissions are acceptable – entrants do not need to produce hard copies of entries.

* *Construction World* retains the right to move entries into a more appropriate category.

Deadlines

Deadline for entries is
Friday, 8 September 2017 at 17:00.

Contact

For further information contact the editor, Wilhelm du Plessis on 011-622-4770 or constr@crowm.co.za

Special issue

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

Category B: Specialist Contractors or Suppliers

Prerequisites for entries

- Only South African construction and civil projects executed by locally based companies.
- Projects are eligible during the execution of the project and up to 12 months after completion.
- Projects must be 50% complete at time of entry.

Criteria for category B

- Construction technology innovation
- Corporate social investment
- Environmental impact consideration
- Health and safety
- Motivating facts about the project

Silver sponsor:



Category C: Professional Services*

Prerequisites for entries

- Only South African construction and civil projects executed by locally based companies.
- Projects are eligible during the execution of the project and up to 12 months after completion.
- Projects must be 50% complete at time of entry.

REFER TO ENTRY CRITERIA

***Depending on the entries received, an award for both consulting engineers AND architects will be made.**

Category D: The AfriSam Innovation Award for Sustainable Construction

Description of category: Working with the community on a project that has socio-economic impact.

Prerequisites for entries

- Only South African construction and civil projects executed by locally based companies.
- Projects are eligible during the execution of the project and up to 12 months after completion.
- Projects must be 50% complete at time of entry.

This category will be judged on the project's

- change and transferability
- ethical standards and social equity
- ecological quality and energy conservation
- economic performance and compatibility
- contextual and aesthetic impact

REFER TO ENTRY CRITERIA

Main sponsor:





SLOPE STABILISATION

near Loskopdam

Work on the slope stabilisation near Loskopdam started as early as September 2015 and was completed earlier this year. Infrastructure engineers, HHO Africa, recommended a draping mesh of 2,7 mm diameter hot-dip galvanised hexagonal woven double-twisted wire mesh with 80 mm x 100 mm mesh opening or equivalent high-tensile steel mesh.



Contractors Guncrete (currently Guncrete Geotechnical), opted to use Geobruigg's Deltax G80/2 mesh. Deltax mesh has lower installation cost as compared to commercially available double twisted mesh. At only 76 kg per 117 m² roll of mesh (hexagonal mesh is more or less 164 kg for the same size), the mesh rolls can be handled by hand with only a few workers.

A total of over 8 000 m² of mesh was used in Cut 7 alone. Easy extension of rolls by means of connection clips avoided waste material. The connection clips allows optimal force transmission and there is no overlap of mesh. Compared to conventional protection methods, Geobruigg's systems use the highest strength-to-weight ratio possible to create solutions that are guaranteed to be exceptionally stable and visually appealing. Salt-spray tests have also shown that the Zinc/Aluminium coating on Geobruigg mesh shows a 2-3 times longer lifespan than normal galvan coatings.

The contractor on site, KPMM made sure that the work was done as per the design specifications. After barring down the face, the mesh and dowels (25 mm, length 1 200 mm) were installed in areas where the ground was fractured, or there were infilled joints and steep gradient. →





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→ A second set of mesh, Tecco G65/2 was used over the Deltax mesh and longer dowels were used. Anchoring is a critical part of the slope stabilisation system and care should be taken that the downs are correctly installed and grouted. The length of the dowels should be sufficient so that nuts can be tensioned at 30 kN onto the baseplate. If this is not achievable one could consider increasing the length of the dowels. A staggered nail pattern (2 m x 2,5 m recommended) will also reduce the chances of boulders/rocks to slide behind the mesh over the total length of the slope.

Cut 5, 6 and 8 showed signs of possible erosion that might be a cause of concern in future. It was recommended that some sort of erosion control mat be used and possible hydroseeding to cover the slope and protect it from erosion. Initial recommendation for the area had been a rockfall barrier. Instead, the mesh draping was put on the slope and a concrete wall was built at the road side to stop falling rocks from getting onto the road. ●



Scope of work

Rehabilitation of national route N11, section 10 going from Middelburg towards Groblersdal near Loskopdam (km 23,5 to 53,4). Cut 5, 6, 7 and 8.



12 M HIGH retaining wall system

Limited space and precipitous slopes called for some specialist geotechnical engineering in the construction of some of the concrete block wall structures in Bakoven on Cape Town's Atlantic seaboard.

The walls were built to retain a steep granite embankment which was cut to create a building platform for the construction of Infinity, a luxury six-storey apartment block offering spectacular views of the Atlantic and the Twelve Apostles mountain range.

Apart from the sea-facing front elevation, the remainder of the building is enveloped in a cocoon-like concrete block wall structure of varying heights and angles. The walls were designed by structural engineer, Fred Laker, with geotechnical engineering input on the three walls at the rear of the property from Kantey & Templer Consulting Engineers for the principle retaining components. All the walls were built by Dassenberg Retaining using L12 retaining wall blocks supplied by CMA member, Terraforce.

Geotechnical site inspections and a detailed slope stability analysis conducted by Kantey & Templer revealed that the bulk of the materials exposed in the cut face took the form of deeply weathered granites. It was determined that if left unsupported parts of the embankment could be prone to instability during periods of high rainfall.

Following an assessment of various support options Kantey & Templer recommended that two of the three main rear concrete block walls be provided with 300 kN tie-back anchorages and concrete

water beams. Geofabric reinforcement was not an option in this instance due to the space between the retaining wall block facing and the embankment face being only 300 mm. Steel reinforced, the water beams measured 350 mm thick and about 1 000 mm high. They were constructed on the upper and lower wall sections and spanned the full width of the embankment.

Further reinforcement was achieved by filling the blockwork in the lower half of each of the three main concrete block walls with steel reinforced concrete. Free-draining sand was used to fill the space between the blocks and the embankment. The total combined height of the back-yard walls is 12,4 m. The lower wall is the highest at 5,6 m. The middle wall tops 3,7 m and the upper wall 3,1 m. Each wall was built at an angle of 75°. There are two narrow terraces between the lower and middle walls and the middle and upper walls.

A sophisticated sub-surface drainage system was built into the design to handle the percolation of water from the slope and to prevent the build-up of pore pressure. In addition, rain water flowing off the mountain slope is captured in a stone filled trapezoidal concrete channel which drains away from the wall into the stormwater drainage system. Perforated 100 mm pipes were installed at the bottom of the fill material behind each wall.

These drain into core drain pipes (gulleys) which in turn drain into stormwater pipes. The stormwater pipes run under the building and drain into a salt trap which then flows into municipal drainage.

Fire escape staircases on each side of the property were built as part of the retaining wall structures using Terraforce's 4x4 Step blocks.

Terraced concrete block retaining walls at the Infinity site, built with Terraforce L12 blocks.



L13, L18, L22



Terrafix



Terracrete



4x4 Multi



L11, L12, L15, L16

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A FRESH PERSPECTIVE

Eighteen-year old Morgan Bentley matriculated from Zimisele Secondary School in 2016, with distinctions in Mathematics (99%) and Science (100%). He is part of an industry skills development programme, called 'Go For Gold' that accompanies learners from disadvantaged communities through four phases, starting with education (Grade 11) through to work experience, studying and finally to employment.

Stefanutti Stocks has been associated with the initiative in the Western Cape since 2012, and both the Civils and Geotechnical divisions became involved in the initiative when it launched in Gauteng in 2015. Morgan is now in Phase 2 of the Gauteng 'Go for Gold' programme, a paid experiential

work-readiness year, during which he is gaining experience by working for Stefanutti Stocks Geotechnical.

Since he began his internship in early 2017 he has visited a number of the division's sites, including Katherine Towers development in Sandton (a piling contract); Ekurhuleni pedestrian bridges (micro piling); and the One on Whitely development in Melrose, where he has been exposed to a broad range of geotechnical capabilities.

Morgan, who was the top 'Go For Gold' performer of the 2016 year says that his favourite part of being in the working environment is that he is constantly learning new things ... in particular specific technical details, as well as understanding why things are completed in a certain way.

He also says that when people are enthusiastic about their work and projects, it is infectious, and specifically mentions members of the Stefanutti Stocks Geotechnical team he is currently with on a sinkhole rehabilitation project in Centurion.

