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In October 2015, Babcock was appointed as the official distributor in South Africa of Terex Trucks' off-highway rigid and articulated trucks that are used in mining, quarry and construction applications.

From the highlands of Scotland where Terex Trucks is headquartered to the coal fields of Middelburg and home to Babcock's flagship state-of-the-art branch, the two companies have been working hard over the last year to forge a pioneering spirit and a combined reinvigorated attitude towards performance, quality, customer care and after-sales service.

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EDITOR'S COMMENT



This year's Best Projects Awards received 58 entries. Here Trueman Goba, one of the three judges, assesses one of these entries. Judging took place on 5 October.



The Best Projects 2016 entries reveal that it is no longer a case of 'business as usual' in the construction industry. There are seven categories in these awards: civil engineering, building contractors, civil and building contractors outside South Africa, specialist contractors or suppliers, professional services, PPPs and our AfriSam sponsored category for excellence in sustainable construction.

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In the past, the civil and building categories attracted many entries while the specialist contractors or suppliers category attracted a healthy number of entries – ranging from admixture suppliers to suppliers of specialist products. It was never a major category.

This year, however, this category attracted a large number of entries – 24 (of the 58 entries in this competition) that ranged from innovative scaffolding design, geotechnical contractors, impressive roofing, restoration of historical buildings to precast products. One of the judges, Nico Maas – who is a former MBA president and currently on the cidb board – explained this phenomenon. He says that major construction companies are now outsourcing contracting skills and have become more like project managers than contractors.

This year's competition also revealed another aspect: the days of multi-billion rand projects that seemed to win every award are, for now at least, something of the past. The merit list of this year's competition – which will be revealed at an awards function in Johannesburg on 9 November – is not only the longest in the eight years I have managed Best Projects, but it shows the entire range of projects: from small projects that required artisan-like skills to impressive larger projects that took years to complete and required a multitude of skills.

Our December issue is dedicated to the entrants and winners of these awards and will illustrate just how innovative, diverse and vibrant the construction industry in South Africa is.

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WHERE TO INVEST IN AFRICA

report launched

Africa's feverish growth has decelerated in recent years and many countries have buckled under the pressure of falling resource prices, security disruptions, fiscal imprudence and adverse weather conditions. However, most investors still believe Africa offers a treasure trove of opportunities, particularly in those countries which commit to structural reforms.



"Governments are gradually coming to the realisation that diversification is necessary to foster meaningful growth, but transformation cannot be achieved in isolation,"

says Nema Ramkhelawan-Bhana, Rand Merchant Bank (RMB) Africa analyst and co-author of RMB's sixth edition of its annual *Where to Invest in Africa - A Guide to Corporate Investment* report. "Structural reforms and greater private sector participation are crucial to unlocking Africa's potential. Our analysis of sectoral developments - specifically in the spheres of finance, infrastructure, resources and retail - strongly support this point of view."

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The analysis of Africa's development in RMB's latest report plots the evolution of African economies using the RMB Investment Attractiveness Index and focuses on the theme 'Back to the Future'. Some surprising investment opportunities in Africa emerge, while former investment favourites lose their allure.

"Rather than evaluating the continent at a point in time, we sought to highlight its evolution over the last decade," says RMB Africa analyst and co-author of the report Celeste Fauconnier. "We compare current realities to past occurrences to better understand aspects that will shape future events."

RMB's top 10 investment destinations are remarkably similar to last year with one noticeable difference being Côte d'Ivoire which re-enters the fold after a 13-year hiatus, squeezing Tunisia out of the top 10.

"From a global perspective, Africa is still at the lower end of the investment spectrum", says RMB Africa analyst and co-author, Neville Mandimika. Out of 188 countries analysed globally, a large proportion of African countries are still ranked between 120 and 188. South Africa, the only African country featured in the top 40 in 2006, has dropped to 45, surpassed by a number of emerging economies in East Asia and Latin America. <



RMB's top 10 investment destinations in Africa include:

- 1 South Africa** continues to stand firm at number one but risks losing its coveted spot in the next few years as a faltering growth outlook and uncertain business environment slowly eats away at its investment score. Despite a stream of negative news, the country remains a bastion of institutional integrity and continues to boast one of the best operating environments in Africa.
- 2 Egypt** could unseat South Africa as the leading investment destination in Africa if it succeeds in consolidating the economic gains accumulated in the aftermath of the Arab Spring. However, the country's operating environment could be an inhibiting factor considering that it lags South Africa in all aspects of governance.
- 3 Morocco** is hot on the heels of its North African peer, holding steady at number three for a second consecutive year, buoyed by solid economic growth, favourable geographic positioning, sturdy infrastructure, strong regulatory policies and a stable political setting.
- 4 Ghana** remains within a whisker of the top three, brandishing the title as the most attractive investment destination in West Africa. Despite a myriad of economic challenges, the country labours on as it slowly rebuilds confidence in its processes and policies under the watchful eye of the IMF.
- 5 Kenya** nudges Nigeria out of fifth position. An exceptionally worthy recipient which has steadily progressed up the ranks, surpassing both Ethiopia and Tanzania. Investors are attracted by Kenya's relatively diverse economy, pro-market policies and brisk growth in consumer spending.
- 6 Nigeria** slips to number six, a position it last held in 2011, weighed down by a dismal economic growth outlook and weak operating environment. Despite its many challenges, the West African giant is still regarded as a viable long-term investment destination but will be forced to endure painful structural adjustments over the next few years to safeguard its prospects.
- 7 Ethiopia** might well surpass Nigeria in 2017 as scores of foreign investors seek to benefit from the country's young and vibrant population, low unit labour costs and thriving manufacturing sector. Notwithstanding the regulatory challenges in establishing operations locally, the opportunity to participate in this budding economy cannot be overlooked.
- 8 Côte d'Ivoire**, the unsung hero of West Africa, debuts at number eight. After years of political paralysis, the world's top cocoa producer has earned its place in the sun, supported by a booming economy, an emerging middle class, robust infrastructure development and an improved business environment.
- 9 Tanzania** holds steady at number nine, barely nudging out Algeria and Tunisia. The new political dispensation's focus on industrialisation and enhanced productivity is encouraging, though protectionist tendencies could undermine the government's pro-business rhetoric.
- 10 Algeria** slides two spots to number ten. High reserves and low debt levels have helped to cushion the blow of low oil prices, but there is a desperate need to implement reforms to diversify the economy away from the hydrocarbon sector.

