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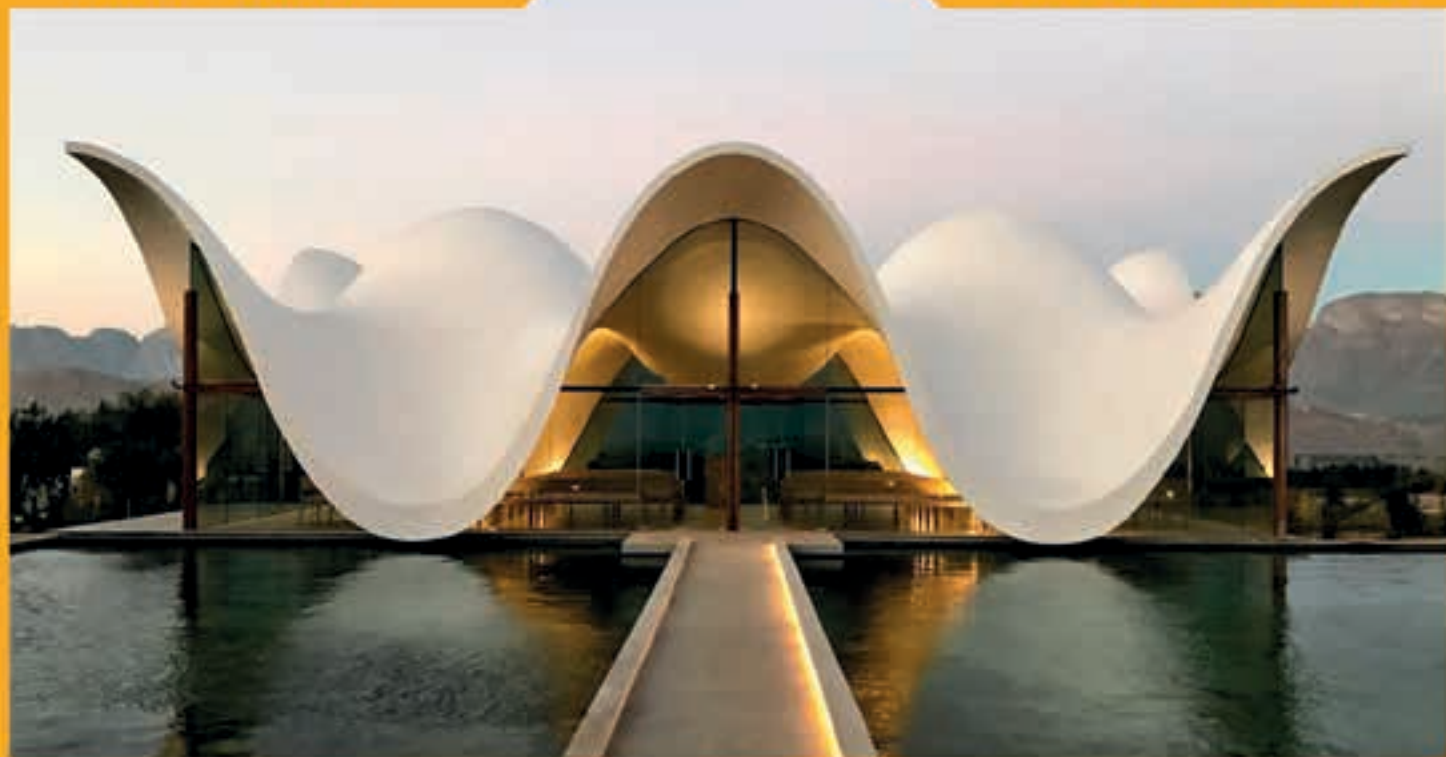
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BUILDING TRUST



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ON THE COVER

The local construction market will benefit from another new addition to the already comprehensive range (over 100 models available, including the Twin Battery 18 V+18 V = 36 range) of Makita 18V LXT Lithium-Ion Cordless tools. The new 18 V LXT Cordless DTR180Z Rebar Tying Tool will dramatically increase production for users in the precast, concrete construction and steel industries. This new model has a brushless motor that produces less friction and heat, therefore providing higher operating efficiency and increasing the output power and work amount on a single full battery charge.

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COMMENT

Investment and infrastructure will always be sensitive to factors such as macro-economic conditions, commodity prices, political climates and the cost of finance. Despite this, the need for essential services is constant. This anchors the hope that it is just a matter of time before the construction industry, particularly civil engineering, makes an upturn.

One such essential service is that of electricity. Despite the continued load-shedding the country is experiencing, this is also directly accelerating the need for more renewable (and sustainable) facilities.

In mid-February 2020, the Minister of Mineral Resources and Energy, Gwede Mantashe announced the Section 34 Ministerial Determinations required for the procurement of the new electricity capacity outlined in the Integrated Resource Plan 2019 (IRP 2019).

As soon as this was finalised procurement would be initiated, including the fifth bid window for the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). In this programme government had procured 6 400 MW of renewables capacity since 2011 across 112 separate projects, with a combined investment value of more than

R200-billion. However, the programme stalled in 2015 after Eskom refused to enter into new power purchase agreements (PPAs) with independent power producers (IPPs) on the basis that it had 'surplus capacity'.

In 2018 Government instructed Eskom to sign PPAs with 27 IPPs whose projects had been procured in 2014, prior to the programme having stalled. These agreements expired in 2015 and Eskom subsequently wanted the tariffs for renewable projects to be renegotiated. In 2019 South Africa experienced load-shedding comparable to the rolling blackouts of 2008 which highlighted the urgency to get renewable capacity off the ground as soon as possible.

Capacity outside Eskom

On 13 February President Cyril Ramaphosa

announced that steps would be taken to increase generating capacity outside Eskom.

The IRP 2019 that was issued in October last year outlines how the country plans to procure 14 400 MW of new wind, 6 000 MW of new solar PV, 2 088 MW of energy storage, 2 500 MW of imported hydro, 3 000 MW of gas and 1 500 MW of new coal energy by 2030.

Could this be an indication that the country will soon see an increase in similar infrastructure development? I hope so.

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"TIME TO REVITALISE CONSTRUCTION SECTOR IS NOW"

Concor's new CEO, Lucas Tseki, is urging national and provincial governments to accelerate the awarding of infrastructure projects as a matter of urgency.



Lucas Tseki, CEO of Concor, says the company can boast a robust balance sheet, due to its conservative approach and strong risk management.

Speaking to *Construction World*, Tseki, who took up the reins at Concor in December 2019, emphasises that the construction sector is ready to respond – but has taken a severe beating during the extended slump. The industry needs to rebuild its capacity, a process that must start as soon as possible.

"Through the skilled stewardship of our management team and the loyalty and hard work of all employees, we are well positioned for 2020 and beyond," he says. "We can boast a robust balance sheet, due to our conservative approach and strong risk management."

This has placed the business in a good position to execute both the work on its order book and the contracts it is confident of

winning this year. Alongside this confidence, however, he is adamant that the public sector needs to expedite the awarding of large contracts.

Millions invested in bidding

"There has not been much work in road building and rehabilitation, for instance, over the past two to three years – impacting severely on the sustainability of the construction sector," he says. "It has even reduced the sector's capacity to respond effectively to the tenders now being released."

He highlighted that millions of Rands had been invested by various contractors in their tender bids. This had delivered high-quality project proposals that would deliver optimal value to the client while meeting the required standards and deadlines. Many tenders, however, were not being timeously adjudicated and awarded, with some even cancelled – placing added strain on prospective participants.

"National government is certainly seeing the urgency of stimulating the economy and leveraging the capacity among contractors," Tseki says. "Hopefully this expressed sentiment will lead to quicker roll-out and award of tenders, which can help kick-start more activity in the sector."

PPPs are the future

Tseki is aware of the severe financial constraints facing government in its infrastructure development efforts, and points to the value of Public-Private-Partnerships (PPPs). He suggests that South Africa needs to develop the confidence to move more assertively into PPPs,



View of the pouring of a wind turbine base at Kangnas Wind Farm.

especially where a shortage of public funds might mean the deferral of important projects.

"There is certainly more buy-in to the PPP concept from certain parts of government," he says. "The past success of the Renewable Energy Independent Power Producer Procurement (REIPPP) programme is testament to the country's ability to conduct these processes well and gain the benefits."

Indeed, Concor has been one of the most active players in the wind farm projects facilitated by the REIPPP programme. Buoyed by its extensive experience since the inception of the REIPPP, it continues to be seen as a preferred partner by important players in wind farm development and as such remains a participant in a number of proposed ventures for Round 5 of the programme.

Tseki highlights that there is considerable appetite in the market for a more collaborative approach to developing and funding infrastructure projects. There are outside sources of funding which can be engaged on the basis of sovereign risk, long-term investment and acceptable interest rates. He notes that a well-designed PPP also has the advantage of aligning the interests of all stakeholders toward the effective delivery and maintenance of the infrastructure developed by the project.

Sustainability is key

"Now more than ever – as a country and an industry – we need to prioritise sustainability and continuity in infrastructure projects," he says, "as this is vital to both service delivery and cost-effectiveness."

Concor – with its heritage through Murray & Roberts Construction and Concor Construction going back almost 120 years – has the expertise and experience to manage these large and complex projects, he argues. It prides itself in delivering excellence in all aspects of a project.

"It is an unfortunate truth that the extended slump in construction industry has strained many relationships between project stakeholders," he says. "We see the result in the number of claims being pursued between clients and contractors. It need not be this way.

"What is required now is a concerted effort to rebuild trust among the players, which is a vital element of managing project quality and risk. Where the outcome of an investment becomes unpredictable, banks and lenders become nervous about their risk exposure, for instance," he continues.

"Part of the value that Concor brings to our projects is world-class processes, and the ability to communicate and collaborate closely with clients," he says.

Industry must mature

This makes for the creation of a more mature industry, where challenges are addressed openly and are resolved.

After an extremely challenging 2019, Concor looks forward to a better 2020 with a number of exciting projects already lined up. Among the most recent is a large contract recently awarded by Eskom to extend the ash disposal facility at Majuba power station. This project includes the construction of lined ash platforms and various water rehabilitation dams together with associated elements such as subsoil drainage systems, surface drainage, intakes and spillways.

Of particular environmental significance will be the liner systems for these facilities, which will include 300 mm of clay as primary impermeable layer and a 1,5 mm HDPE geomembrane liner as barrier. The liner system in the ash facility will have a 300 mm screened coarse ash ballast layer for protection, while the liner systems for the dams will be ballasted with a 300 mm cement-stabilised sand layer topped with Armorfex blocks.

"This is certainly an exciting time for Concor, and I am looking forward to the opportunity to listen, learn and lead," says Tseki. ■

INVESTIGATION AGAINST CETA LAUNCHED

The country's body of construction contractors Master Builders South Africa (MBSA), has called for an urgent meeting with the Minister of Higher Education, Science and Technology. The meeting is meant to provide clarity on the standing of thousands of learners who are in training programmes supported by the CETA.

The Construction Education and Training Authority was placed

under administration by Minister Nzimande on the 29 January 2020 to facilitate an investigation into allegations of financial mismanagement and maladministration.

"We have thousands of learners placed with building contractors on learnerships, apprenticeships and candidacy programmes and the immediate concern is to ensure that the placing of the CETA under administration does not result in unintended consequences for these programmes and for skills development in the construction sector," said MBSA President, John Matthews.

Matthews confirmed that MBSA was aware of ongoing challenges at the CETA, which were causing significant delays in payments of training grants, bursaries and stipends to employers and learners.

At just below 10% of the total labour force of the country, the construction industry remains one of the largest employers in the country. However, the lack of qualified and experienced workers has been cited as one of the biggest threats facing the industry.

To improve delivery of skills programmes in the country, Minister Nzimande made an undertaking to implement a Contract Management System to keep track of the flow of funds, so that financial management becomes more transparent within the Department. He also indicated that there would be consequences for individuals who fail to comply.

"As an industry body, maintaining a steady supply of the required building skills for the country is at the core of what we do for our members, and we remain committed to working with the Minister to ensure that the CETA is more effective and delivers the skills needs of the industry.

We also support any action aimed at entrenching good corporate governance and better performance, but we are concerned that this development may jeopardise current skills programmes and those that are planned for the near future," said Matthews.

Master Builders South Africa (MBSA) is a Federation of registered employer Associations representing contractors and employers in the construction industry, and is regulated in terms of Section 107 of the Labour Relations Act 66 of 1995.

The Federation's nine Master Builders Associations, and three Affiliate Associations represent more than 3 500 contractors and employers in the industry. ■



MBSA President,
John Matthews.



NEW MANAGING DIRECTOR, AFRICA

time, he played a key role in project oversight relating to project management, risk, commercial and contractual issues and client relationships and, ultimately, safe and successful project delivery.

He is a professional engineer with 28 years' varied civil engineering and management experience, and has fulfilled project director and manager roles on a diverse range of transportation and water-related projects. His experience spans South Africa, Lesotho, Mozambique, Namibia, Angola, Botswana, Zambia, Kenya, Tanzania, Ghana, Nigeria, Guinea, Liberia, South Sudan, St Helena, Qatar, and the United Arab Emirates.

Green has a BSc in Civil Engineering from the University of Cape Town, and an MSc in Traffic and Transportation from the University of Natal, where he received a joint

scholarship from the South African Road Federation and the University of Natal.

He is registered as a Professional Engineer with the Engineering Council of South Africa, and as a Professional Construction Project Manager with the South African Council for Project and Construction Management Professions.

Hamed Zaghw, Chief Executive, Middle East and Africa, AECOM, comments: "Darrin's appointment is an important step forward for our African business. The leadership and experience he brings are second to none. In his time at AECOM, he has already shown himself to be a great role model with a deep understanding of the business. He has a strong affiliation with our people, and an extensive network of contacts that will be invaluable as we drive growth in our key markets." ■

Infrastructure delivery company AECOM has announced that Darrin Green has been promoted to Managing Director, Africa, a responsibility he will undertake in addition to his previous role as Managing Director for Civil Infrastructure, Africa. In his new capacity, Green will be responsible for the firm's Africa-wide strategy, business development, health and safety, and operations.