"Initiatives like 'Go for Gold' play a large part in creating a pool of talented, well-balanced individuals, who when they are finally fully employed in the industry, are real

assets and passionate about being here," says Shaun Butler, managing director for Stefanutti Stocks Geotechnical.

"Morgan's work experience sees him brushing shoulders with industry experts while being exposed to the various techniques we implement across a variety of soil conditions."

Since the beginning of 2017, the Geotechnical division has been awarded nineteen contracts across South Africa and Namibia. Projects include the nearly completed lateral support, bulk earthworks and dynamic compaction contract for the Lakeside Towers development in West Avenue, Centurion, which was particularly challenging as Centurion is classified as a high risk dolomite area.

"We are busy finishing off a large oscillator piling project near the Saldanha Port in the Western Cape and have been awarded a contract for the piling of two bridges between Swakopmund and Walvis Bay on the old Salt Road," continues Butler.

"Morgan's next project will see him working on yet another of our South African sites, where he will gain more insights into our niche capabilities, and hopefully, through his enquiring mind, bring a fresh perspective to the seasoned site-teams." ●

Pictured at a sinkhole rehabilitation project site in Centurion are, from left, Morgan Bentley, Johan Barnard (site foreman) and Lucas Mugondo (site safety manager).



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Stefanutti Stocks Geotechnical offers clients across Southern Africa the full spectrum of geotechnical, piling and lateral support services. It undertakes investigations and reports, as well as offering the design and construction of various types of piles, lateral support, rock anchoring, shotcrete, void fill and compaction grouting. We are committed to achieving nothing less than our mission of **excellence in execution** across all of our projects.

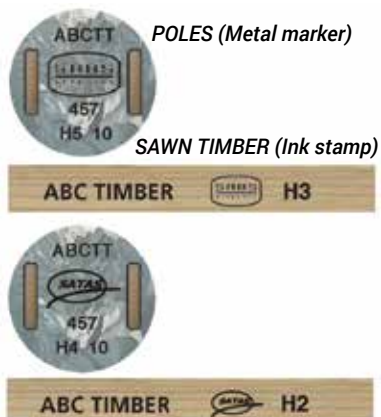
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excellence in execution

Buying and using preservative treated timber?

In South Africa treated timber is required by law to comply with national and compulsory specifications and must bear marking containing the following information:



Choose the correct hazard class

- H6 – High hazard: prolonged immersion in sea water (marine piling, jetty cross-bracing, landing steps, retaining walls, etc.)
- H5 – High hazard: outside in contact with heavy wet soil or in fresh water (piling, substructure for walkways and jetties, vineyards etc.)
- H4 – high hazard: outside in ground, subject to periodic wetting and leaching (fencing and structural posts, landscaping, stakes, pergolas, etc.)
- H3 – moderate hazard: outside above grounds, subject to periodic wetting and leaching (cladding, decking, stairs, balustrades, log homes, etc.)
- H2 – low hazard: inside above grounds, protected from wetting and leaching (roof trusses, framing, panelling, laminated beams, flooring, etc.)

Cross cut ends

All machine, cutting or drilling of preservative treated timber should be done prior to preservative impregnation due to cross cutting etc. It must be treated by liberally applying a suitable paint-on or brush-on remedial or supplemental preservatives (excluding ground contact).

How to plant a pole

Poles must have proper drainage of moisture that may be absorbed but a wooden pole. A structural engineer must be consulted for detailed structural requirements. Poles intended for planting in the ground must be purchased at required lengths. Never plant a cross-cut end of a treated pole or post into the ground as this will expose the untreated heartwood to fungal and termite attack resulting in premature failure. ●



South African Wood Preservers Association (SAWPA)

The South African Wood Preservers Association (SAWPA) is a non-profit association formed in 1980, by the South African wood preserving industry, primarily to promote timber treatment and treated timber products. Commercially grown timber in Southern Africa is mainly of the Eucalyptus and Pinus species, both of which are not durable. By applying the correct chemicals to these timbers ensures that the timber performs as if it were durable thereby giving predictable long life performance.

Innovative timber fasteners in South Africa

For 60 years, Simpson Strong-Tie has been recognised and an innovative manufacturer of high quality construction products across a broad range of products including connectors, fasteners, anchors and repair, protect and strengthening systems.

The company's success can be attributed to its focus of helping its customers make stronger and safer structures. A customer oriented focus along with a commitment to research and development of new ways for construction has been critical in making Simpson Strong-Tie synonymous with high quality construction solutions.

In the past Simpson Strong Tie within South Africa promoted one of its popular tools, the Quik Drive® auto feed fastening system. The Quik Drive® systems are ideal for a broad range of fastening applications to increase productivity with quick-loading screw strips,

precise countersink adjustment, and a patented auto-advance mechanism. This is designed to deliver speed and accuracy when using screws for many applications. →





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National Building Regulations' workshop on roofing

The Institute for Timber Construction South Africa (ITC-SA), SAQA-registered Professional Body for the engineered timber construction industry, hosted a free CPD-accredited workshop in Pietermaritzburg on 31 August with the assistance of the South African Local Government Association (SALGA) on the practical and legal aspects of the National Building Regulations with specific reference to SANS 10400 Part L: Roofs.

It has come to the attention of the ITC-SA that with regards to the implementation of the National Building Regulations SANS 10400 Part L: Roofs, which covers SANS 10243 (Manufacture and Erection of Timber Trusses), SANS 10163 (Structural use of Timber), SANS 1783 sections 1 and 2 (Sawn Softwood Timber) and SANS 10005 (The Preservative Treatment of Timber), a large percentage of buildings do not comply with the law.

A factor contributing to this phenomenon is a measure of ignorance in the sector around the responsibilities associated with each function in the building process. There are many misconceptions held among some professional practitioners and contractors in the built environment about the scope of their involvement up to project completion in ensuring the conditions of the relevant regulations are met.

The municipal building control office relies on the knowledge and integrity of the professional team responsible for designing, overseeing and final inspection of the roof structures to ensure conformance to the regulations by issuing a certificate of compliance.

Why, then, are so many buildings not conforming to the code?

To address this controversial issue, the ITC-SA, with the assistance of the SALGA, explained the roles and responsibilities of the professional practitioners in the built environment with respect to implementing SANS 10400 Part L: Roofs.

The purpose of the workshop was to sensitise all the role players in the built environment who are tasked with submitting building applications to the local authorities about their legal responsibilities and to clarify any misconceptions about their accountability and responsibility in the process. ●



About the Institute for Timber Construction

The ITC-SA was established more than 40 years ago to regulate the engineered timber roof structure industry and to provide design, manufacturing, erection, inspection and certification for compliance with inter alia SANS 10400 and SANS 10082, where engineering rational designs are applicable.

The ITC-SA is a South African Qualifications Authority (SAQA) accredited professional body with a professional membership and therefore has to comply with the requirements as set out in the National Qualifications Framework Act (NQF Act 67 of 2008 – as amended). The ITC-SA is also a Recognised Voluntary Association in terms of the Engineering Profession Act, 2000 (Act 46 of 2000).

In 2014, the Institute for Timber Frame Builders (ITFB) was incorporated into the ITC-SA to ensure a better and more uniform representation of the timber engineered practitioners in the built environment.

→ The Quik Drive® fastening system provides consistent performance, no wastage as every screw on the collated strip can be driven and all whilst providing labour saving speed of install. Perhaps best of all, the system allows fastening from a standing position for decking and other timber and flooring applications. The range includes fasteners for decking in galvanised steel and stainless steel as well as specific fasteners for timber to steel applications. All of its fasteners are designed and manufactured to a high standard to ensure that their performance is to the high standard that is expected from all Simpson products.

Simpson Strong-Tie has also released a range of structural wood screws that are able to replace bolts for some timber to timber applications. The SDWS screw is suitable for the connection of multi trusses as well as purlin to truss connections and truss to top plate connections.

With engineered design values for all sizes, they can also be used for fastening glulam and solid timber members in shed and stable construction where performance is important. Imagine the speed of using a screw without pre-drilling as opposed to a bolt? Knowing that the screw has loads that allows it to replace bolts is a great benefit when fastener structural timber members of all type and sizes. The SDWS screw is a great alternative for timber fence pole connections and the connection of timber frame panels with a double barrier coating to ensure that it has better corrosion properties than some galvanised fasteners.