CONSTRUCTION CONFIDENCE ABOVE 50

The FNB/BER Civil Confidence Index gained 11 points to register a level of 52 in 3Q2016. This means that confidence has gained 24 points in total since 1Q2016.

> The current level of the index indicates that slightly more than half of respondents are satisfied with prevailing business conditions.

The higher confidence was well supported by the underlying data, especially tendering price competition. "The less keen tendering competition lifted profitability somewhat. However, it is important to note that tendering competition can ease due to an increase in the number of tenders or a fall in the number of firms tendering or a combination of the two", remarked Jason Muscat, senior industry analyst at FNB.

Confidence was higher despite soft growth

in construction activity. According to Statistics South Africa (Stats SA), growth in the real value of construction works slowed to 0,2% year-on-year in 2016Q2, from 4,6% in 2016Q1. On a quarterly basis, construction work was up 8%. "The annual result was somewhat weaker than what last quarter's survey results suggested. Nonetheless, growth may continue in 2016Q3. However, a robust quarterly recovery as seen in 2016Q2 is unlikely," said Muscat. Pressure on public sector capital expenditure due to fiscal concerns as well as mining companies' reluctance to embark on costly capacity expansion projects will weigh on construction activity over the medium term.

While growth in construction activity remained under pressure, respondents noted that the lack of demand for new work is becoming less of a business constraint. "This possibly reflects some work coming through, likely from the renewable energy sector. However, this may not be enough to support the entire industry", added Muscat.

In conclusion: While less keen tendering price competition lifted confidence in 3Q2016,

the subdued growth in construction activity remains a concern. A marked slowdown was registered in the growth in construction works in 2Q2016. The survey suggests that similar low growth can be expected for 3Q2016. ■



Jason Muscat, senior industry analyst at FNB.

About the survey

The FNB/BER civil confidence index can vary between a maximum of 100 (which indicates that all respondents were satisfied with prevailing business conditions) and a minimum of zero (indicating that all respondents were dissatisfied). A level of 50 indicates that the respondents are equally divided between those satisfied and dissatisfied.

The fieldwork of the second quarter survey was conducted between 25 July and 29 August 2016. In a circle (or a design element that stands out)

- After increasing by 13 points in 2Q2016, the FNB/BER Civil Confidence Index rose by a further 11 points to 52 in 3Q2016.
- Confidence was lifted by a notable improvement in overall profitability due to less keen tendering price competition and continued growth in construction activity.
- Looking ahead, construction activity is set to remain under pressure although order books have improved.

SUCCESSION PLANNING AND TRANSFORMATION

Inyatsi Construction Group Holdings last week announced its succession planning strategy and plans to target bigger markets and increase turnover from the current R1,5-billion to more than double in the next two to three years.

> Over the next few months, the executive committee will evolve and the next generation of leaders will step forward in order to take the organisation into the future. Tommy Strydom, who has been appointed as the Group's new operations director, says the organisation's strategic imperative is to build stronger relations within the markets where it operates and enter new markets. "Emerging trends are changing the face of the construction industry on the African continent more than anywhere else. Therefore, we are repositioning the company with re-engineered thinking for the long-term growth trajectory expected for the continent," he said.

John Hamilton, previously the Group's chief operating officer will fulfil the role of group managing director.

"With these new appointments, the organisation is set to become one of Africa's preferred construction partners," said Frans Pienaar, chairman of the group. To achieve this, the organisation will focus on employee development through their training and wellness programmes and continue the uncompromising application of their motto QCD, Quality – Do it right the first time, Control – control every last little detail to ensure we do it right the first time and Discipline – the discipline to continuously do this every time. ■

Frans Pienaar (chairman, Inyatsi Construction Group Holdings) and Tommy Strydom (group operations Director, Inyatsi Construction) shaking hands to new growth.



INTERNATIONAL AWARD FOR MCCONNELL DOWELL

5

McConnell Dowell, a subsidiary of Aveng Limited, was awarded top honours for Excellence in Project Execution at the International Pipe Line & Offshore Contractors Association (IPLOCA) Awards on 16 September 2016 in Paris, France. McConnell Dowell's Fourth Transmission Pipeline Phase II project in Thailand beat outstanding projects from around the world to secure this award.