Green joined AECOM three years ago as Managing Director for the firm's Civil Infrastructure business in Africa. During this

Non-payment culture is forcing CONTRACTORS OUT OF BUSINESS

Government's failure to pay building contractors on time or even not at all is one of the major causes of job losses in the construction industry, declares Databuild CEO Morag Evans.

"Against the backdrop of an ailing economy, many companies, particularly small and medium-sized enterprises (SMMEs), are being forced to close their doors as a result."

National Treasury regulations stipulate that contractors should be paid no later than 30 days after invoicing, yet a report issued by the Construction Industry Development Board states that 60% of payments are made after the 30-day deadline.

Evans says this is unacceptable. "Most contractors and suppliers in the construction industry are entrepreneurs, operating as an SMME. Government cannot claim to support entrepreneurship, but then fail to pay the very business owners who play a crucial role in stimulating economic growth and job creation.

"This creates the impression that government simply doesn't care about the repercussions. Contractors are left with severe cash flow problems, which ultimately



Databuild CEO, Morag Evans.

lead to financial ruin, adding further impetus to the nation's burgeoning unemployment rate." Evans applauds the recent progress made by infrastructure and public works minister Patricia de Lille in addressing this crisis, but says more needs to be done.

"Government has a responsibility to adhere to its own regulations and needs to urgently put correct and efficient systems in place so that its suppliers can be paid accurately and timeously.

"In the meantime, contractors and suppliers need to ensure that the documentation they submit is accurate and

in accordance with government's requirements. Incorrect paperwork and failure to comply with procedure will most certainly impede the payment process and invoices cannot be paid if the requisite procedures around certifications have not been followed."

Evans says Databuild has partnered with specialists in construction cash flow processes to offer contractors hands-on support in understanding the implications of government's contract terms and conditions.

"Our workshops are specifically geared to equipping contractors with the strategies they need to maintain firmer control on the account management process, including government payments," she says. "This will go a long way towards minimising late payments among contractors."

She calls on government to communicate effectively with contractors to resolve any issues that may arise after invoices have been submitted.

"SMMEs, including building contractors, are the lifeblood of our nation's economy. Government owes it to them to pay on time for work done." ■

DOS AND DON'TS OF ALTERNATE DISPUTE RESOLUTION

Highly complex contracts with performance milestones are the norm in the construction industry, particularly on big projects – a fertile breeding ground for disputes.



The standard contracts developed by the Master Builders Association (MBA) stipulate the use of alternate dispute resolution to resolve such disputes in an effort to save costs and time. But, says Brad Boertje, a construction risk management consultant and adjudicator on the MBA North panel, subcontractors need to understand how the system works to benefit them.

"All too often, we find that subcontractors don't do their homework up front, and so when a dispute occurs, they can find themselves at a disadvantage. Adjudication isn't a silver bullet, but it can provide a way of solving disputes quickly and fairly without excessive cost – provided you follow the rules," he says.

"Given the way that margins have been pared down, we are seeing lots of disputes occurring. You need to know how to make this alternative dispute resolution process work for you." Here are some of the key points subcontractors need to be aware of:

The process. The term alternate dispute resolution covers a range of ways to solve disputes without resorting to the courts. In most South African standard form construction contracts, adjudication is the first dispute resolution process. Whoever wants to declare a dispute must notify the other party of a disagreement. In the MBA Domestic sub-contract agreement, the parties then have 10 days to resolve the issue between themselves.

If they fail to do so, then a dispute is declared and they nominate an adjudicator, or the MBA does if they cannot agree on one. The adjudicator then determines the dispute and makes a ruling. He or she might work solely off the relevant papers or, if necessary, will call

for a hearing. Usually, each party pays 50% of the adjudicator's costs.

If one of the parties is dissatisfied with an adjudicator's ruling, the next step is to call for arbitration, again within 10 days (also as per the MBA domestic subcontract agreement). Often an advocate will act as the arbitrator.

The process is generally governed by the Rules for the Conduct of Arbitrations published by the Association of Arbitrators.

It takes much longer, and is much, much more expensive. An adjudicator's determination is immediately binding and must be implemented even if a dissatisfied party has subsequently referred the matter to arbitration.

A final word of caution: awards made by an adjudicator or arbitrator can generally only be overturned on the grounds of negligence or fraud. "Make sure you choose well," Boertje


says. Watch what you sign. Often, subcontractors put themselves on the back foot by signing an inappropriate contract.

One important thing to watch out for is the deletion of the provision for alternate dispute resolution, which would take this option off the table and leave them with no other option but a lengthy and expensive recourse to the courts.

Especially in times when work is hard to come by, subcontractors can feel they have no option but to sign whatever is put in front of them – only to find that their expected profits are compromised down the line. In particular, Boertje also advises subcontractors to beware of "pay when paid" clauses, which effectively leave the subcontractor at the mercy of the main contractor's ability to collect payments from the client.

Manage your risk regularly. Avoiding a dispute is always best, so Boertje advises subcontractors to manage their risk, preferably on a monthly basis. This means ensuring that the terms of the contract are being adhered to, and if they are not, registering this fact with the main contractor. For example, if contractual milestones are not being met, the subcontractor needs to defend their position with the main contractor or it could find itself being held liable for late performance when the contract goes over time.


"Managing risk across the life of a contract is complex, and subcontractors would be well advised to engage the services of a construction risk professional. Dispute avoidance is the best way to maximise profits and build long-term relationships with principal contractors," he says. "But, if all else fails, adjudication offers quick relief – make sure your contract allows for it." ■



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CESA'S FOCUSES FOR 2020

Consulting Engineers South Africa's (CESA) newly elected President, Sugan Pillay, presented his presidential message and theme for the year at a function held in Johannesburg on 29 January. Pillay's 2020 theme is '2020 - A time for Reflection, Renewal and Regeneration'.



Pillay began his presentation by stating, "South Africa once again finds itself in the throes of a new era, and we are certainly in a period of great change but there is also a sense that through this process, that we are indeed in a period of renewal and regeneration."

Pillay went on to expand on CESA's thinking on some of the key issues that are facing the industry demonstrating CESA's commitment towards the nation's renewal and regeneration project in terms of the practical solutions that the organisation can offer with a number of changes that they are imploring the country's leadership to implement.

Reflection

Pillay detailed a few critical issues affecting the industry, including the tragedy of state capture, although noting that President Ramaphosa reiterated in his 8 January statement that building a capable state will be one of the core priorities this year. The continuous decline in audit outcomes across all levels of government, as contained in the annual Auditor General reports, and the resulting negative impact that this has had on service delivery as well as the continuous change in regulations.

He discussed the decimation of the construction sector and in particular the effects on large contractors the medium sized and smaller contractors also not faring any better. He believes that the key issue is the lack of opportunities coupled with delayed payments for completed work.

The reason that so many contractors find themselves in financial distress is that a project pipeline has not been forthcoming. "If this decline in the construction value chain is not arrested as a matter of urgency, the entire construction value chain will be decimated within a very short space of time. The consequences for the economy and for the country will be catastrophic," states Pillay.

He believes that this coupled with the looming threat of a ratings downgrade and the impact that it may have of the state's ability to fund further infrastructure development and the general lack of confidence in the state and in the economy, coupled with uncertainty, has resulted in low levels of investment by the private sector.

Pillay then went on to discuss the notable successes over this period highlighting the country's potential for recovery which included the fact that BBBEE and in particular the Sector Scorecard has ensured that the sector continues to transform and has resulted in opportunities for a large number of firms. Pillay reported that, "approximately 60% of our member firms are now majority black owned, approximately 14% have Black women Ownership greater than 30%, and as a Broad-Based measure, in excess of 60% are either have a Level 1 or Level 2 rating."

Pillay stated, "CESA is concerned that the pace of change is frustratingly slow and we must reiterate that we do not have the luxury of time to address our challenges".

Renewal

Pillay stated that CESA has hope that the process of Renewal and Regeneration has indeed started with the Zondo commission which is slowly unearthing the scale and depth of state capture. One of CESA's core principles is that of integrity and ethical commercial dealings and the work of the commission is very much in line with CESA's stance on corruption.

CESA welcomes the added powers that the Auditor General's office has been granted in that it will now be able to ensure that its recommendations and corrective actions must be implemented. "We believe that the Planning, Monitoring and Evaluation Directorate in the Presidency needs to be further capacitated so that it can facilitate inter-governmental dialogue when stumbling blocks regarding the interpretation of regulations are encountered. There is also often no appreciation for the construction contracts that govern the Client Contractor relationship, and the interpretation of regulations tend to be in conflict with these contracts", states Pillay.

CESA welcomes efforts towards the re-capacitation of the leadership at key state institutions that are large infrastructure developers such as Department of Public Works and Infrastructure (DPWI), the Department of Human Settlements Water and Sanitation (DHSWS), Eskom, etc.

CESA is also calling for programmes that are working, such as the Independent Power Producers (IPP) programme, to be restarted and in particular the 5th round of bidding of the renewables programme. In addition to its value as a short-term intervention towards addressing our electricity crisis, it will also inject much needed project opportunities for consulting engineers and contractors.

Regeneration

CESA currently boasts a membership in excess of 580 member companies that employ approximately 21 000 people. Pillay says, "Within CESA we have the expertise, experience and capacity, in a country that is crying out for infrastructure development, whilst many of our member companies are confronted with underutilised expertise, which results in the retrenchment of key skills and resources while many government departments are under-resourced, and cannot effectively plan and implement infrastructure projects." CESA's call is that, as a short to medium term measure, the capacity that exists within the private sector should be utilised to, firstly, capacitate the state, and also to mentor some of the young engineers that are currently employed in the state. The Owner's Engineer concept needs to be embraced as a short-term intervention, as well as secondments from the private sector, to boost public sector capacity. CESA's members are also willing to volunteer some of their services, within a structured framework, to unlock project opportunities.

CESA welcomes the establishment of the Infrastructure and Investment Office and is pleased to see that it resides within the Presidency. CESA has long been calling for an Engineer General to oversee major infrastructure development in the country and believes that this office will become the de-facto Engineer General in the country. CESA is cautiously optimistic that the Infrastructure Fund

that will be housed within the Development Bank of South Africa (DBSA) will also start to gear into action, so that funding for project preparation can be unlocked.

CESA is committed to the competitive sourcing of professional services, but is adamant that competition cannot be based on price

alone. CESA has long advocated for Quality Cost Based Selection (QCBS) for professional services, so that quality enabling innovative design and functionality, play a key role in the selection process. The concept of value for money must be reintroduced into the procurement process. ■

Breaking gender stereotypes in THE MANUFACTURING SECTOR

The engineering and manufacturing industry has, traditionally, been a male dominated sector. However the world is evolving to break stereotypes in all business environments. A shining example of this paradigm shift must be Estie van Zyl, the first female plant manager in the Saint-Gobain Sub-Saharan African delegation.

Her journey within the manufacturing sector started some 13 years ago and, being an industrial engineer by trade, her success was almost guaranteed. But why, it must be asked, did Van Zyl choose a career in this particular industry? "What drew me to manufacturing were the visible safety awareness and culture at Gyproc and the opportunity to start the journey of discovery in world class manufacturing practices (WCM). For me, these areas were really exciting, and I wanted to develop my skills and understanding of the theory and practicalities involved in this sector."

The experience has been an exciting one, to say the least. In her years in the manufacturing environment she has garnered experience and expertise across the board from engineering, and production, to WCM and planning. "Whatever capacities I find myself operating in I try gain as much experience as possible. When occupied in the planning department I worked closely with a SAP consultant and realised without proper understanding of all aspects of a system or process you get stuck on issues that should be easily resolved.

"By using a holistic approach to my duties, I was able to bring the WCM programme at the Donn Products Factory to a Bronze status, making this the first plant in South Africa to achieve this award. Essentially, I have learned that if all departments work as a team towards a common goal, coupled with strong leadership and an overall understanding of each component, anything is possible. When moving into the production arena, which was my first opportunity to lead a team, I became aware of the value of the people you are working with. Respect them, value their opinions, and they will be productive. Lastly, being a part of the engineering environment, I was able to bridge some of the technical gaps that I had and gave me the opportunity to change the mind-sets of people that were very set in their ways. No matter where you find yourself, there is always something to learn."

In her current role Van Zyl says she makes a point of learning as much as possible from her superiors. "Learning and picking up experience is critical. Once you stop learning, you stop growing. It has been a challenging, yet very exciting journey where every day delivers a new challenge. While self-improvement is vitally important for personal growth and professional success, I believe that a strong focus should still be maintained on people and their skills development. Without a competent team no business, or in my case, plant can be successful. Personally, I have changed from an unsure young woman, on my first day at Gyproc, to a strong, confident leader who is respectful of others no matter what skill level they are on."

Currently, Van Zyl has a clear vision of the role the plant needs to play within the organisation at large. "I believe that we, as a highly passionate and fully engaged team will continue to manufacture sustainable and cost efficient products of excellent quality to satisfy

all our customer needs. We will indeed be an indispensable cog within the company as a whole that will contribute to the profitable growth of the business. On a personal note, I believe in maintaining a healthy work-life balance and even though I am married, with three boys, this is possible. I see my role in the company as as not only benefiting Saint-Gobain, but also enhancing my family life. I make sure that I focus on the priorities that are in the moment and spend quality time with my family during weekends."

Going forward, Van Zyl will not be resting on her laurels and plans to take advantage of all opportunities that come her way. "I have a number of goals I am working toward, some immediate, some more long-term. I plan to complete my GCC in engineering and then go for my MBL and, with this behind me, ensure I gain the required experience, in different plants, in order to excel at management at the highest level possible. I also want to pay it forward. Being people-oriented and fostering employee development is a real passion of mine and, when you are a manager, you are in a great position to focus on the development and growth of your employees – people must enjoy coming to work, must be challenged, must be inspired, and productivity and efficiency will invariably increase."