The features on the screw allow for quick installation, saving time and money while achieving high clamping force with tested engineering loads so they can be used with confidence. Simpson Strong-Tie also includes clear head markings so that the screws are identifiable after installation.

Improve the quality and durability of your work while reducing time and money spent on the job with the Simpson Strong-Tie® Quik Drive® and Structural Screw fastening solutions. ●



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NEW ERA for pioneering timber CONSTRUCTION company

Rustic Homes, forerunner of timber home design and construction in South Africa and leader in the field since the 1980s, has recently undergone a change of ownership. Werner Slabbert, timber construction industry stalwart, will carry the company torch well into the future, building on the enduring Rustic Homes legacy.

Since its inception in the 1980s, the Rustic Homes brand has embodied solid, high quality timber construction for the discerning homeowner. With a change of hands at the end of 2016, Rustic Homes is now under ownership of timber construction industry leader, Werner Slabbert.

Humble beginnings

Slabbert's holiday home construction fell into the hands of unscrupulous timber frame builders, prompting a career change from broadcast engineering to timber frame building. He is passionate about his trade.

"I took a month's leave from work and finished the construction of my house with the help of a carpenter," remarks Slabbert. "During this time, I was approached to build another log home, which I was reluctant to do, given my lack of experience at the time. But thanks to my growing reputation for solid building practice and sound business ethics, the orders kept coming in," he says.

Slabbert's hard-earned experience was complemented by his efforts to educate himself on the subject of timber frame construction. "At the time there wasn't much going on in South Africa in terms of timber construction, so I read up a lot about how the Australians were building with timber,

completed a number of courses with a local timber construction association and spent a great deal of time with the late Victor Booth, a well-respected timber frame engineer, considered a 'guru' of his trade in South Africa," says Slabbert.

"Given that almost all my early commissions were from people who had been defrauded by unscrupulous builders, it was important to me to play my part in elevating the standing of the trade, not only from an ethical perspective, but in the line of good and legally compliant building practices as well," he adds.

Giving back

Apart from building the successful and well-renowned log home building business, Eco Log Homes, Slabbert has played an active role in promoting timber construction throughout South Africa by contributing time and expertise to various non-profit projects.

Acting as vice chairman of what was known as the Institute for Timber Frame Builders (ITFB) for two years, Slabbert took to the helm of the Institute for another four years, during which time the ITFB merged with the Institute for Timber Construction South Africa (ITC-SA), of which he is still

a board member. Slabbert is the chairman of the working group of the SANS (South African National Standards) 10082 document at the South African Bureau of Standards (SABS), lectures on the subject of timber frame construction at various universities and has presented numerous papers on the subject at various conferences.

Setting the standard

A Rustic Home is a high-value investment underpinned by the work of master craftsmen using the best available building materials under the guidance of experts in the field of timber construction.

"Every Rustic Homes build is a testament to the company's standard-setting reputation for building homes that last many a lifetime and can withstand the harsh climate of the Cape," Slabbert remarks.

Rustic Homes uses a unique and formidable bracing system that goes beyond the requirements of current South African building regulations. The end result is that all the walls – including interior walls – are sheathed on both sides and densely packed with insulation, keeping the ambient temperature inside the house moderate, thereby saving tremendously on heating and cooling costs. The system renders the walls even more solid, dense and soundproof than conventional timber frame construction, making Rustic Homes' method ideal for commercial buildings, like hotels and B&Bs as well as residential construction.

Rustic Homes uses a space-enhancing system of fitch beam construction, a combination of timber and steel, which affords longer spans without increasing the depth of the beam. This makes wide open, voluminous spaces a possibility and is also ideal for large door openings.

A cut above

Rustic Homes prides itself on its holistic approach to timber frame building that includes intensive client consultation, in-house design and planning, construction of the client's home and final handover.

For Rustic Homes, the client's feedback and input on site is as important as their design brief. "We put tremendous effort into considering the landscape upon which each home will be built, so as to optimise on the views, topography and any number of design possibilities afforded by the site," says Slabbert.

To save on time, fabrication of the timber



Rustic Homes approaches every project with as much attention to detail to interior finishing as it does to the exterior.



Since its inception in the 1980s, the Rustic Homes brand has embodied solid, high quality timber construction for the discerning homeowner.

frame superstructure commences off site in the Rustic Homes factory in the Somerset West area while the house's foundations are being laid. Once the structure has been transported to site, craftsmen, carpenters, joiners, painters, plumber and electrician commence their trades until each assignment has been completed, checked and signed off by management.

Thorough inspections are conducted throughout the building process, so that at handover, the client can move in, rest assured that their new tailor-built home is of the highest quality and will last a lifetime.

A winning formula

Pieter Silberbauer, past owner of Rustic Homes, comments, "We have grown the Rustic Homes brand over three decades and it is clear to us that Werner recognises the significance of this as he takes over the brand and the responsibility that goes with building and maintaining it. We wish him well as he ensures that every project he undertakes meets the exacting standards of quality that established Rustic Homes as the undisputed leader in timber construction in Southern Africa." The Rustic Homes story

has roots in a young boy's recollections of time spent at his great-grandmother's historic timber home in the heart of Knysna. These memories and appreciation of the timber frame home are evidenced not only in the many homes the Rustic Homes team have built over the years, but in the uncompromising quality and workmanship they've imprinted on every project. "It is thus a privilege to take the reins of this remarkable company and to be a custodian and purveyor of the Rustic Homes brand and its deep-rooted legacy into the future," Slabbert concludes. ●

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Engenamic CEO, Ian McKechnie.

Solar plants, particularly (but certainly not only) large facilities such as utility-scale PV plants, present particular challenges in respect of lightning protection.

Engenamic, with their team's leading specialist professional engineering expertise in the field of lightning safety and lightning protection, observe that there are particular general characteristics of such sites and applications that contribute to their exposure and vulnerability to the deleterious effects of lightning.

Engenamic CEO and principal advisor/consultant Ian McKechnie noted that "in particular, they present a complex site and application environment, and this complexity impacts directly on the broad-based risks and engineering (and other) management challenges associated with lightning safety and lightning protection".

Engenamic noted that these are typically large and geographically extended sites, with factors such as the extensive interconnected electrical and electronic equipment and system elements adding to the complexity and challenges to be addressed and managed in a holistic and integrated manner. Often these sites are located in areas with difficult grounding conditions such as poor soil resistivities, which together with the extended and interconnected nature of these plants, adds to the challenges presented in respect

of ground potential rises and differential voltages across the site and between elements, and consequent risks to the interconnected systems and equipment.

Plant equipment is also relatively exposed to both direct strikes and to the induced effects of the electromagnetic fields associated with lightning strikes. Engenamic commented, for example, that these fields can potentially affect and damage buried services (such as cables) as well as above-ground equipment. The damage to buried services (such as insulation damage) can also potentially only become apparent at a later stage ('latent damage').

Engenamic also stated that while plants of this nature might not be extensively manned, this can vary during different times (for example during construction and maintenance) and the risks associated with injury must still be carefully considered, in addition to the risk of economic loss.

On the topic of risk, Engenamic noted that the nature and characteristics of such plants required a careful consideration of the risk assessment methodology, including the judicious use of risk areas or zones as appropriate. In particular a qualitative risk assessment should inform any quantitative assessment (with appropriate selection of parameters), as well as form part of a 'broad-based' risk assessment.

McKechnie commented that the nature of such plants and the associated risks emphasises the need for an effective, holistic lightning protection solution that is coherent across all aspects.

The nature and characteristics of such plants required a careful consideration of the risk assessment methodology, including the judicious use of risk areas or zones as appropriate.

Important aspects and elements of such a solution include, for example, direct strike protection, site-wide equipotentialisation, and the careful, considered and consistent definition and application of lightning protection zones (and of their boundary management) – the latter includes the appropriate and coherent application of surge protection as well as appropriate cabling practices (including shielding).