> Delivered between June 2014 and August 2015, the complex gas pipeline and facilities project, spanning a distance of 300 km, was completed in a challenging, densely populated environment, ahead of a demanding one-year schedule and with zero lost time injuries.

On accepting the award, project director Rod Blackwell thanked customer PTT Public Company Limited, construction partner CCC and his project team and said: "The collaborative relationship formed between McConnell Dowell and PTT was the foundation for the success of the project. It allowed us to align our objectives, present as a seamless team to the local community, and address every challenge encountered quickly and effectively."

He added: "Our project team was outstanding. Along with our partner CCC, we successfully managed a peak workforce of over 2 800 people spread over more than 50 concurrent worksites to deliver the project safely and at the highest quality standards. The results showcase the skill, commitment and dedication of all involved. Thank you to everyone on the team."

McConnell Dowell, in a joint venture with CCC, also received the runner-up prize for the 520 km long Australia Pacific LNG pipeline project, showcasing the company's broad geographic footprint and resource capacity for delivering major, cross-country pipeline projects. ■

Adoption of **NEW SPECIFICATIONS**

The South African National Roads Agency SOC Limited (SANRAL) has announced the adoption of two new road materials engineering specifications for the construction of the national road network and other roads under its jurisdiction.



SANRAL will adopt new specifications for the asphalt design mix and for bitumen. The new specifications are more geared towards a paradigm of scientific knowledge in comparison to the South African mechanistic pavement design method.

The new methodology that the agency is adopting will rely on temperature isotypes or temperature gradient regions in conjunction with the four classes of traffic volume over road surfaces to determine the bitumen design specifications. Bitumen is an essential product in road construction and repair.

The major benefit of pairing the bitumen with the specific requirements of the climatic area and the traffic loading is that the longevity of the bitumen and subsequently, the road surface, can be better understood. From this understanding comes the ability to build roads that can last longer, which will save tax payers' money in the long run. SANRAL will also introduce a new asphalt design method.

"Historically, we have drawn on the empirical method. However, we have now put a lot of time into understanding the finite elements, and the new mix design method will be more scientifically-orientated," said Sean Strydom, SANRAL southern region materials specialist.

The ability to analyse and predict what will happen in a structural element over time is the very basis of structural design. This ability is now within reach of the pavement engineer and the design of asphalt layers from the same principles as structural design will result in more cost effective road layers being constructed.

"SANRAL will introduce software drawing on the insight generated by sophisticated mathematical models for every material layer in the pavement, from the lower-level granular layers to the more expensive upper layers which is cement and bitumen stabilised layers. Up until now we have never looked at how these layers interact with each other," Strydom said.

"The software will also allow us to conduct an HDM4 analysis or analysis of the lifecycle costs," he said.

SANRAL also announced in March this year the opening of a new engineering materials laboratory that will see road materials from across the Eastern Cape now being tested in Port Elizabeth.



NATIONAL SAFETY AWARDS WINNER

Liviero Building was the proud winner of three awards in the 2016 Master Builders South Africa (MBSA) National Safety Competition.



This outstanding achievement is the result of the exceptional attention to detail and meticulous care taken by Liviero site teams in their work areas, comments Brad Boertje, managing executive of Liviero Building.

"Our construction teams' commitment to constantly striving for the safest sites sets them apart, and this dedication is reflected in our latest results in the MBSA's prestigious, annual industry competition," he states.

Liviero's Eskom Wilge site took top honours in Category H, for contracts between R300 and R500-million, while the contractor's Jelf Taylor Crescent site won Category F, for contracts between R75 and R150-million. Liviero's Pavilion team took first place in the competition's Category E, for contracts between R25 and R75-million.

Liviero was also among the top achievers in Categories D and G. The company's Midlands Medical Centre site secured third place in Category G, for contracts between R150 and R300-million, and its KwaMnyandu Pedestrian Bridge contract took fourth place in Category D, for contracts between R10 and R25-million.

The MBSA National Safety Competition follows on from regional events in which Liviero also excelled, Boertje reports. The company's KwaZulu-Natal sites won five regional awards in this stage of the competition. In addition to the many site-related awards, Liviero Plant was placed second in the regional competition for plant and storage yards.

The annual MBSA safety awards ceremony was held at the International Convention Centre in Durban, during the MBSA's annual congress.

"We at Liviero are extremely proud of the efforts of all staff and stakeholders in consistently setting the highest standards in occupational health and safety," Boertje concludes. ◀

From left: Itumeleng Leshoedi (MBSA occupational health and safety manager), Gift Shumba (Liviero site agent), Stephen Majeza (Liviero senior safety officer), and Neil Cloete (MBSA president).



The facility will double up as a skills development centre where graduate engineers in SANRAL's experiential learning programme can get exposure to, and focus on, materials engineering.

The civil engineering materials testing lab enables SANRAL to test the properties of construction materials used in road maintenance activities as well as in development and upgrading of the national roads. In addition it will give SANRAL a second-tier quality assessment tool through comparative or correlation tests done independently from, but concurrently with, the tests of site material labs conducted on conventional road engineering projects in the province.