In conclusion, Van Zyl has a few pearls of wisdom for other aspiring women in engineering fields. "Set the trends. If you are a leader, be one. Constantly strive for more so you won't become complacent. Learn from every situation, even your failures. That is how you grow. You must also remember, it's all about having the right skills, standards and personality. It is important to break the stigma that women are not made for engineering. Be curious, be persistent. Ask lots of questions. Find good mentors. It's ok to make mistakes, use them as learning opportunities." ■



SOUTH AFRICA'S CAPITAL MARKETS STILL A CUT ABOVE THE REST

South Africa's fall to third place in RMB's 2020 *Where to Invest in Africa* report reflects the country's constrained levels of growth, but the report also highlights that it remains Africa's bastion of a well-developed financial and capital market. The Johannesburg Stock Exchange is Africa's most liquid stock exchange where in excess of USD1,4-billion is traded daily. This is significantly higher than the Cairo Stock Exchange (Egypt), which trades USD44-million a day, underscoring the depth of South Africa's capital markets.

South Africa also ranks highly on other measures of financial market depth such as private credit as a percentage of GDP, demonstrating that consumers have access to a wider range of financial instruments relative to other African countries.

Although South Africa's Ease of Doing Business ranking has slipped in the last few years, it remains one of the Top 10 easiest operating environments in Africa. This has allowed international companies to still view South Africa as a gateway to the rest of the continent.

These positives must, however, be viewed in light of the mounting risks: South Africa is struggling with uninspiring growth rates. Against a backdrop of modest demand and persistent electricity constraints, our GDP growth outlook for South Africa is forecast at 0,6% and 1% in 2020 and 2021. The recovery from previous years, while muted, is premised on a gradually improving global economic outlook and more accommodative monetary policy.

RMB's Investment Attractiveness Rankings Top 10

"After nine years of publishing, we never fail to be both pleased and surprised by the extent of improvement in countries that are not necessarily perceived as strong investment destinations,"

says co-author and Head of RMB Global Markets Research, Nema Ramkhelawan-Bhana. This year, Guinea, Mozambique and Djibouti recorded the strongest gains in the rankings, with notable advancements in their operating environments.

The rankings are as instructive on the downside, identifying countries that have either stagnated or outright deteriorated in one or more aspects of our methodology. South Africa, Ethiopia and Tanzania are among the more prominent countries to have taken a tumble. A deterioration in the ease of doing business has contributed to their relative underperformance and, in addition, South Africa is enduring a cyclical downturn.

Tanzania's fall from grace has reshuffled the top ten investment destinations, with Tunisia returning to the fold at number ten while Côte d'Ivoire and Ghana edge ever-closer to the top five. North Africa remains dominant with Morocco displacing South Africa in the rankings, rising to second place.

The top 10

1.Egypt: The enormity of the market paired with a sophisticated business sector relative to other countries makes Egypt the most attractive investment destination in Africa. The improvement in Egypt's business environment, facilitated through government



programmes, combined with the progressive increase in investment from the private sector has enhanced economic growth and assisted in repositioning Egypt on the global investment map.

2. Morocco: While only Africa's fifth-largest market, Morocco's expected growth rate of 4% over the medium term and its greatly-enhanced operating environment has served the country well since the Arab Spring. Its reintegration into the African Union and accession to the Economic Community of West African States (ECOWAS) have enhanced its investment appeal.

3. South Africa: South Africa has slipped another place in this year's rankings, stymied by depressed levels of growth and a lack of structural reform. Yet it remains Africa's hotspot for portfolio investment. With many countries facing severe liquidity constraints, South Africa's financial markets and level of financial inclusion are still a cut above the rest.

4. Kenya: The above 5% expected growth rates, helped by favourable weather and political reconciliation after 2017's disputed elections, has propelled Kenya one spot higher than 2019. The economy benefits from diversity as well as a sustained expansion in consumer demand, urbanisation, East African Community (EAC) integration, structural reforms and investment in infrastructure,

including an oil pipeline, railways, ports and power generation.

5. Rwanda: Rwanda has the second-best business environment in Africa. According to the World Bank's operating environment scoring, the country has more than doubled the efficiency of its business environment in less than a decade. The government has also invested heavily into its domestic industries, while FDI has increased over the same period, pushing Rwanda to being one of the five fastest-growing economies on the continent.

6. Ghana: The growth outlook is strong, concentrated around the oil and gas sector. Non-oil growth will pick up again, supported by pro-business reforms and a steady improvement in power supply. Political stability will remain underpinned by Ghana's strong democratic credentials. Regardless of a recent deterioration in its operating environment rankings, Ghana remains one of the easier business environments in Africa.

7. Côte d'Ivoire: Côte d'Ivoire is one of the more diversified economies in francophone Africa. Its strong growth rates are supported by the government's pro-business reforms and a relatively stable political context. Large infrastructure projects, particularly in transport and energy (financed by foreign investment, aid inflows and the government) also support the country's strong position in our rankings.

8. Nigeria: Nigeria retains its top ten ranking due to improved macroeconomics, supported by recovering oil prices and production. As the largest economy in Africa in nominal terms, the possibility for investment cannot be overlooked; and with the largest population on the continent, domestic demand continues to rise. Resources and favourable demographics are attracting strong flow of FDI. The liquidity crunch has subsided since 2017 as commodity prices have recovered and changes in FX regulations have been implemented.

9. Ethiopia: Ethiopia is the fastest-growing economy on the continent. With a population of almost 100 million people, demand for goods and services is rising significantly. The prohibition of foreign ownership in key sectors is still a constraint for investment, but this is slowly changing. The government has announced shake-ups across industries, including plans to open up the once closely-guarded telecommunications and power monopolies.

10. Tunisia: Tunisia re-enters within the top ten supported by a reasonable market size and favourable operating environment. The government's encouragement of foreign investment, through its new simplified investment code, has made the country increasingly attractive to multinational manufacturers. ■

Rand Merchant Bank's ninth edition of *Where to Invest in Africa* is returning to its roots – the sectors it believes are key to unlocking the continent's growth potential:

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THE ROLE OF 'USE PHASE' IN ENERGY COSTS

The energy requirements of a completed structure once occupied and operational are still too often overlooked in assessing the 'green' or sustainability status of new developments, says Bryan Perrie, managing director of The Concrete Institute.

He says architects who strive for sustainability in the design of concrete structures should pay more attention to lowering energy usage during the full life of the new buildings they create, says Bryan Perrie, Managing Director of The Concrete Institute (TCI).

In many countries – including South Africa – the level of sustainability of a new building is heavily judged on its design with rating systems such as the Green Star system of the Green Building Council of SA and the Leadership and Energy in Environmental Design (LEED) system in the USA, bestowing points for various sustainability initiatives during the design stage of a building.

"However, these systems often lead to chasing points for a particular rating rather than concentrating on real sustainability stretched over the entire life cycle of a new structure," Perrie contends.

He says there are substantial economic benefits in considering life cycle costing right from the outset. "The potential increase in cost during the design and construction phases of a 'green' structure will generally be more than offset by the savings from reduced energy consumption during the use phase of the concrete structure.

The architect or designer needs to assess the inter-relationship of all factors while the owner or user needs to understand the sustainability features incorporated in the structure."

Perrie lists some important design considerations to ensure sustainability in concrete structures:

- Ensuring that the building is oriented to



take advantage of natural elements to provide natural lighting, heating during winter, cooling during summer, and natural ventilation.

- Ensuring correct window and door type and placement to take advantage of sunlight during winter, as well as the flow of air from prevailing winds. Eave depths should be designed to shade the inside of the building during summer, but allow winter sun to warm rooms.
- Using atriums, wind/stack ventilators or ventilation panels to assist natural ventilation, and under-floor vents or permeable ceilings to unlock the thermal mass in the upper part of concrete slabs.
- Choosing roofing and external wall material and colours that will reflect heat away (lighter colours) from the building or absorb solar energy (darker colours, dark floor tiling) to reduce energy demands for heating or cooling.
- Choosing the correct insulation type

and location. A well-insulated roof and floor may keep the interior temperature cooler in summer and cut air-conditioning costs, but may prevent winter solar heat from being absorbed into the interior of the building.

- Air- and weather-proofing to ensure that draughts do not negatively affect energy usage for heating and cooling.
- Designing buildings to use solar energy and tap into the benefits of thermal mass to save energy.
- Designing structures to reduce the requirements for maintenance or to make it and cost effective.
- Designing structures to promote saving of finite resources by, for example, designing systems to promote rainwater harvesting, reuse of grey water, and other water-use efficiencies.

TCI also believes that although engineers' focus on structural design, construction materials, and the construction process itself – as well as recycling, resource conservation, and embodied energy – are commendable far too little attention is paid by this profession also to the use phase and full life-cycle assessment (LCA) of new structures.

"Research has shown that a building's lifetime operating energy consumption could range between 87 to 97% of the structure's total energy requirement while the embodied energy accounts for only between 3 to 13% of the total energy.

This makes it clear that the use phase of a building is the major contributor to sustainability," Perrie adds. ■

'Mission zero' sustainability GOAL REACHED

Interface, the world's largest modular flooring producer, achieved its 'Mission Zero' sustainability target in December last year – several months ahead of its original 2020 target.

KBAC Flooring, now completing 50 years of operations, is the sole SA distributor of Interface, which has its head office in Atlanta, Georgia, and a major factory in the Netherlands from where KBAC sources its supplies.

Interface has over the past 25 years

introduced significant improvements across all key sustainability metrics internally and throughout its supply chain and in January 2019 achieved an important milestone: every flooring product that Interface sells – carpet tile, LVT and rubber sheets and tiles – is now carbon neutral across its full lifecycle.

The company has now set its sights even higher with the 'Climate Take Back' initiative launched in 2016 to reverse global warming and is developing processes and

products that will enable it to become a totally carbon negative company by 2040. Interface founder, Ray Anderson, launched the Interface 'Mission Zero' programme in 1994 to reduce the company's impact on the environment.

Since then, Interface has focused on reducing its impact in three key areas of the business – factories, products and suppliers – and has made substantial progress in reducing its carbon footprint in nearly every capacity. ■

QUALITY COUNCIL GIVES ACADEMY THE THUMBS

Afroteq Academy, the SETA accredited training division of the AFMS Group, has obtained accreditation by the Quality Council for Trades and Occupation for its new Occupational Certificate in Facilities Management (OCFM).

Afroteq was the first training provider to be accredited by the Southern African Facilities Management Association (SAFMA) in 2002, and has since gained a well-earned reputation for being one of the country's leaders in equipping and empowering the Facility Management industry.

Explaining the significance of this approval, says Portia Mkhabela, Manager at the Afroteq Academy: "The Facilities Management landscape has become highly specialised and competitive in recent years. No longer regarded as a basement job, Facility Management is a fast-growing profession around the world. Trained and qualified FM Managers are in high demand, and we realised the importance of offering an academic qualification that would not only equip our industry leaders with skills and knowledge that are practical, cutting-edge and relevant, but would also be internationally recognised".

The process of developing such a formal qualification for the FM industry was set in motion by SAFMA two years ago. Afroteq was part of a team of FM experts who developed this outcomes-based programme specifically for the industry, by the industry.

"Facilities Managers enable sustainable enterprise performance through managing productive workplaces and ensuring effective business support services. As a result, they are required to juggle many different responsibilities on any given day enabling the strategic objectives of the business. Facility Managers must understand and have insight into a company's operational and strategic elements in order for them to plan and execute their responsibilities effectively and optimally. For this reason, it was important for us to have a qualification developed that would equip Facility Managers with the skills and knowledge needed to face their challenges head-on and with confidence," says John Samuel, in charge of Professionalisation, Education and Training at SAFMA.

Afroteq's Occupational Certificate in FM Management is a two-year course, NQF level 6, broken up into six modules. Each module is taught over a period of five days

per module (10 days for module 4), and can either take place at a client's premises or at a central training venue. "We are specifically targeting people who have already gained experience in the FM field, but need the formal qualification to take them to the next level.

The ideal candidates are building managers, facilities coordinators, maintenance managers, project managers, technical managers etc. Requirements for entry to the OCFM are training up to NQF level 5, a tertiary diploma or experience in current FM environment which will be assessed," Mkhabela explains. The course content is diverse and dynamic and covers a variety of different topics relevant to the job of a Facilities Manager, ranging from the fundamentals of facility management to leadership and management, corporate governance, procurement, communication skills, environmental stewardship and sustainability, financial management, performance management, coaching and the handling of HR matters.

Practical aspects are integrated with theory through three phases, i.e. Knowledge (academic), Practical and Workplace. Testing and benchmarking are done by an independent assessor, and feedback is given to employers after each module. Moreover,



*Portia Mkhabela,
Manager at
the Afroteq
Academy.*

students have to demonstrate application of what they learnt in the classroom by compiling a portfolio of evidence that must be signed off and authenticated by an at-work mentor. "What makes our training truly unique and sets us apart from the other training providers, is the fact that our courses are taught by Facility Manager experts who are arguably some of the best in the field. They are not simply training providers or facilitators, but become mentors to the students. Through their interaction in the classroom they are able to identify and address skills gaps that may exist, and are on hand to help and guide the students through the challenges they might encounter on the job. A valuable transfer of skills take place in this way that is not just confined to classroom teaching, but spills over to the workplace," Mkhabela explains.

"We are excited about the potential this certificate has to impact and transform the FM industry in SA. For the first time, we have a formally recognised qualification that not only allows our professionals to apply for jobs internationally, but it also empowers individuals and businesses to operate efficient, productive and profitable enterprises which can transform the future of our country's built environment," she concludes. ■



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APARTMENTS IN MIXED-USE PRECINCTS TRUMP FREEHOLD APARTMENTS

While South Africa's residential property market has been a relative buyers' market for the past few years, first-time-buyers remain cautious in placing their feet on the property ladder.

Similarly, local and international investors have become circumspect about expanding their property portfolios by way of South African investments.