Engenamic professional team members have been at the forefront of developing and internationally publishing a structured systems engineering and strategic approach to holistic lightning safety and protection solutions. Engenamic advocates, in principle, the use of such an approach philosophy, tailored to the application and applied through the use of appropriate professional expertise, as key to achieving effective and sustainable lightning safety and protection solutions.

Engenamic's professional services are offered and available internationally on a worldwide basis. In addition to engineering and project consulting, these services also include the Engenamic team's particular expertise and experience in 'troubleshooting and fixing', including forensic engineering, and dispute resolution support.

Engenamic professional team members are also available for appointment as mediators and adjudicators. ●

FUELING CONSTRUCTION: cleaner, cheaper options on the horizon

by Paul Crankshaw

The construction sector is likely to benefit in the not-too-distant future from efforts being made by leading global transport solutions giant Scania to help customers lower their carbon footprint – and even to save fuel costs while achieving this goal.

According to Mark Templeton, sustainability manager at Scania Southern Africa, the global trend is to take carbon-based fuels out of the European, North American and Chinese markets, and replace them with more environmentally-friendly options.

“This has put a lot of pressure on the original equipment manufacturers (OEMs) to come up with sustainable solutions,” says Templeton. “Here in Southern Africa, we are taking the global sustainability philosophy of Scania and adapting it to suit our own environment – providing the core of our local sustainability strategy.”

An important aspect of this strategy, he says, is to ensure that it makes economic sense for the business and its customers.

“This is why Scania is busy developing bio-fuel solutions that will meet global carbon-reduction objectives, while at the same time potentially reducing fuel costs for end-users,” he says.

Templeton highlights the global niche markets that are well-suited to these early efforts, such as distribution, passenger transport and waste collection. He points out that the chassis of the Scania waste collection vehicle is very similar to the chassis employed on its construction vehicles – making them ideal for their harsh, stop-start and crawl mode of application.

This opens the door for Scania to support those larger construction companies that are looking to lower their carbon footprint by using bio-fuels that are more suitable for the environment but which do not necessarily carry a price premium.

The challenge for South Africa is that it still does not have the production capacity for the Euro 5 or Euro 6 fuel that would be required to allow Scania construction vehicles – along with others in the product range – to achieve the strategic, clean-burning objectives.

While the fatty acid methyl ester (FAME) type of bio-diesels are available – as barriers to entry are low in the manufacture of these products – the resultant product quality is not up to standard for use as a carbon-fuel alternative.

“The better quality hydro-treated vegetable oil (HVO) bio-diesels require a quantum leap in manufacturing technology and investment, and is not yet produced in South Africa,” he says.

Scania is working towards supporting the establishment of a couple of reliable HVO producers locally, who can produce a Euro 5 or Euro 6 standard of biodiesel that would be on par with normal diesel fuel. It is anticipated that the option would be price-neutral or may even provide a price benefit for the end-user.

A further rung up the quality ladder are the biomass-to-liquid (BTL) fuels, and there is the possibility of production being established in South Africa in the near future. This would be a completely ‘green’ diesel that would run any diesel engine. “Both the HVOs and the BTLs would be ideal for the construction industry,



and there will be no lack of customers for these products,” says Templeton.

“Rather, the challenge is a sustainable and quality supply – which is why our focus is on helping establish production facilities that can deliver reliably at a standard that complies with global biodiesel specifications.”

He says there is substantial waste product in the country that can be fed into production, so there is not necessarily any tension between crops grown for human consumption and crops that can be used for biodiesel production. Neither are the local demand volumes overly onerous; while the global market for biofuels is in the region of 14 billion litres a year, the market in South Africa is likely to be only a fraction of that – at between 100 and 300 million litres a year.

Creating the skills to foster this important paradigm shift towards biodiesel is going to take some time; so Scania working with various universities to help strengthen the skills foundation that will be required to reach and sustain the required levels of quality in local bio-diesel production.

“We are looking at various biofuel solutions for local markets, as Scania can offer transport options utilising ethanol, biogas, compressed natural gas (CNG), liquefied natural gas (LNG), biodiesel and HVO,” he says.

The company is also urging further involvement from government in this process, such as the consideration of subsidies for operators utilising green technology and a legislated move to Euro 5 technology. Scania is committed to addressing climate change and global warming, and is already a leader in the utilisation of ethanol, gas and biodiesel.

“We are encouraged by our ongoing work with local companies and municipalities,” says Templeton. “We know what needs to be done, and we have the technological solutions. Addressing climate change is not an option but a necessity, and Scania is taking action.”

Mark Templeton, sustainability manager at Scania Southern Africa.



FIT-FOR-PURPOSE power solutions for commercial buildings

Generator sets have long been accepted in the built environment as a reliable and constant means of power generation, either as the prime source of power for continuous operation or as standby to the utility.

Craig Bouwer, projects and product manager at Zest WEG Group's Generator Sets Division spoke to Construction World and explained why it is essential to ensure that this alternative power solution is fit for the purpose intended.

"While generator sets do not specifically offer energy consumption reductions, through careful selection of the major components such as the engine and alternator it is possible to reduce diesel consumption and subsequently the operating cost of these machines," Bouwer says.

Historically, commercial properties have tended towards a single large generator set which, according to Bouwer, is not always ideal. He says that, while it is common practice to install such a unit to supply the necessary back up power in the event of a power outage, there are numerous benefits to be received by installing multiple smaller synchronised generator sets in parallel.

Benefits

Firstly, it is more efficient to run smaller generator sets at full load than one large generator set at half load. This eliminates the burning of unnecessary fuel as well as possible damage to the generator set.

"Not only does this improve fuel economy, it also reduces the capital outlay for a commercial property, and most importantly it will facilitate operational flexibility," he says.

This local manufacturer of generator sets offers standard off-the-shelf units as well as purpose engineered solutions, and Bouwer is quick to point out that it is advantageous for the company's technical team to be involved from early on in a project to allow for the most practical and cost effective solution to be applied.

Multiple smaller synchronised generators sets with synchronised controllers communicate with each other, allowing optimisation of the load demand. System reliability and generator set availability is also improved when installing more than one set in parallel onto a common bus. This means that should the first generator set not start, for any reason, the remaining units will then provide the power required.

"Zest WEG Group Generator Sets Division can assist contractors, consultants and architects at the design stage of a project to ensure the system can be engineered to shed less critical load and supply all essential load from the remaining available generator sets," he explains.

The Zest WEG Group generator installation at the Promenade Shopping Centre in Mitchells Plain.



This mitigates against a total power outage situation as would have been experienced if the system was designed with only a single large generator.

This type of power solution with synchronised generator sets facilitates operational flexibility and means that there will always be an available unit to supply critical loads in a breakdown or maintenance scenario. In addition to this, when there is more than one generator set operating in parallel partially loading a generator set will be avoided and the generator management system will ensure that only the required number of generators is operated under low load scenarios ensuring the units run at their optimum designed power rating.

When multiple synchronised generator sets are installed, it is easy for the end user to expand the backup power supply should the on-site load increase as the controls and parallel switchgear are already in place.

Optimising load demand

Chris Watkins, manager drives & automation at Zest WEG Group, says that it is possible to further optimise the load demand by selecting the correct electric motor and Variable Speed Drive (VSD) combination for the application.

A large commercial building could have anything from 40 to 100 electric motors operating, for example, the HVAC system, a fire system, a water treatment plant and compressors for refrigeration. In such a scenario, significant cost savings could be achieved if the motor driven applications are optimised by using top premium efficiency motors and VSDs as starting/control method instead of traditional direct online starters.

"By doing this, it is possible to achieve further operational savings and by using VSDs it is also possible to reduce the size of the generator set," Watkins says. "Where this is not done, in some instances the generator



The super silent purpose built generator sets being lifted to the rooftop of the Christiaan Barnard Memorial Hospital.

BELOW: Multiple smaller generator sets were supplied to the V&A and these were installed in the parking and the existing building.



The three 450 kVA generator sets for the Silo 3, 4 and 5 Project prior to testing at the Zest WEG Group Generator Sets facility in Cape Town.



set needs to be approximately 40% bigger."

Recent installations by Zest WEG Generator Sets Division include six 2 000 kVA generator sets at the Promenade Shopping Centre in Mitchells Plain. Installed to provide a total power back up solution, the system incorporates a synchronising panel which controls the medium voltage switching and load sharing.