"Road materials engineering remains a critical part of ensuring a world-class road infrastructure network. We are also excited by the new research being undertaken by Nelson Mandela Metropolitan University in terms of adding non-homogenous agents such as recycled tyre rubber in combination with polymer particles into the design mix," he said. ◀

Sean Strydom, SANRAL southern region materials specialist (right), and Yanga Mshweshwe of SANRAL's Centre of Excellence determine the theoretical maximum density of asphalt.



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BUILDING South Africa together

The South African construction industry was in the spotlight on 1 and 2 September 2016, as issues impacting the sector and the country at large were addressed by experts at this year's 111th annual Master Builders South Africa Congress. Under the theme of 'Building South Africa together', the Congress took place over a two-day period at the Durban International Convention Centre.



Opening the Congress was Minister in the Presidency for Planning, Performance, Monitoring, Evaluation and Administration, Minister Jeff Radebe. His keynote address was 'Building the South African Economy Through Infrastructure Development'.



He listed some of the achievements resulting from government's investment of more than R1-billion per working day over the past year in infrastructure. In addition, the Minister elaborated on some of the infrastructure development opportunities available to the private sector both locally and on the rest of the continent.

The topic was unpacked further during a panel discussion which comprised the Minister; Themba Dladla, acting chief executive officer of municipal infrastructure support agent; Webster Mfebe, chief executive officer of the South African Forum of Civil Engineering Contractors; Dr. Adrian Saville, chief strategist at Citadel Asset Management and Bonke Simelane, the Master Builders SA president. The general consensus amongst the panellists was that sustainable partnership was needed between national and local government and the building sector to not only achieve physical infrastructure but contribute to the attainment of national development goals such as unlocking economic growth, localisation, job creation and skills development.

Another key discussion point was the role of SMMEs in strengthening the industry and aiding job creation.

Providing a construction industry perspective on 'Rebuilding Sustainable Partnerships for a Prosperous South Africa', Mfebe stressed the need for creating a conducive environment for investment by addressing internal wars within public institutions, repairing the regulatory environment where applicable, maintaining fiscal discipline as well as serving and maintaining the rule of law.

In addition, Mfebe highlighted the requirement for effective leadership in both the public and private sectors. "It is not only government's responsibility to ensure that the majority of the people derive a dividend from the democracy that was ushered in in 1994, it is ours too as the private sector.

Saville spoke about South Africa's Economic Outlook, saying: "Over the last 20 years the South African economy has grown in line with the world economy. The single biggest influence on the South African economy is not what we do to ourselves, it is what the world economy does to us. The growth rate for South Africa over the coming decade is more or less in line with world economic growth."

He added that the economy in 2017 will be better than 2016. "Business is about to get better. To stave off a ratings downgrade, the economy needs to grow at 1% faster than South Africa's 1,7% population growth rate. Fortunately for South Africa, that 2,7% growth rate that we require coincides roughly with world economic growth."

Tackling the topic of 'The Journey Towards a Transformed Construction Sector - Are We Getting There?' was Thabo Masombuka, CEO of the Construction Sector Charter Council (CSCC). He said that transformation is about the integration of all races and all genders towards the future growth of the industry.

"It should be measured not only in terms of black ownership, but also the participation of women and young people. It should also be representative of the demographics of our society." According to information from the Construction Industry Development Board, the levels of black, female and youth ownership are highest at Grades one and two, but at the higher Grades, these numbers decrease.

Following Masombuka's presentation, Master Builders South Africa affirmed its commitment to transformation with the signing of the Transformation Declaration by all presidents of the Master Builders Associations from around the country.

In his discussion on 'Combating Corruption in the Construction Industry', Adv. Kevin Malunga, the Deputy Public Protector unpacked the forms of corruption in the industry and consequences of this which he said not only eats into profit but also leads to poor quality of the construction work which would cause accidents and endanger human life.

The newly appointed Master Builders South Africa President, Bonke Simelane, brought the Congress to a close by stating: "We'd like to look back to this Congress as one of the catalysts that propelled us into the future that we all desire."

The 2017 and 112th Master Builders South Africa Congress will be held in Cape Town.



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SA'S 50 'Most Valuable Brands' DEBUT

Growthpoint Properties has debuted in 50th place in Brand Finance's list of South Africa's 50 Most Valuable Brands. In doing so, it has also become the only SA REIT to be included in this prestigious index.

➤ Each year, leading brand valuation and strategy consultancy Brand Finance puts thousands of the world's top brands to the test. They are evaluated to determine which are the most powerful and the most valuable by country, by industry and against all other brands worldwide.

The most valuable South African brands are included in the Brand Finance South Africa 50, launched this month in partnership with Brand South Africa and Brand Africa. For its inaugural inclusion in the 2016 ranking, Growthpoint scored a Brand Value of R1,467-billion on 1 January 2016, and a Brand Rating of AA-

Thebe Ikalafeng, chairman of Brand Finance Africa, comments: "It's typically quite difficult to see any movement among the top 50 list because it takes a long time to build a great brand. For that reason, many companies remain regular on the list, changing little, although jostling for position. Major shifts are usually a result of disruption in a particular industry or sector such as when the likes of Facebook and Google disrupted the communication sector globally and Outsurance and Vitality in the health sectors locally. Growthpoint's ability to crack the list says it is doing the right things. Its inclusion recognises Growthpoint's brand custodianship and management and the growth of its business."