Analysts project another bleak year of economic growth in South Africa, on the back of a reduced 2019 growth forecast low of 0,3%. With the Reserve Bank forecasting that the economy will grow by a mere 1,4% in 2020, local buyers will need to be especially discerning with their investments in order to realise long-term value and returns. International investors, however, will have increasing room to manoeuvre, with exchange rates favouring finance streams from Asia, Europe and the US.

2019 trends showed that buyers have been gravitating towards smaller, centrally located, more affordable homes within close proximity to amenities and services. Location, lifestyle, low-maintenance, lock-up-and-go convenience, reliable security, and the presence of recreation and fitness facilities are increasingly taking precedence over size and suburban curb appeal. This trend speaks not only to investors buying to rent, but also to first-time buyers.

Statistics show a steady increase over the past three years – from 30% to 39% – in the number of home loans granted to first-time buyers. There has also been an increase in the number of 100% bonds being granted, with some lenders extending home loans to include legal fees, transfer and bond registration.

Nic Stopforth, Managing Director of Amdec Property Developments, believes that more price-conscious buyers are taking advantage of the favourable lending conditions and electing to invest in premium mixed-use precincts within thriving metropolises because they offer greater returns in terms of rental potential and capital growth. The rise in popularity of mixed-use precincts stems

largely from the markets' increasing need for convenience, safety and security, and a greater sense of community.

"Given the economic challenges facing the majority of South Africans presently, it's more important than ever to seek out properties that offer long-term capital growth, as opposed to simply a home or roof over one's head," says Stopforth. "Buyers simply can't afford to incur additional costs linked to security, maintenance, repairs and renovations, just because the asking price of a property seems right at the time."

Demand for low-maintenance sectional title properties has remained relatively high, in comparison with larger freehold suburban properties with costlier overheads, which are sitting on the market for increasingly long periods of time.

"Your home is an asset, so it's important to invest in a home with good appreciation prospects. Local and overseas buyers are wisely gravitating towards mixed-use precincts as affordable options that are well positioned to increase in value," continues Stopforth.

For investors seeking diversification in order to balance their portfolios, investing in mixed-use precincts also guards against the risk of large-scale vacancies, when compared with single-use properties. With an assortment of tenants vying for multiple forms of occupancy, owners can boost rentals accordingly to strengthen both net income and net operating income.

"The sale of luxury apartments at the Amdec Group's One on Whiteley development in Melrose Arch, Johannesburg, and Harbour Arch in Cape Town speaks to the global demand for combined residential, commercial, retail and leisure living spaces," adds Stopforth. "It's an asset class that has grown exponentially across the globe and South Africa is no exception." ■

R185-million **FIRST PHASE COMPLETED**

Growthpoint Properties has completed the R185-million first-phase of its new industrial park development on KwaZulu-Natal's major logistics and transport corridor.

Growthpoint Industrial Park has received keen market interest and its first tenants are already operating from the 20 300 m² initial phase of the development.

Located at 52 Siphosethu Road on a prime 66 558 m² site that is precisely midway between Durban harbour and King Shaka International Airport, Growthpoint's latest industrial address offers superb access to eThekwin's new C3 Corridor linking Pinetown to Mount Edgecombe. It is at the confluence of several major transport arterials with quick access to the R102 and N2 freeways and N41, with excellent visibility and accessibility for logistics, staff and public transport.

"Mount Edgecombe is quickly becoming an established logistics node. Its popularity is being driven by the new C3 Corridor road infrastructure in response to the lack of new industrial land around the busy Durban harbour," explains Rudolf Pienaar, Growthpoint's Chief Development and Investment Officer. "While it already caters for large-scale warehousing on the one hand and mini-units on the other, we identified a gap in the market to develop midi- and maxi-units. Growthpoint's skilled development team has met this need with a first-class industrial park designed especially for businesses that rely on excellent transport access."

The first of the development's two phases includes 15 midi-units of between 846 m² and 2 065 m². Growthpoint Industrial Park's second phase will add some larger units to the mix.

"We understand that businesses today are all about efficiency, and we've developed a business park that really supports this.

It offers quality space at affordable rentals, and is a premium product in its market," says Growthpoint's KwaZulu-Natal Regional Development Manager Kobus Blom.

Units are crafted to be infinitely flexible, allowing businesses to be agile and grow, shift and change swiftly. For instance, there are five-metre-high roller-shutter doors linking warehouses, enabling instant expansion possibilities.

Some 13% of each unit's floor space is dedicated to air-conditioned offices. An appealing design language creates good synergies throughout the building, from the lobby and offices to the warehouse. However, it is possible to add more office space, with each unit offering the expansion potential of a mezzanine block with stacking space below.

The warehouse spaces are designed to create a pleasant environment for the people using them, with a kitchenette, canteen and ablutions. They feature laser-level surface floors which comply with free movement FM2 specifications. Each unit offers eight-metre eaves height that could accommodate a racking system as well as standard in-rack sprinkler protection, which would meet basic safety requirements.

Energy efficiency is at the core of the development. Motion-sensing warehouse lights can be set to 50% or 100% and change with the quality of outdoor light which streams into the bright, airy buildings through the clever use of translucent polycarbonate sheeting.

Electrified perimeter fencing, controlled access and CCTV are among the security measures at this fully gated and monitored park. It also has ample electricity supply and a full fibre optic ring network.

The park's easy truck access is enhanced by shared central super-link reticulation. Separate from the main yard, parking for staff and visitors is available at each unit.

"Growthpoint is a significant property owner in the Mount Edgecombe area. Based on our experience of property performance at this strategic position, we're pleased to add Growthpoint Industrial Park as a long-term asset to our diversified industrial property portfolio," notes Errol Taylor, Head of Asset Management: Industrial at Growthpoint.

Growthpoint creates space to thrive with innovative and sustainable property solutions. It is South Africa's largest primary JSE-listed REIT with assets of nearly R126-bn, including a 50% holding in Cape Town's iconic V&A Waterfront. Growthpoint is invested in real estate and communities across three continents including Africa, Europe and Australia. ■





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The local construction market will once again benefit from another new addition to the already comprehensive Makita range (over 100 models available, including the Twin Battery 18 V+18 V = 36 range) of Makita 18V LXT Lithium-Ion Cordless tools.

The new 18 V LXT Cordless DTR180Z Rebar Tying Tool will dramatically increase production for users in the precast, concrete construction and steel industries. This new model has a brushless motor that produces less friction and heat, therefore providing higher operating efficiency and increasing

the output power and work amount on a single full battery charge.

Modes of operation

The Makita DTR180Z features two modes of operation – single or continuous actuation, with a simple push of a button. It will tie approximately 6 400 ties with a 6 Ah battery and 5 300 ties when using a 5 Ah battery on a single battery charge, when tying 10 mm x 10 mm two piece rebar. The tying strength is digitally adjusted (six stages) to match your various tension strength



"The Makita DTR180Z will provide you with excellent performance and a high level of productivity."

requirements and features an easy-to-load wire spool. The operator has to simply push the release lever, put a reel in and pass the wire through the hole and finally release the automatic locking mechanism built into the protective cover. This tool delivers fast efficient tying with up to 120 ties per wire spool and has a multiple bar tying capacity, tying up to two 16 mm diameter bars and four 12 mm diameter bars in under a 10 seconds, using only one hand.

The DTR180Z's rebar capacities are as follows: two pieces



16 mm x 16 mm, three pieces 16 mm x 10 mm x 10 mm and four pieces 12 mm x 12 mm x 12 mm x 12 mm. The wire spool cartridge contains 21 gauge annealed tie wire and is available

in packs 50 (Part No. 199137-9). The

centre-load spool position provides for more comfortable handling, added balance and less operator fatigue, with an ergonomically designed soft rubberised handle for vibration absorption and increased comfort. The Extreme Protection Technology (XPT) is engineered for improved dust and water resistance when operating in harsh conditions.

This model is compatible with both the Makita 3 Ah (22 minutes charge time), 5 Ah (45 minutes charge time) and 6 Ah (55 minutes charge time) batteries that have a handy low battery charge indicator that alerts the operator to replace the battery. The batteries and the charger are sold separately.

This tool will provide you with excellent performance and a high level of productivity.■

For further information or your nearest Makita dealer, contact Jean-Pierre du Plessis on 011 878-2600 or visit the website www.makita.co.za or www.facebook.com/MakitaPowerToolsSA

1 DISCOVERY PLACE WINS GERMAN DESIGN AWARD

Paragon Interface, part of the Paragon Group, continues to rack up leading awards for its work on 1 Discovery Place for client Discovery and developers Growthpoint Properties and Zenprop. The latest accolade is a 2020 German Design Award in the category Excellent Architecture – Interior Architecture.

The German Design Awards is one of the most renowned design competitions worldwide, and enjoys an excellent reputation far beyond its circle of experts. Those who beat out the high-calibre competitors have successfully proven that they are among the best, according to the German Design Council (GDC). Established in 1953, the GDC's main aim is to observe, analyse, and evaluate what is happening in design globally.

"Each year's winners not only exemplify the economic and cultural value of outstanding design, but also give a sense of direction, and are representative of current themes and trends," according to GDC CEO Andrej Kupetz. The German Design Awards have three main categories, namely Excellent Product Design, Excellent Communications Design, and Excellent Architecture.

A total of 5 300 entries were received from 69 countries.

The 2020 winners were awarded their prizes at an official ceremony at the opening of the Ambiente Trade Show in Frankfurt am Main on 7 February, which was attended by Paragon Interface Director Claire D'Adorante.

The German Design Awards jury stated about 1 Discovery Place: "The colourful interior design emphasises the open character of the office. It is an interesting approach to design that differentiates individual areas, while still allowing the interior space as a whole to be perceived as a coherent entity." It has become one of the most progressive and integrated lifestyle and wellness-focused workspaces in South Africa.

As an agile working environment, the spaces never feel crowded, and allow for staff to have various worksettings, depending on their task. There are public spaces across the ground floor, centralised meeting rooms, and numerous retail outlets and coffee shops throughout the large volumes, which still retain an intimate scale around its workspaces.

Paragon Interface also took into account the acoustics in the office areas and across the general floor space. This involved the use of Class A ceiling tiles, furnishings, and ensuring soft edges to the atria by using foliage. A trellis wall of greenery provides an abundant backdrop to the main reception, incorporating the Discovery logo itself, thereby linking the brand with the overarching concept of wellness.

D'Adorante explains that Paragon Interface was informed by the German Design Awards about the nomination in mid-2019, with the winners announced officially towards the end of the year. "You just have to look at what else was nominated, and what we were up against, to appreciate the significance of this accolade."

She adds that not only has 1 Discovery Place struck a chord on an international design level,

it is also testament to the depth of talent and creativity in the South African interior design industry. "The general impression is that we do not have the skills to compete on this level, but this recognition speaks otherwise."

D'Adorante highlights that what impressed the German Design Awards judges the most about 1 Discovery Place was the striking central atrium, with its activated collaborative workspaces. This was on a size and scale rarely seen on an international level, where Greenfield building projects are severely constrained due to space availability.

In October 2018, 1 Discovery Place was declared Office Design Winner at the prestigious Society of British and International Interior Design (SBID) International Design Awards 2018, held at the Dorchester Hotel in London in the UK. ■



Discovery Place saw Paragon Interface win a 2020 German Design Award for excellence in interior design.

Helderfontein outfall SEWER NEARS COMPLETION

Construction of the R12-million Helderfontein Outfall Sewer, situated in Riverside close to Fourways is nearing completion. The construction of this outfall sewer will result in the unlocking of a new development and become a major part of the infrastructure for the area.

This will create economic growth and is a catalyst for further development and job creation for local communities.

Icon Group was contracted in July 2019 by Century Property Developers to carry out the development with completion scheduled for February 2020. On completion of the project Century Property Developers will hand the outfall sewer to Joburg Water. This pipeline will become the main line for the area and form part of the main infrastructure for the area allowing Century Property to start the development of Phase 2 of the Helderfontein upmarket housing estate on the Northern side of the Jukskei River.

With their large range of inhouse construction equipment and experience in large dam pipelines, Icon Group made use of various ecological construction methods to prevent flooding and protect the ecology of this sensitive area. The company made use of a restricted method for clearing of the site minimizing damage to the sensitive environment and where necessary relocated trees.

Wayne Neary, Managing Director of Icon stated, "This very sensitive site runs along the flood plain of the Jukskei River and during excavation we had to be conscious of how we approached this job in order to protect the flood line and ensure that there was no damage to the surrounding environment."

The pipe being used is spigot and socket HDPE sewer pipe that is light weight and durable with a longer lifespan than traditional concrete sewer pipes. The use of HTPPE plastic pipe that is more cost effective, easier to install and better product has resulted in reduced maintenance and a longer life span for the project. In addition, these pipes are lighter to transport resulting in a lower carbon footprint for the project. This 8-month project included the excavation and laying of 3 km of 500 dia HDPE pipeline, backfilling of the line, construction of 53 manholes and the excavation and backfill of 10 000 cm³.

The substantial amount of rock at depths of up to 7 m during excavation proved challenging but the use of Icon's new hydraulic hammers proved effective in the conditions resulting in minimal blasting being required on site. Icon's hydraulic hammers allow precision rock breaking without over breaking and wastage. ■



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V&A WATERFRONT'S NEWEST DEVELOPMENT PROJECT

Cape Town's V&A Waterfront has announced its newest development project, a commercial building named The Ridge.

David Green, the CEO of the V&A Waterfront, believes that developers who understand and respond to the needs of building occupants are practicing leadership for the future. "A vital part of the circular economy is the focus on people. This building seeks to create an unparalleled internal environment with the highest level of natural light and fresh air.

"The Ridge effectively offers an oasis in the city. Inhabitants will enjoy its inspiring views, its inner green spaces, including a ground breaking 'central street' concept naturally ventilated with fresh air, breakaway zones and a reflective environment.