Involvement at the design stage saw the provision of a bespoke generator set solution to the V&A Waterfront comprising

13 smaller generator sets. These 630 kVA sets have been installed in the parking areas and the existing building and allow for the dropping of a generator if it is not required during low load periods.

Specialist application requirements also form part of Zest WEG Generator Sets Division's market offering and the company was responsible for the engineering of two super silent containerised generators that were installed on the roof top of the Christiaan Barnard Memorial

Hospital. These sets synchronise with the mains supply.

Generators for Silo 3, 4 and 5

Three 450 kVA generators were supplied to the Silo 3, 4 and 5 Project on the V&A Waterfront as backup power units. These units are controlled by a common synchronising panel and feed three different change overs/buildings within the Silo precinct, and this is also a good example of providing a fit-for-purpose solution for a large commercial complex.

Zest WEG Generator Sets Division produces both stationary and mobile generator set solutions from 10 kVA up to 3 350 kVA at its well-equipped facility in Cape Town. Integrated packages include mechanical and electrical manufacture and assembly as well as electronic design incorporating in-house control panel manufacture.

Included in the marketing offering is the supply and installation of transformers, cabling, bulk fuel systems and sound attenuation with standby generators on a turnkey basis, together with project management, installation, commissioning and maintenance. ●

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The latest on offer from SDLG is the new F-series wheeled loader.



BUILDING A BRAND

Construction World recently spoke to SDLG marketing communications manager for sales region EMEA, Magnus Rieger, and regional manager – export region, for Babcock International, Grant Sheppard – about the SDLG range of construction equipment distributed and maintained in South Africa, Namibia, Botswana, Zambia, Zimbabwe and Mozambique by Babcock International,

SDLG is the number one brand of wheeled loaders in China, and SDLG products are now available on six continents and in over 38 countries with production increasing yearly and new markets opening up as technology develops.

Volvo Construction Equipment acquired SDLG in 2006. Babcock, which distributes and delivers an aftermarket support capability to various OEMs (including Volvo), was awarded the dealership for SDLG in 2011, explains Sheppard.

Building a new brand

“Since being appointed as the regional distributor for SDLG, Babcock, who handles the sales and aftermarket support, has been building the SDLG brand in southern Africa,” says Rieger, who was in South Africa visiting customer sites where SDLG machines are being put through their paces.

“All of the sites we visited have made repeat purchases which attest to SDLG’s quality and the service support by Babcock meeting customer requirements and standards. SDLG’s pay-off line, ‘Reliability

in Action’ summarises just that.” Rieger says, “We supply robust products, based on well-proven technology, with excellent aftermarket support.”

Strategic partner

“The SDLG product is a good complement to the products that are produced by Volvo. We can broaden the scope of the products we offer when it comes to different customers. In that sense it is strategic,” says Rieger.

“Most premium brands (vehicles or equipment) have developed value brands to enter a market segment which they have not occupied before. The ‘strategic partnership’ is to find avenues to increase turnover in a growing market. By doing that, they strengthen their presence in the market as a group,” Sheppard elaborates.

Chinese brands in Africa

Sheppard says that African countries outside southern African are susceptible to sub-standard Chinese products. “There are contractors who use inferior equipment

from China and if they break, they die there. This is largely due to the spec variances sold to them compared to what we sell and support.”

Selling across border

It is interesting to note that the majority of machines that SDLG sells across the South African border, are sold to South African-based companies. “The majority of blue chip companies buy and register the machine here and export it themselves. This gives them the right to bring it back into the country again. Exporting a unit that is bought in a neighbouring country requires costly red tape,” says Sheppard.

When machines are bought in South Africa and transported to a destination, SDLG has six branches throughout the southern African region (outside South Africa) to maintain and support these machines. Sheppard explains that repairs can range from a Vehicle off Road (VOR) breakdown that can be fixed on site to more serious breakdowns where the vehicle will either be repaired on site (if the job site has the facilities for this) or at the workshop of the country branch.

Marketing the brand

“Babcock’s ability to support SDLG goes a long way,” says Sheppard. “Customers buy the machine for maximum uptime. When a machine breaks down, it is about how quickly you can repair the product. Our back-up is our strength.”



Regional manager – export region, Grant Sheppard for Babcock's equipment business and SDLG marketing communications manager for sales region EMEA, Magnus Rieger.

He also maintains that Babcock has embraced the brand. "We have had the Volvo brand in our favour for 17 years – so the success we have had in supporting the Volvo brand stands us in good stead. Sales-wise we do not keep the brands separate any more, in essence we are the same company – supplying two different segments: premium and value brands. Sales people identify what brand to sell based on the application.

Wheeled loader L958F

The most recent release from SDLG is the new F-series wheeled loader. It offers high performance and reliability, backed by a world-class support network.

The L958F comes with a modern design and many improvements. With its 3,2 m³ bucket, this loader is engineered for high productivity and will give you an excellent return on investment. All SDLG wheeled loaders are rigorously tested to ensure reliability in action.

- The design of the L958F ensures that service and maintenance is easily handled, with excellent accessibility throughout the machine.
- The single joystick guarantees precise, easy and comfortable operation of the loader arm and bucket, reducing operator fatigue.

- High breakout force, a rated load of 5 400 kg and a new 3,2 m³ bucket design for improved efficiency and productivity. A wide range of available attachments ensures the machine's versatility.
- A powerful and efficient 6 cylinder engine matched to a new SDLG transmission delivers maximum torque from the engine to the wheels.
- Larger cab with 20% more glazing for improved visibility, safety and efficiency. Superior air conditioning for greater operator comfort.
- Optimised maintenance intervals now offer even better machine availability. The superb SDLG dealer network is there to support all your maintenance and repair needs.

Repeat business

Sheppard says that up until 2015, some 95% of SDLG sales were to new customers. This number has decreased as SDLG now gets repeat business. "This value brand unit has opened up a whole different sphere for Babcock. A customer may start out with an SDLG and grow into a Volvo as their business grows or applications change."



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UNEARTHING NEXT PHASE

Earth-moving equipment giant, Komatsu, has partnered with Investec Property to consolidate its head office operations, warehouse and distribution centres, workshops and remanufacturing facilities into one centralised campus.

Measuring approximately 300 000 m² in size, the new Komatsu development will be one of the largest industrial campuses of its kind in the country.

As the central hub from which Komatsu will direct its extensive operations in Southern Africa, the ownership and development of this campus in Gauteng signals the company's unwavering commitment to doing business in the region.

"Our head office and support operations are currently conducted from three different locations, which presents some logistical challenges. By consolidating all functions into one single campus, our ability to provide effective and efficient customer service and support will be further enhanced – with sufficient space for future expansion," said Mike Blom, Managing Director of Komatsu Africa Holdings.

The requirements for the new Komatsu Campus are substantial and complex; the campus needs to have the space, technology and capabilities for Komatsu to serve the mining, construction and utility markets, not only in South Africa, but all of Southern Africa

The project will put Komatsu's sales and service functions in an ideal position to capitalise on market resurgence opportunities within the short, medium and long term. At the same time, it will serve to improve further the extent of Komatsu's field and technical service offerings.

Investec Property, a division of Investec Limited, is one of South Africa's best recognised property developers, property investors and property fund managers. Operating in South Africa for over 40 years, Investec Property has expanded internationally and has businesses based in both the United Kingdom and Australia.

Investec Property's team of experts have provided a turnkey solution for the entire Komatsu Campus project – from concept and

design, through the land acquisition, to construction and delivery of the completed developments.

"We are proud of the Komatsu development, which again demonstrates our ability to serve our client's specific needs. The Greenhills property is exceptionally well located and we are proud to be able to provide Komatsu with a world class facility which will be their flagship development in Southern Africa," said David Rosmarin of Investec Property.

This first phase of development, a state-of-the-art Parts Distribution Centre measuring approximately 22 000 m², was completed in just nine months.

The warehouse has the largest floor without a join in the country, and stands 13 metres from floor to eaves. As a result, semi-automated turrets operating within the warehouse retrieve items from the highest access points with an unprecedented degree of accuracy and safety.