Ikalafeng adds: "Successful brands contribute to the value of South Africa as a country. They create jobs, reduce inequality and poverty. It is important to remember Brand Finance's compilation of South Africa's 50 Most Valuable Brands is an independent evaluation using publicly available information on each business. The only way to get on the list is to build a great brand. Brand Finance Salutes Growthpoint for its excellence in flying the South African and African flags."

The methodology used to compile the ranking defines a brand as a marketing-related intangible asset including names, terms and visuals that create distinctive images and associations in stakeholders' minds, thereby generating economic benefits and value. It also considers the brand contribution, which is the total economic benefit that a business derives from its brand, from volume and price premiums over generic products, to cost savings over less well-branded competitors.

Norbert Sasse, CEO of Growthpoint Properties, comments: "We're thrilled to be included among South Africa's 50 most valuable brands. This achievement is especially remarkable considering the relatively short time the Growthpoint brand has existed. Prior to June 2007 we were externally managed, so we really only began our own brand journey about nine years ago. South Africa's property sector is highly competitive and a strong brand is a valuable advantage for outperformance."

Sasse adds: "Our marketing team is the official custodian of Growthpoint's brand and they understand that a brand is more than our logos, symbols and designs, but is a function of the entire business – what



Norbert Sasse, CEO of Growthpoint Properties.



Nadine Kuzmanich, head of marketing at Growthpoint Properties.

we do and how we do it. Our people are passionate and proud ambassadors of the Growthpoint brand and take their representation of the organisation extremely seriously. They drive our strong reputation and deliver on our brand promise of 'Space to Thrive'."

Nadine Kuzmanich, head of marketing at Growthpoint Properties, believes a strong business strategy underpins a strong brand.

Kuzmanich says: "Growthpoint's marketing strategy is led by a solid business strategy that informs every element of our communication – internally and externally. We believe it is important for your actual experience with Growthpoint to align with our brand promise. We are obsessive about providing an environment in which our people, our clients and our partners can thrive. Alignment supports the authenticity and credibility of a brand."

She adds that being obsessively protective of brand presentation – to all stakeholders – is an imperative for Growthpoint's brand custodianship. "That means constantly being alert to all areas of the business to ensure every element of our brand is on point, across the country. This includes our corporate identity, language, tone, messaging and objectives."


Growthpoint is the largest South African primary listed REIT with the vision to be a leading international property company providing space to thrive. It creates value for all its stakeholders through innovative and sustainable property solutions.

The 35th largest company on the JSE, Growthpoint is a Top 5 constituent of the FTSE EPRA/NAREIT Emerging Index and has been included in the FTSE/JSE Responsible Investment Index for seven years running. It owns and manages a diversified portfolio of 526 property assets spanning 6,8 million square metres. This includes 467 properties in South Africa, 58 properties in Australia through its investment in Growthpoint Properties Australia (GOZ) and a 50% interest in the properties at V&A Waterfront, Cape Town. ◀



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Thebe Ikalafeng, chairman of Brand Finance Africa.



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GOOD GROWTH IN RESULTS

Attacq Limited posted its annual results for the year ended 30 June 2016. The year was a highlight year for Attacq and the company showed healthy results, despite a very challenging local climate and volatile international market conditions.

> Attacq chief executive officer Morné Wilken confirmed the company's vision to be the premier property fund in South Africa that delivers exceptional, sustainable capital growth through creative local and international real estate developments and investments.

Attacq achieved a 15,3% growth in Adjusted NAVPS to R21,89 per share for the full year, with the compound annual growth rate in Adjusted NAVPS being 29,4% since inception. Attacq's total asset value grew by 18,6% to R27,6-billion, since June 2015 when it stood at R23,3-billion.

The international portion of Attacq's assets showed positive growth both in value and percentage contribution to the overall net asset value with international assets increasing by 34,5% to R5,9-billion. The Waterfall bulk that has been completed increased by 49,5% to a total of 410 000 m².

The super-regional Mall of Africa in Waterfall City (80% owned by Attacq) opened on 28 April 2016 with more than 123 000 visitors on opening day. The 131 000 m² mall is already trading above expectation and it is important to note that only two months of trading contributed to Attacq's June 2016 results. "The mall has been designed to allow for an expansion of 25 000 m² and we look forward to significant value upliftment in years to come," says Wilken.

As part of growing the Attacq brand, the company unveiled its newly refreshed brand during the period. This was a key highlight in developing brand clarity and engaging well with all stakeholders. "The brand refresh was a salient step in rolling out the fully integrated Attacq marketing communication and stakeholder engagement strategy that was adopted early in 2016," states Wilken.

"Waterfall remains the jewel in the Attacq crown as a catalyst for regional growth. We are very positive about the way ahead. Following the catalytic momentum created by the opening of the Mall of Africa, Waterfall City is rapidly becoming the favoured destination for beneficial corporate consolidation. Projections show that the Mall of Africa alone will attract more than 15 million people per year," says Wilken. "Based on studies by Urban Studies, the projected growth in office space is expected to be almost 30% per annum until 2020. The opening of the 26-storey PwC Tower will accelerate this growth even further," he continues.