"The Ridge is the opposite of conventional city buildings which are dominated by concrete and glass. Its pioneering timber façade and mixed mode natural ventilation mechanical systems are firsts for South Africa.

"The Ridge represents the confidence that our company and its shareholders have in the future of Cape Town as a destination for business. It also represents our confidence in South Africa itself."

The new 8 500 m² building follows a string of bespoke

developments in the iconic 123 ha waterfront, which to date holds the honour of being South Africa's most visited destination.

"With a number of acclaimed office developments in the bag, this new project firmly places the V&A Waterfront in the forefront of South Africa's most prestigious business addresses.

"The V&A Waterfront's ethical development approach defines the master planning for the Ridge, focusing on sustainability and care for the people who will use the building. We call this 'Our Normal', a vision and approach setting the tone for sustainable green building, guiding our planning and development strategies.

"Developments we have already undertaken along these lines include the Silo District, including a number of Green Building Council of SA (GBCSA) Green Star-rated buildings, as well as the world acclaimed Zeitz MOCAA and The Silo Hotel projects.

"The Ridge should receive a high Green Star rating by the GBCSA, strongly signalling our intent to be a sustainable and client-centric place for leading international and South African corporate tenants. Such clients want a prestigious business address along

with the latest in sustainable office accommodation”, says Green.

Custom-designed green building

The Ridge is a custom-designed green building to accommodate the Cape Town offices of international professional services firm, Deloitte. Construction began early in 2019 and the roof slab was completed in January 2020. The overall completion date and the subsequent handover to Deloitte are scheduled for October 2020. The site was previously a parking lot which serviced the renowned UCT Graduate School of Business Campus, the Breakwater Lodge building and other existing commercial buildings in the vicinity.

As the signature development along Portswood Road, the Ridge will form the apex of a new Waterfront zone, dubbed the Portswood District, a green development forming a natural linkage to the Greenpoint fringe of the Atlantic Seaboard. Existing developed buildings there include the Merchant House building and the Breakwater Lodge and campus to the east. The developed site will form the main connection between Dock Road, on the main route to the original parts of the Waterfront, and Portswood Road, which runs just outside the north-western boundary of the property.

“This unique new district of the V&A Waterfront has a commercial property focus, including also a mixed-use element with a strong emphasis on urban mobility. Other upcoming developments there include a new 6 500 m² office building and the upgrade and restoration of the historic villas targeting boutique financial, legal and professional firms,” adds Green.

On the ground, the Ridge features a number of ‘firsts’ for the green building/sustainability industry, which set new standards for the industry in South Africa. These include energy-efficient and passive climate control measures, the use of renewables, sustainable water

handling and usage, the lowering of the carbon footprint of the building and a focus on the use of natural lighting.

Dematerialisation, a concept that has grown in popularity globally as the climate crisis is fully understood, means consciously using fewer materials to than conventional design solutions. Hence, this lowers the environmental footprint of the building on the planet. This is manifested at The Ridge in unique ways, including designing the concrete structure to be as efficient as possible. The project has sequestered plastic waste collected from a variety of sources and encapsulating this in the building core. Additionally, the usage of timber as the facade of the building is a South African first. Much of the building features a cross-laminated timber (CLT) facade that provides not only a warm and authentic feel to the exterior but significantly reducing the buildings carbon footprint. The façade is designed to facilitate passive climate control inside and hence contributes to a comfortable and natural working environment for building users.

Marius Alberts, the regional leader at the Deloitte office in Cape Town says that the Deloitte journey of sustainability has been behind their move to such a green building on the Southern tip of Africa. “Deloitte already occupies the Edge building in Amsterdam South, one of the highest rated green building in the world as confirmed by the British BREEAM rating standard.

“The Edge building uses IoT connectivity to optimise its energy efficiency and promote employee mobility and wellness goals. So we incorporated this approach into our new office at the Waterfront Ridge. We are driven by an overall corporate commitment to sustainability, demonstrated by our commitment to the United Nations Sustainable Development Goals into corporate responsibility and sustainability vision,” he adds. ■

Assisting with SMOKESTACK INSPECTION

Rope-access specialist Skyriders recently showcased the extent of its inspection techniques by assisting a consulting engineering company with tests needed prior to the design of a modification to a large smokestack for a major petrochemical producer.

Marketing Manager, Mike Zinn explains that rope access was necessary to perform various concrete inspections and sampling on the smokestack, such as carbonation testing, cover meter testing, and taking core samples for laboratory testing and analysis, whereafter the holes from which the material was removed had to be patched properly. The inspection data was then handed over to the consulting engineer for report and recommendations.

An expert six-person Skyriders team undertook the scope of work over a three-day period. “We worked hand-in-hand with the consulting engineer, which ensured the right areas where inspected,” Zinn adds.

The testing was essential to determine if the smokestack was structurally sound in order to be able to accommodate the modifications in terms of wind load, among other factors. The petrochemical producer is also expected to install instrumentation needed for gas monitoring, which should result in an additional scope of work for Skyriders.

While an instrumentation specialist will be called upon for the actual installation, Skyriders will be responsible for securing access and for any work-at-height for the necessary piping, tubing, and cabling. “We are often called upon by other service providers to assist with access in order to be able to offer clients cost-effective solutions for their specific inspection and maintenance requirements,” Zinn concludes. ■





POLAND'S TALLEST BUILDING IN CONSTRUCTION

In the future office spaces of the Varso Tower, people will be able to work in the tallest building in Poland. Doka is supplying formwork solutions suited to the modern architecture of the new building in the heart of Warsaw.

The construction scheme is part of the Varso Place mixed-use development which aims to revitalise the surrounding city district.

The Polish capital's highrise skyline is expanding steadily. The new Varso Tower is one of the highest buildings in Europe and, when completed, the 310 m tower will be the tallest building in Poland. Situated in the centre of the city, near the Palace of Culture and Science, the building features a restaurant and observation deck on top with panoramic views across Warsaw. London architectural firm Foster and Partners is responsible for the design of the Varso Tower project, which has glass façades designed to flood interior spaces with daylight.

The entire Varso Place development covers a total leasable area of 144 000 m². Apart from offices, the complex will contain a range of facilities including a hotel, fitness club, medical centre, multiple restaurants and cafés. Not only will the Varso Tower enrich the architectural scene in Warsaw, it will also showcase the city's potential as a prominent European business and academic location.

The tower comprises 53 above-ground stories and some 70 000 m² of office space. It also has the highest viewing point in Poland at the height of 230 metres. Doka is supplying a custom formwork solution for the international workspace provider HB Reavis responsible for the development of the project.

Reduced shuttering times with Framax Xlife and Dokadek 30

The geometry of the building core and the inner-city location of the construction site presented particular challenges for this project. The geometry is reminiscent of a parallelogram, in which the triangular shape of the building shafts also presented some structural challenges. Besides, the structure of the core was significantly affected by the architecture of the upper floors, which

had to be carefully considered from the conception phase.

The complex geometry of the building necessitated the use of framed formwork Framax Xlife. Framax represents high productivity that can be achieved even under severe working conditions. With this system, only a few units were required to create a 15-centimetre grid into which all the connecting materials could be seamlessly integrated. The significant distance between anchors meant that assembly time could be reduced. Specified unit formats and consistent unit grids ensured optimum usage of formwork materials. This combination contributed significantly to the high profitability in the use of the system.

Dokadek 30 unit ceiling boarding was used for the construction of the individual levels. Large 3 m² units could be inserted with this bearer-free system, which represented a significant saving in time. The mating surfaces were represented using Dokaflex seamless interlocking. The Doka concept is characterised by self-climbing forming and working platform SCP for the building core as well as the Table Lifting System TLS for quick and secure vertical construction without a crane. This combination enabled a significant increase in the speed of the construction process so that a five-day cycle could be established.

All-round safety

The SCP platform significantly increases efficiency. The platforms used the pump included in the system to prevent unnecessary movements in the erection of the highrise core. The Protection screen Xclimb 60 ensures safety from falling as well as protection from weather conditions. The hydraulic climbing system provides constant guidance that allowed construction to continue even in high winds. The Safety Net Fan was used to intercept falling objects and debris safely. This flexible system can be used with all kinds of structures and shapes. ■

REHABILITATION OF THE M1 'DOUBLE DECKER'

The Johannesburg Roads Agency (JRS), in their commitment to provide quality roads that are accessible and safe, decided it was time for one of its major bridges to be rehabilitated. The M1 'double decker' is a highway bridge in the city of Johannesburg, between Newton and Fordsburg, which was posing a safety threat to motorists.

This R15-million rehabilitation project, with a bridge-span of 1,02 km, was no small task and required the expertise of many specialists. Khato Civils were appointed as the main contractor for the project and assisted by 17 small, medium and micro enterprises. A phenomenal number of 164 people were employed on this rehabilitation process. Sika was Khato Civils' brand of choice due to our reliable and long-lasting products.

The bridge consists of two reinforced concrete deck superstructures, one directly above the other, that are supported on trestle-like piers. A variety of Sika products were specified for structural repairs, structural strengthening and coatings. SikaTop Armatec-110 EpoCem was used as a rebar protective coating in the structural repairs, as it is highly effective for corrosion prevention in concrete reinforcing. Also used in the repair process were the user-friendly Sika Monotop-615 HB which is designed for thick layer concrete repairs, especially for overhead and vertical applications; as well as the SikaGrout-212. For structural strengthening of reinforced



concrete structures, and to increase sheer load capacity, SikaWrap-300 C was used.

The concrete surface area was treated with the Sikaguard-705 L silane water repellent and SikaTop Seal-107, a polymer modified cement waterproof and chloride and Carbonation resistant, liquid applied membrane coating for concrete. To ensure that all product applications were executed correctly at every stage, all those involved in the project were provided with training and on site support by the Sika team.

This included training in processes such as surface preparation, product mixing

and product application. A major challenge to all involved was that the motorway was under daily use by traffic. As disruption to traffic had to remain limited, it was anticipated that it would be difficult to complete the task within the allotted 22-month time frame. However, with the use of superior, tailor-made products and the appointment of a committed contractor, the project was completed, three months ahead of time. Former Mayor Herman Mashaba, who had stated his main concern and priority was the safety of motorists, visited the site and was pleased with the progress. Roads and bridges form a critical part of the transport infrastructure, especially in a growing city, so their maintenance and rehabilitation are important. Now complete, the mayor and all his citizens of Johannesburg can rest assured that the best products have been used for the project and that this double-decker has a firm foundation. ■

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DEMOLITION METHODS MUST ALIGN WITH INTERNATIONAL BEST PRACTICE

It is essential that demolition methods align with international best practice to achieve the highest practical levels of health and safety. International best practice for demolition is based on extensive mechanisation, coupled with an intensive SHEQ programme, to achieve the necessary level of safety, productivity, and cost-efficiency.

“Our demolition projects are highly mechanised, thereby removing the direct physical interface between personnel and demolition work actions, as well as substantially reducing the man hours required. This improves the safety profile of the project dramatically in comparison to the standard labour-intensive methods otherwise used in South Africa,” Jet Demolition Director, Joe Brinkmann elaborates.

All demolition activities are carried out by experienced employees. “As heavy industrial demolition is our core focus, we have made a significant investment in developing and retaining an exclusive skill-base through the retention of full-time, long-term employees,” Brinkmann stresses.

From mining facilities to the automotive, chemical and pharmaceutical, petrochemical, power generation, and steel and glass industries, Jet Demolition has both the expertise and equipment to undertake complex heavy industrial demolition projects with utmost safety and efficiency.

The company’s specialist services extend beyond just demolition of redundant infrastructure and closing of shafts.

“We focus on turnkey value-add solutions not readily provided by any other service provider,” Brinkmann stresses. Examples include turnkey demolition, value recovery and rehabilitation of industrial and mine infrastructure in accordance with environmental regulations. The safe decontamination and demolition of three redundant gold and uranium complexes resulted in Jet Demolition winning its third consecutive award at the annual World Demolition Awards 2019 at Boston in the USA, in the Recycling and Environmental category for a mine rehabilitation project.

In 2018, Jet Demolition won in the Industrial Demolition Category for the demolition of a coal-fired boiler and ancillary equipment at Duvha Power Station in Mpumalanga, following an over-pressurisation event that resulted in



in irreparable damage to the structure. In 2017, it was declared the winner for its innovative implosion of the 14-storey HG de Witt Building in the bustling Pretoria Central Business District. By providing turnkey solutions, Jet Demolition guarantees reduced costs, as multiple contractors are replaced by a single service provider. This ensures a fast-tracked approach to projects, as various activities can be undertaken simultaneously, as opposed to having one contractor following on from the next. “We are committed to finding the best and most viable solutions for our clients, based on streamlined design proposals that result in the most cohesive and safest approach,” Brinkmann highlights.

Recent examples include the successful implosion of the 108-m-high, 31-storey Bank of Lisbon building in the Johannesburg Central Business District (CBD) at 9:00 on Sunday, 24 November 2019. This was not only the tallest reinforced concrete-frame building ever imploded by Jet Demolition, but also one of its most complex projects ever undertaken. A geotechnical investigation was conducted for the design

and installation of lateral support to the basement retaining walls to ensure their stability during and after the implosion.

Hot on the heels of this project, Jet Demolition successfully completed a three-building implosion project in the Maradu region of Kochi in Kerala in December. This was not only its first project in India, but also marked the first time that a high-rise building in that country was demolished by means of implosion. Here the major factor from a safety point of view was the close proximity of the buildings.

“Therefore we had to ensure we had good control in order to mitigate any chance of damage,” Brinkmann highlights. Another major challenge was the fast-track nature of the project.

Most of the specialised demolition equipment owned by Jet Demolition is not available in South Africa from any other demolition company. Its primary demolition equipment is replaced on a 6 000 hour basis. This policy, with stringent maintenance and a fully-equipped plant support department, contributes strongly to safe, reliable, and efficient operation of demolition projects. ■



HEALTHCARE TEAM PRIORITISES SOUTH AFRICAN MARKET

In support of the South African government's planned rollout of the National Health Insurance (NHI) initiative, infrastructure delivery company AECOM's Middle East and Africa healthcare team is hard at work engaging new opportunities in the market. AECOM is one of the largest healthcare consultancies in the world, with design teams spread across the Americas, Europe, the Far and Middle East, and Africa.