The warehouse floor is an example of excellence in engineering design, innovation and precision; the entire floor is based on a post-tensioned cabling system that makes use of 132 kilometres of steel cable.

The strategic decision by Komatsu to place the concentration of Southern African operations in one area will unlock some significant benefits. From a logistics and efficiency perspective, there will be improved workflow and productivity gains, as well as the opportunity for face to face communication across all departments. Further to this, Komatsu will be able to ensure that they have built to the highest safety standards, ensuring that their employees' areas of work are safe.

Customers will now have the opportunity to appreciate the entire Komatsu offering, including products, parts and service capabilities, in one single location. Another long-term goal for Komatsu is an operator training area, which will also facilitate product demonstrations. The new training centre will incorporate a 'hands-on training dojo' or training area – ensuring greater skills training for the technical teams of support staff.

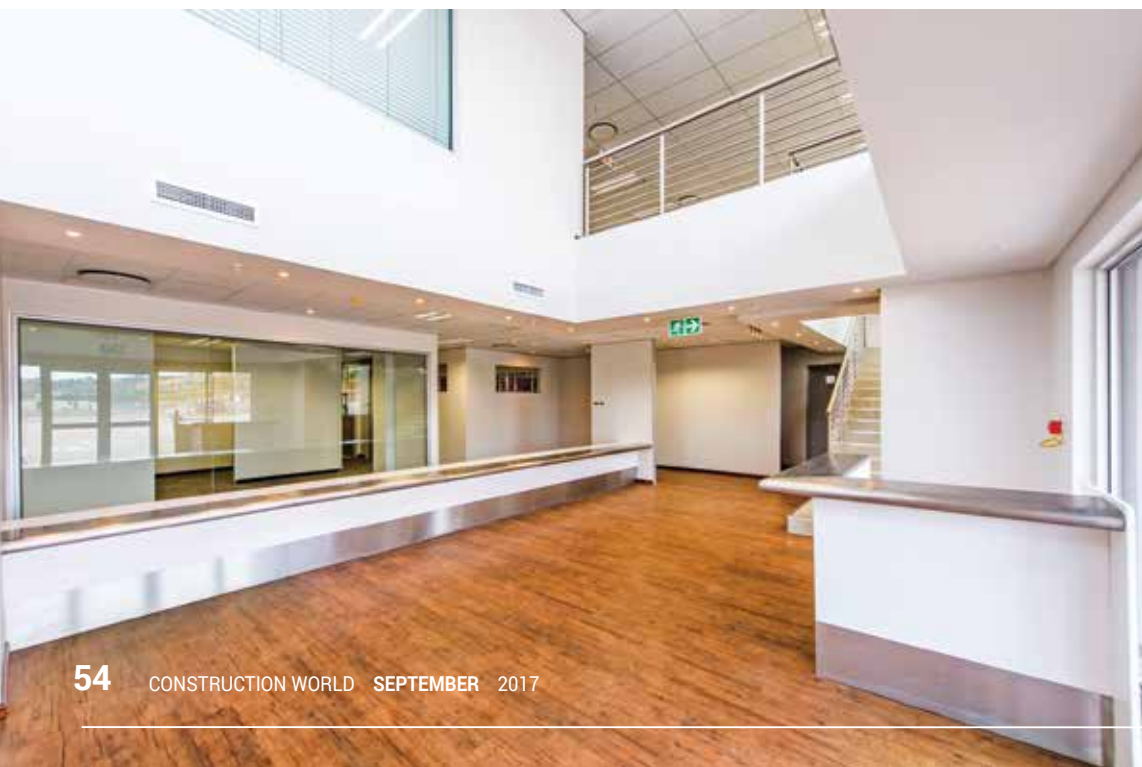
"Our long-term dream to create the Komatsu Campus is fast becoming a reality, and the first phase has gone exceptionally well. Looking ahead, we will be relocating our Isando Branch,

remanufacturing facility and head office," concluded Blom.

Construction on Phase 2 started in July 2017. Komatsu has, since the commencement of the project, become the owner of the land, and Investec Property remains the preferred developer for the entire project, which is estimated at over a billion Rand.

The new Phase 2 unit is expected to be fully operational by September 2018. Completion of the new Komatsu Campus in its entirety is scheduled for 2021 to coincide with Komatsu's 100th anniversary.

The 300 000 m² Komatsu Campus site is located in Tunney, Germiston, Gauteng. ●





SOIL COMPACTOR in 10 t market segment

The Dynapac CA255 Soil Drum Roller (SDR) is a low maintenance, fuel efficient machine that delivers reliable, high quality compaction to South Africa's 10 ton market segment.

► The CA255 follows close on the heels of its bigger sibling, the CA270 which has done exceptionally well in the 12 ton segment since its introduction in 2012. "Because of the CA270's success, our emphasis has up to 2016 not been on the opportunities presented by the 10 ton segment," says Business Line Manager, Dynapac SA, Neville Marthinussen. "We are certainly focussed on new market development so the much-needed introduction of our CA255 a few months ago has opened up new opportunities for us within the 10 ton segment. Now that we are able to offer a quality Africa spec compaction solution for both the 10 and 12 ton segments, our growth in the SDR segment is evident. The big contributor is the 10 ton category due to the fact that the CA255 has been very well received. This unit is ideally positioned and priced to fill the gap for small and medium market segments due to its affordability, fuel savings, reduced rands/m³ compaction cost, higher production ability and consequently low cost of ownership."

With over 100 years of expertise in compaction knowledge and applications, Dynapac has designed the rugged CA255 for productivity. Featuring a large fuel tank sufficient for a full day's work as well as front and rear working lights, the machine is capable of working reliably for long hours in tough applications and harsh conditions, compacting most soil types as well as all types of base courses and reinforcement course. The CA255 is ideally suited for road building as well as layer works compaction required at airfields, ports and harbours, and industrial project sites.

Quality of compaction

The soil compactor features a 50 mm drum frame, is drum driven and heavy duty rear axle with failsafe brakes. The machine's powerful fuel efficient water-cooled power unit delivers high performance and non-stop operation for maximum reliability at the lowest operating costs. The advanced feature-rich hydraulic system which includes a closed-loop hydraulic circuit and a lowest in-class hydraulic tank volume further optimises the machine's efficiency.

The quality of the compaction is determined by two important factors – static linear load and amplitude; the more static linear load, the better the quality of the compaction and the higher the amplitude, the greater the depth effect. At 30,9 kg/cm, the Dynapac



CA255 boasts one of the highest static linear loads in the industry compared to similar machines, and offers two different amplitudes – a high amplitude of 1,7 mm for thicker layers and a low 0,8 mm amplitude for thinner layers.

While frequency is optimised to match amplitude, the CA255 uses electronically operated vibration (vibration pump with EDC) to reduce resonating frequency that can cause structural failure and operator discomfort. Efficient shock absorbers keep vibrations on the operator's platform to a minimum.

The CA255 is designed to simplify and facilitate maintenance so that downtime is kept to an absolute minimum. The gas strut-mounted FRP hood can be easily opened and lowered to give complete access to the engine, hydraulics and service points.

Dynapac is one of world's most specialised manufacturers of compaction, milling and paving equipment. The company is renowned for developing ground-breaking cost-effective solutions with high quality, reliable and efficient machines. Customers have the highest quality machines with low cost of ownership against high productivity and efficiency, low maintenance and fuel cost, and low cost compaction/m². Dynapac road construction equipment range includes planers, pavers, tandem rollers and pneumatic tyred as well as static rollers.

Dynapac brand name

On 1 July 2017 Dynapac became a company within the Fayat Group, operating under the Dynapac brand name, following the recent sale by the Atlas Copco Group of its global Road Construction Equipment Division which includes the Dynapac brand name. Family-owned and 100% independent, Fayat is the number one construction Group in France and a world-leader in road construction equipment. "The combined experience of Fayat and Dynapac presents a solid platform to reinforce the strength of the Dynapac brand through continued development, improvement and expansion of product ranges and services as well as training," notes Marthinussen

He confirms that the Atlas Copco name will gradually be phased out and that the Dynapac brand will be prominently displayed on all products come 2018. "As Dynapac South Africa we will continue to serve the market with our products and services. The current product portfolio remains unchanged and all scheduled product renewals will continue as planned," concludes Marthinussen. ●

Pothole-busting paver

The 'pothole-busting' Pavijet MG7 paver, representing the latest technology in the asphalt-finishing sector, has been launched in South Africa by Bobcat Equipment South Africa, part of the Goscor Group.