If the past and the development of other cities are used as comparative case studies, the future of Waterfall City is bright. Wilken explains: "Sandton City was built in 1972 and, 44 years later, Sandton is a developed city with 4,5 million m² of developed space in total. Gateway Centre today one of the best performing malls in the country and a catalyst for business growth in the Umhlanga Ridge area. Canal Walk in Cape Town is not only one of the best performing malls in the country, but was also the impetus for significant commercial development that led to Century City," states Wilken.

Along its strategy of invest, develop and grow Attacq has made significant strides. New partnerships were formed in South Africa with Sanlam, Equites, Zenprop, Barrow and with Artisan in the UK and Atterbury Europe in Europe to invest in exciting development opportunities across Waterfall and beyond.

International investments increased by 34% to R5,8-billion. ■

- Net asset value per share adjusted for deferred tax ('Adjusted NAVPS') increased by 15,3% from R18,98 to R21,89
- Total assets increased by 18,6% to R27,6-billion
- Investments in international assets increased by 34,5% to R5,9-billion
- Completed Waterfall bulk increased by 49,5% from 274 860 m² to 410 000 m²
- Super-regional Mall of Africa opened in Waterfall City in April 2016 to record visitor numbers and continues to perform above expectation
- Attacq enjoyed compounded growth, since inception of 29,4% in Adjusted NAVPS



The Attacq executive team. Morné Wilken, Attacq's CEO is seated second from left. The company showed healthy results, despite a challenging local climate.

OFFICE SECTOR IS ALL ABOUT 'AGILE A

While the look ahead will be challenging for the South African property industry as a whole, there are still pockets of opportunity for investors, landlords and tenants, says Tim Cable, director, who now heads up the real estate sector in South Africa for global professional services consultancy, Turner & Townsend.

> "With limited growth in the economy, the Reserve Bank in an interest rate hiking cycle, and socio economic and political pressures, our industry will need to look beyond its current operating models and modus operandi to find these opportunities in the market."

With considerable experience gained managing the programme management office and capital investment plan at Absa/Barclays, Cable has a broad view of the market and a

clear understanding of the importance of aligning a business's real estate strategy.

"Securing greater capital efficiency on projects is at the heart of what we do. In any business, lifecycle costing and operational expenditure is key in delivering a successful real estate solution."

Commenting further Cable says office space vacancies are on the rise with new developments coming on stream, the competition between landlords is fierce and it's a tenant market at present. "This is where Turner & Townsend's value add comes into its own. We have a unique specialism in high-end fit-out and have undertaken many such projects for the likes of Google, Barclays, Microsoft, Philips, Grant Thornton, Sasol, Chevron and General Electric to mention a few.

"The value of such fit-outs is significant and landlords offering a holistic solution as opposed to competing over a clean white space provide a compelling offer to prospective clients. Our expertise in being able to effect high quality outcomes within tight timeframes, combined with a cost effective solution, makes our contribution significant in the overall supply chain."

Fit-out for Google Johannesburg office building in SA

Turner & Townsend was appointed as cost

A 6% FULL YEAR DISTRIBUTION GROWTH

Growthpoint Properties Limited posted distribution growth of 6% for its full year to 30 June 2016, delivering results at the top of its market guidance.

➤ It boosted its annual distributions to shareholders by 19,8%, for the first time going over R5-billion for the year. Growthpoint also increased its gross revenue by 26,1% and raised its asset value to R112,5-billion.

Norbert Sasse, CEO of Growthpoint Properties Limited, attributes the solid set of results to a good performance from Growthpoint's investments as a whole, as a result of maintaining high occupancy levels, achieving strong leasing results, and keeping costs well contained. Growthpoint's overall expense ratio for its South African portfolio improved slightly from 27,8% to 27,2%.

Growing distributions from Growthpoint's 65,5% holding in Growthpoint Properties Australia (GOZ) impacted results positively, amplified by slightly improved exchange rates and effective currency hedging. Significantly improved performance from the V&A Waterfront also had a positive effect.

Growthpoint is the largest South African primary listed REIT with the vision to be a leading international property company providing space to thrive. It creates value for all its stakeholders through innovative and sustainable property solutions.

The 35th largest company on the JSE, Growthpoint is a Top 5 constituent of the FTSE EPRA/NAREIT Emerging Index and has been included in the FTSE/JSE Responsible Investment Index for the seventh year running. It is the most liquid and tradable way to own commercial property in South Africa.

It owns and manages a diversified portfolio of 526 property assets spanning 6,8 million square metres. This includes 467 properties in South Africa valued at R73,8-billion, 58 properties in Australia valued at R30,9-billion through its investment in GOZ and Growthpoint's 50% interest in the properties at V&A Waterfront, Cape Town, valued at R7,8-billion. Its size and diversity make it strongly defensive.

Growthpoint's South African portfolio contributed 75,9% to its total distributable income and, with the Acucap portfolio included for its first full year, it achieved revenue growth of 28,7%.

Growthpoint invested R2,4-billion in developments and improvements to its South African portfolio. It also acquired R840,5-million of assets, disposed of

Norbert Sasse, CEO of Growthpoint Properties Limited.



R1,1-billion of non-core properties, and committed R1,7-billion to future developments.