Adriaan Vorster is AECOM Director of Architecture for Africa, and healthcare lead for AME.

In its African market, AECOM services governments at local and national level, large private healthcare providers, and the growing group of entrepreneurs funding and constructing large facilities throughout the continent. In the Middle East, governments will transition to being regulators from their current role as service providers, while private players will drive the implementation.

Middle East clients range from typically large multinationals to well-funded smaller specialist service providers. "Our key clients include US and other international signature operators. Regarding the Saudi Arabian market, the balance lies between the final iteration of provision of backbone healthcare infrastructure, and the entry of new private operators in line with Saudi Vision 2030," Adriaan Vorster comments, AECOM's Director of Architecture for Africa, and healthcare lead for Africa and the Middle East.

Africa has an immense backlog in terms of healthcare, a deficit that has accumulated since the 1960s. However, there has been a marked improvement in the proposed healthcare schemes being brought to the market by both the government and private sector. This includes South Africa's NHI, a system designed to ensure that all citizens are provided with essential and suitable healthcare.

A key driver in the last two decades has been the strong emergence of an African middle-class. This economic group has disposable income to leverage towards healthcare. When not available in-country, international treatment is sought.

In response to this, the healthcare industry is capitalising on clients' requirements, and therefore increasingly more advanced facilities are coming to the market. Specialist services such as cancer care are becoming more common. Facilities are also growing in scale, especially in terms of academic hospitals that are envisaged across the continent. "The key aim at present is

to stem the flow of patient dollars out of the continent. Healthcare investors have caught on to this outflow, and currently there are major proposed health facilities in various stages of development to capitalise on enticing the continent's well-to-do patients to spend their medical-treatment cash in Africa," Vorster reveals.

Vorster looks after all focus regions in the Middle East, with a specific focus on Saudi Arabia at present. This role is mirrored in the East African market in particular. "I am fortunate to have some very experienced colleagues with me in both the Abu Dhabi and Cape Town offices. Together, we have decades of collective experience in the Middle East and Africa," Vorster highlights.

This extensive track record has meant that Arab Health 2020 at the Dubai World Trade Centre from 27 to 30 January is a major platform for AECOM to engage with potential new clients and trusted partners. Vorster will deliver a presentation sharing his insights into the lifecycle of a healthcare project from a BIM perspective.

The theme of Arab Health 2020 is 'Transforming the medtech industry through connectivity'. Some continuing trends in this sector is a growing focus on patient experience, catering for varied target audiences, from adults to children, in addition to standardised rooms that are highly flexible.

The team pools resources and skillsets as required. This has resulted in AECOM being one of the dominant players in the global health market. AECOM's healthcare offering includes master planning, architecture, medical planning, interior design, landscaping, cost and project management, building engineering, medical equipment planning, construction services, and sustainability.

"In terms of healthcare services, our multidisciplinary offering will always be a differentiator," Vorster asserts. "My focus revolves around architecture and medical planning. However, in a wider context, we wrap structures and MEP engineering around the aforementioned key drivers.

"Throughout the project lifecycle, the client has access to top regional subject experts, as well as our global resources in terms of the backbone systems and support that a close to 90 000-person organisation can bring to bear."■



Specialist facilities and services are a growing trend in the healthcare market.

GETTING 'IN THE FRAME'

Why building and construction industry contractors, subcontractors and consulting engineers should be members of SASFA

The Southern African Light Steel Frame Association (SASFA) has become a beacon of inspiration, source of support and an empowering network for its members. Professionals in the industry – from building and construction contractors and sub-contractors to designers, power tool manufacturers, architects and engineers – find value in SASFA membership, in what is undeniably a challenging time of economic constraint and change for the construction, steel and building sectors locally.

Whether novice contractors or seasoned suppliers, SASFA is encouraging new members and companies across various sectors to join the association, to facilitate and assist the growth and development of the local and export markets for light steel frame building (LSFB).

"The active demand for LSFB in South Africa is one of the most exciting developments in recent times," explains John Barnard, Director of SASFA.

"While this method of building has been used in the United States, Europe and Australia for decades, it was only relatively recently introduced to our shores. The speed

of construction, accuracy, excellent thermal properties, logistical cost advantages and design flexibility are all factors which have made LSFB the building method of choice for a growing number of construction projects."

Barnard continues: "SASFA was established in 2006 by interested parties as an industry representative association, with all activities and actions aimed at increasing LSFB's share of building and construction sector projects.

"Today, the Association embodies the collective wisdom of its members and serves as a valuable reservoir of knowledge for professionals and practitioners in the industry. SASFA's management of codes and standards, its strategically neutral and advocacy role as an industry voice across many construction-related industries and authorities, and its training programmes are unsurpassed."

Joining SASFA – a member association of the South African Institute of Steel Construction (SAISC) – is the most affordable and practical way to tap into the growing LSFB market; and in which to stay



John Barnard, Director of SASFA.

abreast of new trends and technologies.

"The Association forms a strong vehicle for advocacy, education, and professional networking. Listing on SASFA's website boosts members' exposure online and generates referrals. Furthermore, members have the opportunity to network with clients and professionals through access to all SASFA events," Barnard advises.

The Institute's and SASFA's library and databases of companies and people associated with the industry are readily available to members, as is its up-to-date technical advice and specification changes relating to LSFB. SASFA also offers members training courses on demand, to



further develop the skills available to the LSFB industry. In addition, membership serves as a form of certification which is deemed useful by finance providers, building authorities and the National Home Builders Registration Council (NHBRC).

“Arguably, one of the most compelling reasons to join SASFA’s expanding network is to gain access to the ‘bigger picture’ now and beyond. SASFA members belong to a professional representative organisation, where membership also signifies credibility and reputability,” Barnard points out.

“To this point, all our members are instrumental in leading the way on thinking and strategy, and shaping the future of LSFB. For this reason, SASFA has a solid reputation, both locally and internationally.”

The Association has achieved many significant milestones since inception. For example, it has drafted the SASFA Building Code for LSFB in South Africa, and taken the Code through the South African Bureau of Standards (SABS) certification process, to form the national code SANS517 for Light steel frame building.

SASFA also obtained acceptance of LSFB from the South African banks for bonding of LSF houses; and acceptance from the NHBRC for enrolment. The Association has arranged awareness-raising seminars in the major centres of South Africa, involving several overseas speakers and obtained representation on the relevant SABS committees.

In addition, SASFA develops and presents popular training courses for building contractors, design consultants, building inspectors and all others who have an interest in LSFB; and has drafted an accreditation scheme for LSF systems, manufacturers and builders. Three of the systems in use in South Africa have been accredited. The Association has also established a category for LSFB in the SAISC’s annual Steel Awards.

The following categories of membership are available to members of industry wishing to join SASFA:

- Major material suppliers to the light steel frame building industry
- Other material suppliers to the light steel frame building industry
- Manufacturers of light steel frame building systems, and light steel trusses



- Designers (architects, engineers, quantity surveyors)
- Merchants and service centres
- Erectors and builders
- Student Associate members (building authorities, educational institutions, other associations)

“SASFA is a very dynamic and active force within the local LSFB market, working with a large and diverse set of partners

across a wide range of industry sectors, to create access, drive innovation and stimulate demand – all the while providing a collective voice for our members. SASFA is the ‘glue’ that keeps the industry together, and facilitates alignment. Simply put, if you are in the building and construction sector – or in any way related – membership of SASFA is paramount for continued success,” concludes Barnard. ■

ABOUT THE SOUTH AFRICAN INSTITUTE OF STEEL CONSTRUCTION

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

The SAISC has a number of member divisions, namely the Southern African Light Steel Frame Building Association (SASFA), the Powerline Association of South Africa (POLASA), The Steel Tube Export Association of South Africa (STEASA) the Association of Steel Tube and Pipe Manufacturers (ASTPM), and the Southern African Metal Cladding and Roofing Association (SAMCRA).

SAISC members include the steel mills, merchants and service centres, steelwork contractors, companies that provide services, such as fabrication, galvanising or painting; or products such as fasteners, paint and a variety of other products, client bodies, consulting engineers, project managers, quantity surveyors, engineering procurement and contract management contractors and assorted others. All members have signed the Institute’s code of ethics, which constrains them to ethical business practices. The SAISC also runs the annual Steel Awards for excellence in the use of steel, and publishes the *Steel Construction Journal* and the Steelspeak newsletter; as well as being very active on all social media platforms and running various industry training and other events throughout the year, which are of relevance and interest to its members.



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MEETING VALUES

Following a downsizing process to become even more efficient, Gay Transport was in a position earlier this year to acquire new trucks. The family business is currently managed by Jacques Botha, who took over the reigns from his father, Ben.

An important criterion

Since Gay Transport was established in 1965, the Botha family has been totally focused on developing a company with exceptional ethics. With more than 50 years of experience in the transport industry, the company is well recognised not only across South Africa, but also in neighbouring Botswana, eSwatini and Lesotho.

It was important to Jacques that the new vehicles he acquired matched the company's efficient, productive business philosophy, which explains why Gay Transport took delivery of its first two Daewoo Maximus trucks in March 2019.

Both trucks were subsequently put through a testing phase and, having passed the company's evaluation period with aplomb, two more Daewoo Maximus 6x4 truck tractors were added to the company's mixed fleet in June 2019.

Reflecting on the decision to buy the four Daewoo trucks, Jacques explains that his quest for efficiency and cost containment led him to Daewoo Trucks, whose vehicles are specced with Cummins engines and either Eaton or ZF gearboxes – brands that his company has solid working experience with and sound knowledge of.

He chose Eaton, which he says enables excellent fuel consumption and, combined with the Cummins engine, the highest possible average speeds. These are operating requirements that tie in perfectly with the prioritised uptime philosophy of Daewoo Trucks, which is backed up by an excellent warranty, service plan and customer service.

The Daewoo trucks are used to deliver various loads to Cape Town, Durban and Tzaneen, as well as cross-border into eSwatini and Lesotho. With service intervals of 30 000 km, the first two Daewoo trucks in his fleet have already completed their first minor services.

"The fuel consumption on these trucks is great, we run at about 2,25 l/km at this stage pulling tautliner trailers across the country," he says. "The next best thing is the 24-volt electrical system, which is a significant upgrade over the 12-volt systems used with this engine by other truck brands. I can't see there being any problems with this anymore."

The 15-litre Cummins engine used in the Maximus is both powerful and reliable. "Long hills are ascended comfortably, meaning our average speeds are superior. My drivers complain because the trucks, as per government regulation,

are governed to 80 km/h," he jokes. Jacques adds that by using a European style cab, the Daewoo driving experience is also a noteworthy characteristic.

Assistance

Daewoo Assist, a 24/7 call centre is in place to assist with any issues that might arise on the road and parts are always available from the dedicated Daewoo parts facility. In fact, there are 91 touch points dedicated to serving the brand throughout the country.

A factor that really impressed him was the way Daewoo Trucks asked that his technicians attend a two-day familiarisation course before the new trucks arrived. "When we got the vehicles, the technicians knew exactly where to tilt the cab and so on. That was something significant for me because normally you take delivery of a truck and then the training takes place afterwards.

"The maintenance contracts are also highly impressive, right up to 600 000 km. This is fantastic for our operating costs and is superior to the industry norm of 500 000 km. Everything is included, there are no hidden costs. These days in transport if you can have set costings, you can manage a good business," he argues.

Introduction to Daewoo

Jacques says that he first saw the Daewoo Maximus vehicles three years ago at a local truck show. Willie Froneman (product sales manager at Daewoo Trucks South Africa) later phoned him and explained the driveline and pricing to him.

Being part of the Tata Group is another positive in Jacques view. "Tata has been handling everything in South Africa for a number of years. We talk to many people in the transport industry who are using Tata tippers. For us, the main thing is backup. If you consider the association Daewoo Trucks has with Tata and the excellent engine and gearbox in the Maximus, you realise Daewoo Trucks have ticked all the boxes with this truck tractor.

Turning his attention back to Daewoo Trucks in South Africa he concludes: "We are definitely going to buy more Daewoo Maximus trucks. We will also replace a few of them in 2020, depending on the number of kilometres they've been driven. I think Daewoo Trucks has a bright future in this country. They have a good truck on the road. So far, so good. I'm very happy." ■

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NEW LOADERS AT SAMOTER 2020

At Samoter 2020, Bobcat will present the latest additions to the company's world-leading full-liner range of compact equipment including wheeled and track loaders, mini-excavators, telehandlers and attachments, under the themes of Technology, Innovation and Efficiency. The stand will show solutions in every customer sector from construction, roadwork, rental and demolition to waste and recycling, material handling and landscaping.



First showing of New Stage V Compact loaders

Enhancing Bobcat's leadership of the compact loader market in Europe, the company will be launching its new Stage V compact track loaders at Samoter, alongside the recently launched Stage V M-Series S450, S510 and S530 skid-steer loaders. Bobcat will also preview the company's larger R-Series loaders being launched later in 2020,

representing a new approach to designing skid-steer and compact track loaders from Bobcat.

First appearance of new 'Waste Expert' telescopic loaders

Also being shown for the first time at Samoter is the new TL43.80HF 'Waste Expert' telescopic loader. Together with the TL35.70, TL34.65HF and TL38.70HF models, the TL43.80HF is one of four of Bobcat's current productivity and high-flow telescopic loaders that are now being offered as Waste Expert machines. Powered by Bobcat Stage IV 100 or 130 HP engines, these new Waste Expert models offer lifting capacities from 3,4 to 4,3 tonne and lifting heights from 6,5 to 8 m.