This internationally-patented paver is ideal for tough local maintenance jobs such as patching roads, sidewalks, pavements, and parking lots, among others, Bobcat Equipment South Africa National Sales Manager, Andre Steenkamp explains.

Not only is the Pavijet MG7 compact and easy to use, it also has the capability to bypass any obstacles such as advertising signs and trees, due to its retractable screed. In addition, this new paver is extremely versatile, capable of laying both hot and cold asphalt, as well as cement, sand, and even crushed stone.

A central auger brings the material to the screed, with the speed of the auger determined by the loader motor. All functions such as the auger, screed lifting and lowering, telescopic screed, hopper opening and closing, are hydraulic for increased efficiency.

In addition, the Pavijet MG7 can be controlled from either a skidsteer loader and/or wireless remote control for increased flexibility. The latter allows for a complete view of the work in front of the machine to boost both productivity and safety.

The paving width is 0,2 m to 1,9 m, while the paving height is -5 cm to 25 cm. The paving speed is up to 25 m/min, and the hopper capacity is 1,4 m³. The hydraulic pressure is 180 bar. The machine weighs only 711 kg, and includes a 60 Hz vibration option.

The main benefits of the Pavijet MG7 that make it ideal for South African operating conditions are its low cost, compact dimensions, and high paving speed. In addition, the hopper can be loaded from street-side for extra flexibility, with two control options available. ●



The Pavijet MG7 can be controlled from a skidsteer loader and or wireless remote control for added flexibility.

The 'pothole-busting' Pavijet MG7 paver represents the latest technology in the asphalt-finishing sector.



Another first for SA

Desmond Equipment SA based in Port Shepstone has introduced a new backhoe loader to the market – the 883 Dezzi CMI.

"The joint venture we have established with Cukurova Machine Industry is well suited because of Dezzi's engineering and manufacturing capability; we are the perfect South African dealer partner for them providing a platform for this product into the market," states Director Carl Gutzeit.

The Dezzi CMI will be sold and distributed in South Africa by Dezzi and aftermarket service and parts availability will be backed by its national service network with branches and dealers in Port Shepstone, Cape Town, North West, Port Elizabeth, Camperdown, Gauteng, Bloemfontein and Dalton.

The backhoe loader is fitted with a ZF rear and front axle, the Tier II Perkins engine complemented by the ZF transmission offering four forward gears and four reverse gears with a maximum travelling speed of 40 km/h. The Perkins engine offers 74,5 kW at 2 200 rpm.

Front axles offer ease of operation with



The new Dezzi CMI 883 backhoe loader.

hydrostatic steering system even under high load conditions. Limited slip differential, 16-degree total oscillation on the front axle and 52-degree steering angle for great maneuverability.

The rear axles offer high input torque with planetary design as well as Electro hydraulic operated differential 100% locking acts on rear axle and self-adjusting high torque internal wet multi disc service brakes.

The backhoe boom, arm and loader is controlled by mechanical levers. The Dezzi CMI can be customized according to customers' needs with the options of a hydraulic joystick for loader control.

It is fitted with a ROPS/FOPS cab, which provides excellent visibility and reliability.

Another plus is the cab can be entered from either the left or right side, with doors opening wide for easy access.

Weighing in at 7 800 kg - 8 750 kg and fitted standard with a 1,1 m³ bucket, the customers at the recent launch in Port Shepstone are of the opinion that this is a robust machine that will definitely add productivity to their sites. Robotic welding at the CMI's factory offers a steady machine, which working in the most arduous conditions won't crack the arm or boom.

Proof of the Dezzi CMI backhoe loader's reputation is that machines were already sold before the launch and orders were placed for the new stock that have already arrived at the factory. ●

Perfect balance

Portable Energy, a division of the Atlas Copco Construction Technique business area, offers a comprehensive range of electrical, diesel and petrol dewatering pumps that offer the perfect balance between performance, efficiency and portability.

The rugged and lightweight design of these pumps ensure full portability and optimum reliability to meet a wide range of dewatering applications including critical tasks such as flooding emergencies that may threaten lives or interrupt work on a job site. "Our pumps that can be transported and installed with minimum fuss, ready to deal with dewatering requirements quickly and efficiently," says David Stanford, Portable Energy Business Line Manager at Atlas Copco Construction Technique.

The powerful centrifugal electrical submersible WEDA pump range from Portable Energy incorporates 60 years of expertise and technology. Available up to 54 kW and a flow management of 225 to 16 500 l/min with a maximum head of 85 m, these rugged pumps are designed for top performance and reliability.

The unique sealing system and modular design of this submersible pump range makes it one of the most cost-effective solutions on the market. Machined slots make it easy to separate the various parts of each pump and the

The powerful and efficient centrifugal electrical submersible WEDA pump range from Portable Energy.



changing of seals and other parts can be completed in minutes. All stainless steel bolts and nuts are the same size so only one tool is required to complete the entire operation. Easy to store even in confined spaces and featuring low noise levels, these pumps provide fast and efficient solutions for a wide spectrum of dewatering requirements in mines, tunnels and shipyards as well as in industrial sectors such as construction (excavations), offshore, utility installations and repairs, maintenance and clean-up tasks and government and military response and preparedness programmes.

Rugged design and high performance, even in the harshest of environments, define Portable Energy's range of small portable pumps. Ideal for a wide range of liquid conveying applications, the range includes diaphragm and centrifugal self-priming diesel units as well as centrifugal self-priming gasoline pumps.

The LB diaphragm self-priming diesel portable pumps, available in six models with flows from 210 to 525 l/min, are recommended for applications not requiring high volume pumping and where there are solids in the suspension. With flows from 830 to 2 500 l/min, the four models available in the centrifugal self-priming diesel portable ETP range are suited for relatively high flow applications, for sites that demand good fuel autonomy and for emergency situations where portability is paramount as pumping needs to start quickly. The JB centrifugal self-priming portable petrol pumps, available in two models and, managing flows of 490 – 530 l/min, presents a cost effective choice for the pumping of small volumes of water.

The portable PAS centrifugal diesel wet and dry-prime open-frame and dry-prime canopy ranges complete extensive pump solutions offering from Portable Energy. "We support all our pumps with comprehensive after-sales services including rapid parts supply, repair and maintenance carried out by skilled technicians to ensure as little downtime as possible for customers and end-users," concludes Stanford. ●



New sales head of Performance Materials Division

BASF South Africa is pleased to announce the recent appointment of Thandeka Molakeng as the new Head of Sales for BASF's Performance Material Division in Africa. In this capacity, she will be responsible for the division's sales for the entire African continent excluding Egypt and Sudan.

Molakeng joined BASF in 2004 through the acquisition of the then CHC Urethanes where she began her career as a Technical Specialist for CASE and Specialties in the Polyurethanes business. In 2014, she was appointed as Business Team Leader, responsible for Industrial and Transportation Performance Material (PM) business in South Africa, both a technical and commercial front. In 2016 her responsibilities were expanded to include all PM industries, including Consumer, Construction, Industrial, and Transportation in the Sub-Saharan Africa Region.

BASF's local Vice President and Managing Director, Benoit Fricard states: "With her strong background in the chemical industry, Thandeka brings with her a wealth of knowledge and experience. We wish her every success in her new role."

Molakeng completed her undergraduate studies in Analytical Chemistry and has a Bachelor's of Commerce degree in Financial Management. She also holds a Post Graduate Diploma in Business Administration from the Gordon Institute of Business Science University of Pretoria. She has been working in the Mining and Chemical Industries for the past 18 years. ●

Training academy re-launched

Otis South Africa, a subsidiary of Otis, global manufacturer of elevators and escalators, has re-launched its training academy in line with its skills development programme, designed to create technical and functional expertise in African markets.

Building skills and expertise through the Otis Training Academy is a key element in positioning South Africa as a hub for Otis products on the African continent. The skills shortage in the technical field has left the company struggling to find qualified mechanics who can service and maintain Otis equipment, while meeting its stringent safety standards.