Revenue from the V&A Waterfront contributed 8,5% to Growthpoint's total distributable income.

The success of the V&A Waterfront spurred further demand for space from top businesses, resulting in significant activity with Growthpoint's capital contribution of R420-million. Development is mostly complete in the Silo Precinct and the focus has shifted to the Canal Precinct. In addition, Growthpoint committed a further R483-million as its contribution to projects at the V&A Waterfront.

GOZ had a great year, delivering a 7,4% total return to shareholders on the Australian Stock Exchange. It is the best performing A-REIT over five years. Dividend contributions from GOZ grew 17,1% in ZAR compared with FY15, with GOZ contributing 15,2% to Growthpoint's total distributable income.

Growthpoint's entry point into Africa is through its Africa Fund, in partnership with Investec Asset Management and the IFC. It is currently conducting roadshows to investors in anticipation of its first close, which should be before the end of 2016.

Looking to the future in South Africa, Growthpoint expects stable property fundamentals within a weak macroeconomic environment, limited growth and the potential for a sovereign debt downgrade. Yet, in the face of this poor outlook, it also sees strong strategic prospects for its business.

"This presents the opportunity to grow the contributions to Growthpoint's non-SA distributable income from our internationalisation strategy, funds management and through trading and development," Sasse notes.

GOZ has forecast to grow its distributions per share in AUD at 3,9% for FY17. The strong property fundamentals in Australia represent positive yields and yield-spreads and good opportunities exist for GOZ to make accretive acquisitions, even in a competitive investment market. ➤

AND COLLABORATIVE' WORKING

managers for the recent Google Johannesburg head office building fit out in South Africa – this year's SAPOA Innovative Excellence Award winner in the Interiors and Overall Green Award categories.

Cable believes the opportunities sit within both refurbishment projects of existing space as well as redevelopment of existing sites, with blue chip companies looking to consolidate their current portfolios and leverage off new workplace methodologies.

Agile and collaborative workplace design

He says the office property market is going to need to be cognisant of the new workplace requirements as buzz words such as agile and collaborative workplace design requirements are incorporated within the traditional open plan floor plates.

"Agile working is all about creating a flexible and productive environment – by creating different working areas within the office a business can ensure employees have complete freedom and flexibility to work where they want, when they want.

"These workplace design requirements will also influence the amount of space that corpo-

rates require as many encourage working from home and other innovative methodologies to reduce floor space requirements as they will look to optimise their current portfolios, and exit space which is not necessary.

"Many of our clients are using flexible working environments to increase the headcount allocation to these spaces, so instead of 1:1 desk allocation ratios, these are being increased to 1:2 or 1:5 people per desk. By eliminating desk ownership you create an environment that is more effective and efficient.

"The ratio applied is derived through space utilisation monitoring as in many instances 20-30% of the workforce is away from their desks due to meetings, leave, medical reasons and so on. This then provides an opportunity to maximise the floor plate to account for this under-utilisation. Some of our clients are also allowing their staff to work from home one day a week, which creates further opportunities to rationalise the space requirements.

"With 90 offices around the world our global property team work for some of the world's most successful companies and forming a part of this is our local team who are providing more and more programme-level solutions in the property space." Cable adds.



Tim Cable, director, who now heads up the real estate sector in South Africa for global professional services consultancy, Turner & Townsend.

Turner & Townsend delivers support on projects across the infrastructure, natural resources, and real estate sectors to secure greater capital efficiency and create more affordable assets by delivering programme management, project management, cost management consultancy. ☒



LARGE ACQUISITION

Rebosis Property Fund, the JSE's first listed black-managed REIT, announced that it has obtained overwhelming shareholder support to acquire two large, regionally dominant retail centres as well as the services companies from property developer Billion Group.

14

“We are very excited and also humbled by the overwhelming confidence our shareholders showed today,” commented Kameel Keshav, chief financial officer of Rebosis, who spearheaded the transaction on Rebosis' behalf.

Billion Group is owned by Rebosis founder and CEO, Sisa Ngebulana, and constituted a related party transaction in terms of the JSE's Listings Requirements, requiring a 75% shareholder approval.

“The acquisition allows Rebosis to acquire scarce, high quality income generating retail assets. Our retail exposure will be bolstered to 72% of the portfolio post the transaction.

“We've always been very circumspect when it comes to quality and regional

dominance, especially in the current tough economic environment. Even after the acquisition, the retail portfolio will only consist of six large regional shopping centres with exceptional quality.

“Adding Baywest Mall and Forest Hill City to our portfolio enhances our overall defensive characteristics improving our average weighted lease terms and underpinning our above average yield,” elaborated Keshav.

The aggregate transaction amount is R4,934-billion, with up to approximately R3,7-billion funded by debt and the balance to be paid in cash, to be funded through a series of a claw-back offers which will be underwritten by Billion, Abacus (a 50% owner of Baywest Mall) and Nedbank.

It is expected that the internalisation of Billion's management company into Rebosis will better align the interests of management with that of Rebosis shareholders and is in line with global best practice.

The manco internalisation will further allow for equity incentivisation of experienced members of staff who are of strategic importance to improving overall growth in distributable income. This incentivisation will be achieved at no further cost to existing shareholders.