E10e Electric Mini-Excavator's first appearance at Samoter

Another product being shown for the first time at Samoter is the

new E10e Electric Mini-Excavator, the industry's first battery-powered, zero tail swing mini-excavator in the one tonne class. The E10e answers a customer need for a zero emission and low noise tool for indoor work. The design of the battery-powered E10e is based on Bobcat's conventional E10z mini-excavator, the market leader in the 1 tonne class. The E10e forms part of a comprehensive display of mini-excavators that includes the E17z, E27z, E35z, E45 and E57W models from Bobcat. ■

INDUSTRY-LEADING INNOVATIONS FROM BOBCAT

A-SAC: Advanced Selectable Auxiliary Control System

The new R-Series 2-4 tonne mini-excavators from Bobcat make their first appearance at this Samoter.

Remote Control System for Bobcat Compact Loaders

Bobcat will also show the company's new advanced Remote Control System for Bobcat compact loaders for the first time at Samoter, the first original 'Plug&Play' product of its type as an alternative to add-on developments from third parties.

Bobcat S70 Quad-Track loader Concept

The Bobcat S70 quad-tracked loader concept machine will be shown for the first time at Samoter, featuring quad-tracks that are bolted on to the frame of Bobcat skid-steer loaders.

Bobcat MaxControl Concept

Another exciting Bobcat concept development at Samoter will be the Bobcat MaxControl system, which provides a new iOS(Apple) based plug and play remote control solution that uses a smartphone to control Bobcat loaders. ■

Key component of fleet

It's been 34 years since Pera Plant & Civils was launched – as the dream of owner, Ross Pera. The Brits-based plant hire and construction company, which started business with a second-hand bakkie and bulldozer, now has a wide range of machines kept in pristine condition, to ensure dependable operation in all conditions.

"From the outset, the foundation of our family business was a commitment to honesty and safety and today, these goals remain at the forefront of our success," explains Ross Pera. "Every member of our team handles each task as if the project were for themselves, with consideration for cost-savings, high productivity and safety on site.

"Our plans for future growth encompass continued services in plant hire, civil engineering and construction, as well expansion into the transport sector, where we see potential for development. "Market conditions in our industry remain challenging and for companies to succeed, we all need to be mindful of cost-efficiency in every aspect of business. We are particularly cautious in capital equipment selection, taking note of the durability of machines, fuel-efficiency, availability of spare-parts and dependability of service support from suppliers. "A key brand of construction equipment

in our fleet – Hyundai excavators and wheel loaders – has been supplied and efficiently supported by HPE Africa for many years. These robust machines consistently deliver on fast, reliable operation, with high fuel-efficiency and minimal downtime and can also safely handle challenging tasks in difficult terrain.

Added to the high-performance of Hyundai machines, is professional, reliable support from the HPE Africa team." HPE Africa's critical support service encompasses an OEM parts, repair and maintenance facility throughout Southern Africa. The field services team, which offers assistance with on-site repairs and maintenance, is supported by well-equipped workshops in Gauteng, Durban, Cape Town and East London and carefully selected dealers across Southern Africa. Repairs and services include minor and major component replacement, as well as re-building and refurbishment of units.

The company has also established specialist divisions for engineering services encompassing boiler making, bucket repair and bucket fabrication. ■



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THE MOST POWERFUL GROUND CREW IN ASIA

The first plane to land at the new Yogyakarta International Airport (YIA) on the Indonesian island of Java was an A320 from Jakarta. Eleven slipform pavers from Wirtgen played a key role in the airport's construction. Once the YIA project has been completed, up to 20-million passengers will be able take off and land there each year. With a current terminal area of 130 000 m², the new airport is set to replace Adisutjipto Airport, which is struggling with capacity issues.

The tight schedule was a particular challenge of the large-scale project in Yogyakarta. Reliable solutions from one source were required if the concrete slabs were to be completed on time.

This is precisely what the Wirtgen Group sales and service company in Singapore promptly delivered, working in collaboration with the Indonesian Wirtgen Group dealer PT Gaya Makmur Tractors. This included the large fleet of machines required, but also technical support and on-site application consulting.

Exceptional quality makes the concrete surfaces stand out

A team of four SP 64 machines, six SP 500 machines, and one SP 84i machine formed the final line-up for the high-precision, cost-effective paving of the 3,250 m-long, 45 m-wide runway, its taxiways, and the

apron. The 50 cm-thick concrete layer was paved across a width of 2 m, 5 m, or 6 m, depending on the area involved. During the process, dowels, which were prepositioned on reinforcement cages spaced at transverse intervals of 30 cm, and a wire grid were integrated in the concrete as additional reinforcements.

"The quality of the concrete surfaces is excellent," says Andek Prabowo, CEO of PT PP Presisi Tbk Group of PT PP (Persero) Tbk. The machines also excelled across the board in terms of their performance. "The airport is set to grow by another 65 000 m² during the second phase of construction.

The landing runway will also be extended by another 350 m," Prabowo explains. When the time comes, the fleet of Wirtgen

slipform pavers will be ready for action.

Wirtgen – the airport construction specialist

Wirtgen is the ideal technology and quality partner for airport construction, whatever the specifications or location involved. A seamless product range, the expertise of experienced applications experts, and reliable service throughout the world are key in this respect.

Boasting a wide variety of applications, slipform pavers can tackle highly diverse requirements on the job site – anywhere in the world. For instance, they can easily produce concrete surfaces with a high degree of precision without using the fixed steel molds so often utilised at airports. ■



New appointments

Humulani Marketing, trading as CSE Equipment – part of the Capital Equipment Group (CEG) of Invicta Holdings Limited – has made the following appointment announcements:

- **Graham Forte** is Divisional Managing Director of CSE Equipment
- **Andrew Lotter** is Kwazulu-Natal Branch Manager for CSE Equipment.

Diversification is the KEY TO SUCCESS

Pilot Crushtec and Metso introduce new innovations and products with the Nordtrack range of mobile screens, tracked stackers and mobile jaw crushers.



Francois Marais, Sales and Marketing Director at Pilot Crushtec.

During the first quarter of 2020, Pilot Crushtec alongside their partner Metso, added an exciting new product line-up to their already comprehensive range of mobile crushing and screening solutions. The Metso Nordtrack range will slot nicely into the Pilot Crushtec stable, directly below the well-known Metso Lokotrack range, offering customers even more operational flexibility in an ever evolving and competitive industry.

Initially, the lineup of mobile solutions from Metso was sold and branded as the premium Lokotrack range, which included all the tried and tested crushers and screens, customers have come to trust.

"Introducing Nordtrack as an additional range of mobile equipment, complements the existing machines that have served the industry so well," says Francois Marais, Sales and Marketing Director at Pilot Crushtec. "After Metso's acquisition of McKloskey, the machines in the Nordtrack range were all given the Metso quality overhaul with some small refinements included, and new features added. The great selling point on these machines is that they will complement the Lokotrack range by offering alternative options for mobile screens, jaw crushers and a new range of tracked stackers. The entire Nordtrack range will be positioned parallel to the Lokotrack range which will allow us to compete in applications where we were traditionally not active. For example, we will be introducing a new compact jaw, the Nordtrack J-90, which has no equivalent model within the Lokotrack range offering."

Pilot Crushtec is supremely confident in the new Nordtrack series and have committed to launching nine new products to the South African market over the next year. "We have total faith in every machine Metso produces and, we feel that this is going to create quite a stir among our competitors. Essentially, we will focus on the aggregates, commodities and recycling sectors and we feel that it will fit perfectly into certain pricing and application gaps," continues Marais.

An additional benefit to the launch of the Nordtrack offering is

the fact that Pilot Crushtec will now be able to offer a far broader portfolio of solutions to the market, which will diversify their customer base significantly. "By creating an end-to-end, one stop solution for our clients, we hope to facilitate more efficient and effective operations. The majority of our products work seamlessly with each other and ensure hassle-free operations. With this in mind, it must be noted that the existing Lokotracks, which people know and trust, are still available. The biggest opportunity we foresee will be in the mobile screen area, where Nordtrack has a whole variety of sizes that will almost certainly cater to a broader range of applications."

According to Marais, one of the best selling points on the new machines must be the attached Metso brand. "With the Metso expertise and reputation, coupled with back-up and service from Pilot Crushtec, customers can have total piece of mind. I expect interest in the range to increase dramatically and, let's face it, customers deserve to have exceptional expertise and operational support and service when making big investments like this. Historically, the standard of service within this product category has been challenging and we intend to challenge the norms and set a new standard going forward."

The Metso Nordtrack mobile product portfolio is designed to make crushing and screening businesses more productive. By offering standard designs for off-the-shelf availability, plug-and-play features and the extensive Pilot Crushtec and Metso support network, the Metso Nordtrack solutions are ideal for a variety of applications, such as aggregates production, commodities liberation, recycling, demolition, and the processing of sand and gravel. ■

THE NEW METSO NORDTRACK RANGE INCLUDES:

- Nordtrack S2.11 mobile scalper
- Nordtrack S3.9 mobile screen
- Nordtrack S4.9 mobile screen
- Nordtrack S4.12 mobile screen
- Nordtrack J90 mobile jaw crushing unit
- Nordtrack J127 mobile jaw crushing unit
- Nordtrack CT24 tracked stacker
- Nordtrack CT100 tracked stacker
- Nordtrack CT100R tracked stacker



Nordtrack J90 mobile jaw crushing unit.



Two honours **AT CES 2020 AWARDS**

New drone systems from Doosan Mobility Innovation (DMI) have won honours in two of the categories in the CES 2020 Innovation Awards announced during the CES 2020 Exhibition, the world's largest electronics trade show, held in Las Vegas in Nevada, USA from 7-10 January 2020.

Doosan's hydrogen fuel cell drones are composed of a powerpack, a miniaturised, lightweight fuel cell system that maximises mobility by utilizing PEMFC (Proton-exchange membrane fuel cells) technology, and drone frames that use the powerpack as their main power source. The specific model name of the powerpack shown at CES is DP30 and the drone frame is DS30.

Doosan's Long Endurance Fuel Cell Drone (DS30 with DP30) won a Best of Innovation Award in the Drones & Unmanned Systems Category. The DP30 Mobile Fuel Cell Powerpack also won an Honoree Award in the Sustainability, Eco-Design & Smart Energy Category. The company's hydrogen fuel cell drone significantly expands the use of drones by extending the flight time beyond that of battery-type

drones, which can fly for only 20 to 30 minutes.

At the Samoter international fair in Italy in March 2020, as part of a display of the company's Smart Solutions portfolio under the theme of 'Powered by Innovation', Doosan Infracore Europe will be exhibiting the new fuel cell drones from DMI for monitoring machine performance and wider operation efficiency on construction, mine and quarry sites.

With the capability of flying up to two hours on one charge, these long-endurance fuel-cell powered drones can cover even large sites in a single flight, versus using multiple batteries and flight locations. Using the drones can also improve the safety of workers and prevent accidents by using aerial scanning rather than manual materials climbing.

Doosan will also be using Samoter to promote the company's Concept-X vision, its wide-ranging concept covering everything from automated job-site management using drone and ICT techs to fully automated machine control. ■

COULD 2020 SEE RECOVERY OF TOWER CRANE SALES?

The depressed state of construction in South Africa means that tower cranes are usually rented rather than purchased, but there is a chance that this trend may start changing this year.

This is according to Crane & Hoist Equipment SA managing director Brenden Crous. The company is the local distributor for global tower crane leader Potain.

"Rental makes up most of our business at the moment, but customers will start buying again when the sector starts recovering – hopefully later this year," says Crous.

He notes that there are already about 200 Potain cranes active in South Africa, making it an established brand with a loyal following. Producing cranes since 1928, Potain has sold over 120 000 cranes into the global market.

Formed in 2017, Crane & Hoist Equipment SA has already had a busy few years. Its rental fleet serves projects with up to 8 tonne



lifting requirements and 50 to 60 metre reach. Its appointment last year as Potain distributor is testament to its experience and skills, says Crous.

"Our management team has a combined four decades of hands-on familiarity with Potain cranes," he says. "Likewise, our staff have been selected for their equivalent levels of experience with tower cranes."

Distributor expertise is vital to customers, says David Semple, senior vice-president at Manitowoc, the owner of Potain. The company awards distribution rights only where the depth of product knowledge and proficiency has been demonstrated, says Semple.

The region covered by the agreement is South Africa, Namibia, Botswana, Mozambique, Lesotho and Swaziland. However, experts from Crane & Hoist Equipment SA have already contributed in African countries including Ghana, Sudan, Burkina Faso and Guinea. ■

REITERATING ITS COMMITMENT TO AFRICA

During its Africa Forum, a gathering of key executives from Saint-Gobain locations across Africa, Jean- Claude Lasserre, CEO of Saint-Gobain Africa, talks about mitigating risk by investing in and supporting its operations on the continent and its long-term commitment to growth.

At Saint-Gobain's fourth Africa Forum, held at its Midrand headquarters, CEO Jean-Claude Lasserre notes that investment into Africa is high on Saint-Gobain's agenda and that the company remains committed to expansion and growth.

"Our presence on the continent is linked to the urbanisation and population migration trend which shows no sign of slowing down. We see almost 150 million people relocating to cities across the continent every five years. With the median age being low and population growth set to continue its upward progression, the growth potential is significant."

The outlook, no matter how positive, comes with challenges. Plugging into local requirements and tailoring offerings to the diverse needs of different markets is key.

"We have modified our operational approach and product offering to cater to specific regions and markets. While consumer needs and wants are often universal, market maturity is an issue with infrastructure and industrialisation still in early stages. Factors such as supply chains, support from retailers, contractors and general compliance standards may not always be available or uniform which complicates doing business. Additionally, Africa's enormous diverse cultural, ethnic, religious, and aesthetic differences have been the Achilles heel of many multinationals trying to do business on the continent, and we have learnt to avoid most of the pitfalls."

Despite the challenges, Lasserre is confident that the opportunities outweigh potential drawbacks as evidenced by the acceleration of Saint-Gobain's footprint in Africa. In 2019 the Group opened three new plants, one each in Angola, Ghana and Zimbabwe. It is planning another five in 2020.