Otis, in partnership with merSeta, has been able to run a very robust learnership/ apprenticeship programme. It currently hosts sixty eight learners and graduates, and on average, sees fifteen mechanics qualify each year. In 2016 twenty-one learners qualified, all of whom were subsequently employed by Otis.

"With the recent statistics released on the unemployment rate in South Africa, Otis acknowledges that it can contribute to the reduction of unemployment by doubling the intake of learners into the learnership/apprenticeship programme," says Loueen Jones-Paulsen, HR Director of Otis Africa.

Apart from graduating learners with an NQF Level 4 Mechanic qualification, the training academy will now offer programmes ranging from service and maintenance, installations, quality, environment, health and safety, sales, field engineering and operations, supervision, project management, general management, leadership, and a module on doing business in Africa. The training and development framework will ensure the development of clear career paths, allowing employees to progress through the



Otis unveils new training academy. From left: Segren Reddy, Daniel Daphne, Bora Gulan and Loueen Jones-Paulsen.

organisation, bringing about talent development and far greater employee retention. In addition the training academy will provide training to subcontractors and black entrepreneurs participating in the Otis B-BBEE programme.

The primary purpose of the academy is to create a space where all Otis stakeholders increase the level of skill, competence and expertise, while fostering a culture of learning and encouraging operational and service excellence. For Otis to remain committed to and deliver on its promise of uncompromising quality and safety, it is imperative that it has a strong leadership, and highly skilled, customer centric and competent workforce to ensure it retains its global leadership position.

The Training Academy was re-launched by Bora Gulan, President of Otis North, Central Europe and Africa (NCEA) and Daniel Daphne, MD of Otis Africa. ●

Coatings industry reassurance on safety of titanium dioxide

The SA Paint Manufacturing Association (SAPMA) has issued official assurance to the public and its members that the inclusion of titanium dioxide as a white pigment in some industrial paints holds absolutely no health risks to anyone exposed to such paints.

Deryck Spence, executive director of SAPMA, says SAPMA has been informed by the British Coatings Federation (BCF) that the European Chemical Agency (ECA) had recommended that any EU product containing titanium dioxide should carry labelling warning that the product is 'suspected of causing cancer by inhalation'. The ECA's recommendation is only the first step in the regulatory process but both BCF and SAPMA have decided to immediately refute this opinion.

"SAPMA felt it was important to immediately advise members and the public who may have noted the ECA stance on the compound, that once titanium dioxide has been incorporated in paint or ink, there is no risk of the solid particles of the substance being inhaled," Spence stated.

He says titanium dioxide is an inert inorganic compound used as a white

pigment in many industrial applications, including the manufacture of paints, coatings, printing inks and wallcoverings where it provides essential product properties such as whiteness, covering power, brightness, stability and durability of colour not achievable with other raw materials. Titanium dioxide is also used in many other consumer products.

The BCF statement says during the manufacturing process, exposure to titanium dioxide powder might occur. However, studies over many years have not found any correlation between workers exposed to titanium dioxide and the risk of lung cancer. In addition, BCF feels that the tests on rats cited by ECHA in its official opposition to the substance, were conducted using "unrealistically high amounts" of titanium dioxide that would not be allowed in any manufacturing environment.

Based on this, BCF and CEPE (the European organisation of paints, inks, and artists colours producers) consider the use of titanium dioxide to be safe for workers during the manufacturing process. This is further supported by the ongoing commitment of BCF and CEPE member companies to take every precaution to ensure the safety of their products and workers throughout their supply chain.

SAPMA's Spence added: "SAPMA fully supports the BCF decision to challenge any proposed legislation on this specific element. We would also strongly oppose any such proposed labelling if were to be considered in South Africa in future." ●

Deryck Spence, executive director of SAPMA: "The use of titanium dioxide in paints and coatings production is totally safe," he has assured the public.



MOBILE CONSTRUCTION game changer

Hydraform International, the leading alternative building technology company in the developing world since 1988, recently launched the M9 Business on a Trailer, a roadworthy trailer complete with block-making plant, equipment and tools for on-site block production and construction.

Recently launched to an overwhelmingly positive reception at the NAMPO Agricultural Show in Bothaville earlier this year, the new M9 Business on a Trailer from Hydraform is a trailer-based system that allows for mobile block-making in urban and rural areas. Designed to facilitate mobile business, the machine and block-making components are fitted to a removable skid, so the trailer can be used separately, doubling up on its benefits and versatility.

“The M9 Business on a Trailer allows for the set up of temporary block yards as and when needed,” says Nazlie Dickson, Hydraform Sales Director. “The entire system can be packed up in 15 minutes and moved, allowing high mobility and on-demand production in a block-making and construction business. Furthermore, the system’s compact design and mobility makes it easy to store securely when manufacturing blocks in rural settings or where security is a concern,” she adds.

An ABT on wheels

While the demand for construction in Africa is immense, the accompanying costs are

often prohibitively expensive, making home construction unaffordable and inaccessible to a large portion of the population.

The Hydraform interlocking building block remains one of the most viable Alternative Building Technology (ABT) solutions in the market due to the lower cost of construction and longevity of the high quality block that is produced. The building system is also extremely versatile and is used from low-cost and rural developments to upmarket urban housing.

The Hydraform interlocking system is popular due to its ability to reduce construction costs and deliver housing faster; two of the main advantages of the system. “The market often turns to smaller contractors for their construction needs, which makes for fantastic business opportunities for entrepreneurs looking to enter and grow in the construction sector,” Dickson says.

Rands and cents

The M9 Business on a Trailer from Hydraform is rated at 1,6 tons and can manufacture up to 500 interlocking blocks per day. The system is fitted with a 7,5 kW diesel Hoffman generator and comes complete with: a 500 litre water tank; water pump; block yard tools; tool box; break-neck trailer; two block moulds; lintel mould (for up to 2,4 metres); two sieves; and two weeks’ intensive on-site training.

The system can support an entire mobile block-making enterprise using materials sourced locally. The final product, the ever-popular Hydraform dry-stacking interlocking block, makes for faster construction compared to traditional brick and mortar methods and reduces costs, as the interlocking blocks minimizes the need for mortar by up to 70%.

The initial capital outlay for the Hydraform M9 Business on a Trailer is roughly R205 000 including VAT; a reasonable investment considering that all the equipment needed for this business opportunity is supplied.

“To put the value into perspective, the M9 Business on a Trailer can manufacture enough blocks to build a dwelling of 45 m² in nine days. Houses built using the Hydraform system can be built faster than with conventional methods, which means that a contractor with a small team can build up to two houses a month, which can be sold in line with market value and at a fair profit for the builder,” Dickson explains. “From a business perspective, the potential return on investment is high,” she adds.

Hydraform OEM

Developed in South Africa, where all original Hydraform equipment is manufactured, the M9 Business on a Trailer is the product of research and development by Hydraform’s dedicated R&D department and manufactured in Hydraform’s factory in Durban.

Having undergone stringent testing at the South Africa Council for Scientific and Industrial Research (CSIR), the system has been approved by Agrément SA, the governing body for all alternative building technologies. “This testing and approval is necessary to ensure that technologies brought to market conform to approved standards for construction purposes,” remarks Dickson, adding, “Hydraform tests its products through Agrément SA on a regular basis and has also formed a close relationship with the University of the Witwatersrand for further research and development purposes.”

Hydraform has a dedicated after-sales and spares department, and focus on local manufacturing, spare part access and delivery to site is both quick and hassle free.

“The Hydraform M9 Business on a Trailer concept is unique in the sense that an entire business can be operated and transported from it. Many small contractors are heavily reliant on suppliers for bricks and blocks, which often translates to high delivery costs, having to liaise with unreliable suppliers and navigating quality control issues, which all detract from a healthy bottom line,” Dickson explains, concluding, “The trailer-based business afforded by the Hydraform M9 Business on a Trailer cuts down on delivery costs and puts the contractor in charge of his or her own supply chain, increasing profits and becoming a real contender in a burgeoning African market.” ●



Nazlie Dickson, Hydraform Sales and Marketing Director.

The new M9 Business on a Trailer from Hydraform.





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