"It goes without saying that the bigger the challenge, the bigger the reward, and the main factor in determining whether the risk will be worth it, is timing. We consider key factors within a region and make our decision based on that assessment. Policy changes, economic reform, and currency movements are some of the key factors we assess when identifying new markets. From an investment perspective we believe that long-term vision, rather than

instant fulfilment, is critical. Looking specifically at South Africa, we have continually partnered with the Department of Trade and Industry (DTI) to ensure we are helping support and grow local industry. Our vision is to establish an enduring, viable presence in all our key markets."

In line with this local support philosophy, Saint-Gobain has embarked on several initiatives to create expertise and sustainability in the markets in which it operates. According to Lasserre, this holistic philosophy takes both internal and external environments into consideration.

"Innovation is driven by trust and collaboration and we champion these traits. We encourage our people to put trust in their colleagues, and empower management to employ and grow the very best talent available. We want new ideas; we want people to have the freedom to exceed their potential. Externally, co-operation is vital. We partner with various organisations to co-develop projects on research that often result in new materials and methodologies.

"When it comes to customers, we pilot test initiatives with distributors and retailers and provide them with new products for testing in real life situations relevant to the environment of the country. We then refine and perfect the offering and release it to consumers." The company is also committed to skills development and training in South Africa.

"The Saint-Gobain YouthBuild Academy produces skilled, professional artisans who are specialists in our building solutions. We provide support for start-ups, assist them in finding projects, and continue with training during the first two years of their venture. This is how we create sustainability within our community and ensure a vibrant, profitable industry going forward."

Looking back at 2019, Saint-Gobain has seen positive results. "In a fairly lacklustre sector we have seen growth in areas that had been static. This year will see a continued focus on expansion, investment and market growth. We plan on getting stronger and better, and ensuring our presence on the continent goes from strength to strength." ■

The driving force BEHIND ALWAYS VISIBLE

Ctrack, a Software as a Service (SaaS) solution offered by Inseego Group, is a global supplier of vehicle tracking, insurance telematics, and fleet management solutions. It provides tailor-made solutions for customers, and caters for business and industrial requirements.

Its technology and electronic research division designs and develops a wide range of asset management and monitoring systems using GPS satellite positioning, GSM cellular communication, other advanced communication, and sensory technologies.

The operations under the Ctrack brand, span over 55 countries on six continents with 500 employees and over 1-Million Ctrack systems sold. To further expand on the offering, Ctrack has strengthened its position as a provider of advanced machine-to-machine (M2M) communications and telematics solutions, for specific industry solutions.

Ctrack's continued emphasis on researching and developing next-generation products ensures that we remain ahead of the market, meeting demands for value-added, flexible, feature-rich, and cost-effective technology that keeps everything, Always Visible.

Ctrack also provides integrated solutions with third parties and products that are not normally seen as true tracking products.

This one-stop shop for fleet managers also provides a state-of-the-art camera solution, Ctrack Iris, where transport and asset managers can view live camera footage of dash-cams, as well as up to six cameras fitted to trucks, trailers and inside cargo bodies. In-cab devices that assist drivers with multi-tasking and route management is also a result of years of development of software reports that are easily accessible via mobile devices and cloud-based platforms.

Ctrack's five key areas of fleet and asset management

Owning and operating vehicles efficiently – in any business – requires that the owner of the fleet has as much information about their performance as possible.

Risks: Dangerous driving is a major threat to your business, as is unauthorised vehicle use and rough and dangerous driving.

Cost control: Driver behaviour out on the road has a big impact on your bottom line. Cost control provides insights into speeding, accidents, harsh braking and cornering, excessive idling, tacho analysis and fuel monitoring so you can keep a lid on these costs.

Fleet utilisation: This reduces fuel and

maintenance costs. Business owners need to know how their vehicles are being used, not just how they are being driven.

Operations control: Real-time fleet management helps reduce fuel consumption. Keeping control of your vehicles becomes increasingly difficult as the fleet grows in size and your routes and schedules change.

Asset control: As vehicles age, it becomes difficult to have a holistic view of their individual condition. With Ctrack it is possible to receive daily health checks and odometer/hour metre readings. From here it becomes much easier to schedule vehicle maintenance, keep up with vehicle license renewals and perform accident analysis.

A principal aim of Ctrack is, from the moment the ignition is switched on, to provide as much information as possible on all operational parameters, with the aim of helping to improve efficiencies and reduce fleet operational costs. Ctrack can even assist in reducing the overall size of the fleet. ■



MODERNISED PRODUCTION PROCESS

Building industry veteran, a.b.e. Construction Chemicals has introduced a modernisation policy of 'best practice' to maintain its leading position in the South African market, says Rob Winter, general manager of the Chryso Southern Africa subsidiary.

The first stage of the modernisation of production by a.b.e. in 2019 called for an investment of about R3,5-million and another R4-million will be invested for the second stage – involving increased automation, in particular – in 2020. a.b.e. Construction Chemicals was founded in 1932 but started operations in 1939 in Durban as a supplier of bitumen to municipalities in KwaZulu-Natal.

The company has over the years grown in both size and diversity to become a major supplier of specialised construction products to the building, civil engineering and building maintenance industries, supplying products directly to customers through its branch network as well as through

builders' merchants and hardware stores.

Winter says a.b.e. – after more than eight decades of traditional production methods – needed an injection of best practice: "In our case that meant workflow maximisation, increased automation, and slashing of production costs. 'Best practice' is a technique generally accepted as preferable to alternatives because it produces results superior to other means – and this is precisely what we have implemented for the restructuring and streamlining of the a.b.e. production processes at both the company's Isipingo and Boksburg factories," he states.

At the Isipingo plant, best practice was introduced in September 2019 with the implementation of measures such as revising the plant layout, minimising manual labour, introducing computerised logic control systems, and installing modern equipment to handle operations such as product conveying, in-line weighing, box taping, and shrink wrapping.

"It was also decided to move production of the popular a.b.e. Hydroproof waterproofing range to Boksburg where a new continuous flow production process is now in place for increased productivity. The relocation of Hydroproof production to Boksburg was influenced by the fact that Hydroproof's main markets are far removed from KZN and mainly centred in Gauteng and the Western Cape. It also meant that spare labour capacity at Boksburg could be utilised," Winter stated.

"The introduction of production methods and equipment to achieve best practice has been a challenging process for a.b.e. which started manufacturing back in 1938, using equipment and systems unheard of in those pre-war days.

Introducing best practice has not only called for staff training but also for staff buy-in, which is always a formidable quest. But change is vital to safeguard the future of all at a.b.e," he added. ■



URBAN QUARRY AND PLANT DEFINE GOOD NEIGHBOURLINESS

Increasingly hemmed in by urban development, AfriSam's Jukskei quarry and readymix plant have been applying ever more stringent controls and standards to remain a friendly neighbour.

When the Jukskei quarry began operation some seven decades ago, its location was decidedly rural. However, the surrounding area of Midrand developed rapidly, and in the last 10 to 20 years in particular, various neighbours have closed in around the Jukskei aggregate and readymix operation.

"Today, we are surrounded by residential, commercial and industrial developments," Zielas du Preez, regional manager for AfriSam's Gauteng Aggregates Operations, says. "This process, alongside the changes in environmental regulations, means that we are constantly improving the way we work."

Noise, dust, blasting and water quality are among the most important areas of focus. To minimise the impact on surrounding areas, noise monitoring is regularly conducted. Measuring points

around the operation feedback information on how noise is being dissipated. The data populates an annual survey against which performance can be checked.

With the crushing of blasted granite into various aggregate products, and the constant movement of trucks and other equipment, dust is inevitable. A number of strategies to control dust are applied, Du Preez says.

These range from sprays inside the high speed crushers, activated on start-up, to water spray systems along the roadways to suppress air-borne dust.

This success is measured with the monthly analysis of Dust Fallout Buckets, strategically placed in numerous positions around the operation. The collection and analysis of these buckets are performed by an independent consulting group.

Monitoring of water quality is also critical, both upstream and downstream of the pit. This is done at seven sample points, ensuring that any seepage from the quarry

is not negatively affecting water quality. Controlling blasts in the quarry leverages the latest technologies to keep noise, vibration and other impacts low. He notes that electronic blasting has revolutionised the quest for more effective and better controlled blasts.

"Using electronic blasting technology and blast planning software, we can simulate each blast within optimal parameters," he says. "We keep air blast, vibration and fly rock to a minimum, while still achieving our required fragmentation for the crushers."

There is even a public engagement element to the blasting programme, where neighbouring properties are kept informed through a roll-call list. In pursuit of safety, AfriSam also engaged with the Helipad next door to declare the quarry area a no-fly zone during blasting.

Du Preez highlights that extra security measures have been applied in the quarry, including lighting and surveillance as human settlements encroach ever closer. ■

Versatile precast CONCRETE EQUIPMENT SHELTERS

Railway signalling units, batteries and equipment for cell phone towers, security surveillance electronics, photovoltaic and wind farms and other high-value support and back-up equipment are often the target of theft or damage due to their accessibility. The risk of theft is easily reduced by the installation of Equipment Shelters from Rocla, South Africa's leading precast concrete designer and manufacturer.

Rocla, has in the past, partnered with entities such as Transnet and South African Railways (SAR) to provide custom-designed precast concrete security units to house all the equipment that is required to control the signalling units. These units are placed alongside the railway track next to the signal units.

The precast concrete Equipment Shelter is a durable concrete structure that can

be custom-designed to meet the client's requirements. The concrete structure is able to withstand rigorous attempted break-ins that typical brick and mortar solutions are vulnerable to.

The design team at Rocla ensured that the unit design was practical for handling and transportation, yet strong enough to deter possible break-in attempts.

Replacement costs of sensitive equipment is incredibly high, and the Equipment Shelter is a seriously solid solution to reduce tampering, theft and damage.

Cast in one complete structure, with a cast-in base, and thick high strength walls, makes the Equipment Shelter virtually impenetrable. Damage to or entry through walls or the roof is also reduced due to the use of a very high steel content in the manufacture of the units. Each unit has



two holes on either side for handling and installation, a specialised heavy duty door and sufficient space inside for equipment and movement. These holes will also provide sufficient ventilation, while still maintaining the security of the unit, for equipment housed inside.

The Equipment Shelter is a cost-effective and reliable solution that can be applied across a multitude of industries, and manufactured to specifically meet customer's requirements. ■

Face brick for **IMPACTFUL EFFECT**

Designed to fit into the wider urban design framework of Sol Plaatje University in the Northern Cape, the newly-created School of Education's Teaching Practice Building still manages to attract individual attention through its bold form that diminishes any fussy detail.



Corobrik's Bergendal Satin face bricks were used in the contextually-sensitive Sol Plaatje University School of Education, Teaching Practice building in Kimberley, Northern Cape. The building was designed by SAIA-regional award-winners, URBA Architects & Urban Designers.

The building's architects, URBA Architects & Urban Designers, used Corobrik's Bergendal Satin range for the solid brick design, earning themselves the SAIA (South African Institute of Architects) Regional Award for Architecture 2019.

"Corobrik is so proud to, once again, be a part of an award-winning architectural design that will serve the community for future generations," explained Musa Shangase, Commercial Director at Corobrik. "We also have a long-standing relationship with government who prioritise quality products for the creation of structures such as these, enhancing the experience of users through superior aesthetics and comfort."

Shangase said that Corobrik's clay face brick range is ideal for the harsh climatic conditions of the Northern Cape, retaining the original colour and finish despite the elements: "The natural properties of the brick also allow for organic temperature regulation for maximum interior comfort, and noise attenuation for an environment conducive to studying. Plus, the finished product is truly captivating – as can be seen in this Teaching Practice building."

The URBA Architects & Urban Designers team included Henri Comrie and Etienne Britz assisted by Xandrin Dirks and Lara Fisher. Other organisations involved in the construction of the building were AECOM, Aurecon, Royal Haskoning DHV, Civilsense Consulting, InSite Landscape Architects, LimCo QS and Qualicon Construction.

In describing the four-storey building's design, the architects'

statement for the SAIA awards reads: "The building relies on solid (face) brick mass to mitigate the severe climatic conditions. In this specific building, which is orientated north-south, heat conditions are compounded by extensive east- and west facing facades that justify the thickening of walls."

The honest design expression and uncluttered face brick envelope create a bold form with unfussy detailing and low-maintenance requirements, one of the attributes of Corobrik's face bricks. The architects also made full use of the Northern Cape's crisp light to enhance the face brick aesthetic, stating: "Light penetrates deeper and the etching of solid against void becomes more pronounced. Around sunrise and sunset, the moody Bergendal Satin face brick glows magnificently and with an effect that far exceeded our expectations."

Although crafted in a solid mass, the spaces are moulded to provide natural airflow and light to enter the building, with the circulation spaces a

continuation of the external circulation. There was also a clever use of space, with carved seating alcoves and balconies to reduce mono-functional lost space and create an inclusive environment.

Internally Corobrik's stock bricks were mostly flush-jointed and painted white to either provide accents or to allow deflected natural light to penetrate deeper into the spaces. Yellow and light blue tones were used as further colour accents throughout.

Commenting on the decision to use Corobrik's Bergendal Satin, Etienne Britz of URBA Architects & Urban Designers said the building fitted into the campus-wide urban design framework, developed and rigorously maintained by Ludwig Hansen.

"The face brick forms part of this framework with the exception of the all-concrete Library and Student Resources Centre by Designworkshop which is a focal point on the main square. The design of the steel shading screens on the western side of the Teaching Practice Building is not standard, however, we designed these shading screens in a language that suits the robust aesthetic of this specific building."

The award was announced at the Corobrik-sponsored SAIA Regional Awards' Ceremony held at Kopano Nokeng Conference Centre on 18 October 2019. The award winners will now be submitted for national adjudication to become eligible for a SAIA/Corobrik Award of Merit 2020 and a SAIA/Corobrik Award for Excellence 2020. ■

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