Forest Hill

Forest Hill City is located in Centurion, Gauteng and opened on 29 May 2014. This A-grade regional shopping centre comprises approximately 72 811 m² of retail shopping tenanted by large international brands and major national retailers, with parking for 4 200 vehicles. Its flagship stores include Woolworths, Checkers Hyper, Pick n Pay, Foschini, Truworths, Mr Price and Edgars, amongst others.



With a strong fashion line-up, it features designer boutiques and popular clothing stores. Complementing its strong retail mix, it also offers a convenient fast-food court and fine-dining restaurants. Its unparalleled entertainment includes an Olympic-size indoor ice rink, heated wave pool, ten-pin bowling alley, bumper cars and a state-of-the-art games arcade.

Forest Hill City is well connected to public infrastructure and supports quality lifestyles. It has outstanding visibility along the N14 (Krugersdorp/Pretoria) highway and superb access on the corner of the R55 and the N14 highway. The shopping centre enjoys excellent proximity to the major business hubs of Pretoria and Johannesburg and quick access to the popular transportation nodes of Lanseria

International Airport (15 minutes) and Centurion Gautrain Station (10 minutes). It is also a short drive away from both Loftus Versfeld Stadium and SuperSport Park Stadium.

Baywest Mall

Baywest Mall is an A-grade regional shopping centre offering 89 989 m² of modern, safe shopping in Port Elizabeth. It opened on 21 May 2015.

The mall's retail mix includes a wide variety of international brands, major national retailers, a food court, diverse entertainment and various service offerings. Its anchor stores include Woolworths, Checkers, Pick n Pay, Game and Mr Price, amongst others. It has parking for 3 302 vehicles.

The shopping centre is equipped with cutting-edge technology including an entertainment fun factory offering the only Olympic-sized ice rink in the Eastern Cape, IMAX and Cine Prestige theatres, ten-pin bowling alley, a high-tech games arcade and superfast Wi-Fi.

Baywest Mall is located along the N2 highway. The on and off ramps from the N2 highway lead directly into the shopping centre, making its accessibility effortless. It is a short drive away from the Nelson Mandela Bay Stadium and the Port Elizabeth Harbour. ◀

“For Growthpoint, GOZ represents seven years of experience growing a successful business in a first-world economy. It has done well for another stable, good-quality income stream and we will continue to support and encourage its increased pace of growth,” confirms Sasse.

V&A Waterfront's strong property dynamics support continued growth, with significant development in the Silo and Canal precincts districts converting to revenue-generating investments. “Here, we have a good development pipeline as well as the opportunity to acquire more bulk,” says Sasse.

With the combined effects of these drivers and strategic objectives, Growthpoint expects to achieve dividend growth for the coming year at a similar level as FY16.

“In this difficult environment, Growthpoint will remain driven by opportunity and demand. We'll actively seek ways to outperform and continue to create sustainable value for our shareholders,” concludes Sasse.



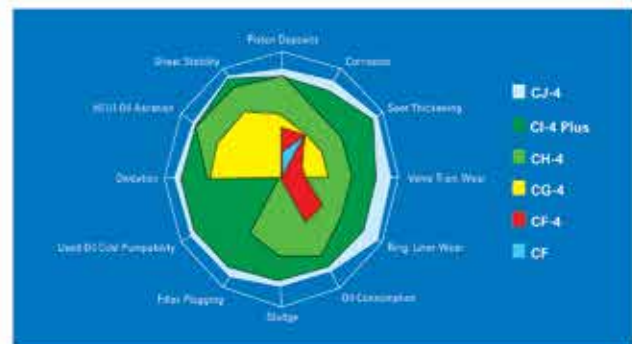
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LSFB shows its METTLE

Mall of Africa façade and parapet walls and the new outpatient day clinic for Mbabane Hospital in Swaziland were joint winners of Light Steel Frame Category at Steel Awards 2016.

Nothing emphasises more the coming of age of light steel frame building (LSFB) in South Africa than the record number of LSFB project entries for Steel Awards 2016. From this great batch of entries there were two stand-out projects that caught the judges' imagination; both exemplifying excellence in the use of LSFB. LSFB constitutes a third of the number of all the entries for Steel Awards 2016. Some 50% of the LSFB entries were for commercial/office and community infrastructure buildings, with residential and industrial projects making up the rest. Because of the exceptional standard, the judges had difficulty in choosing so opted for joint category winners in the Saint-Gobain Light Steel Frame category. They are Mall of Africa façade and parapet walls in Midrand and the new outpatient day clinic for Mbabane Hospital in Swaziland.

Mall of Africa, LSF façade and parapet walls

This is one of the largest single phase building projects in the southern hemisphere and the building programme required the building envelope to be closed within a few months. The required installation dates were met on time and contributed significantly to keeping the project on track.

The structural framing consists of 0,8 mm LSF, 90 mm x 38 mm cold-formed lip-channel profiles, assembled into wall panels on site, with typical 600 mm x 600 mm CTC grids. Frames placed slab to ceiling, column to column.

Cold-formed thin gauge steel frames were used for the light weight design, accuracy and speed of installation. What makes this project special is the architect's requirement for protruding, horizontal plaster bands, some more than 100 metres in length, to wrap the building and be exactly in line, at a height of up to 25 metres. Furthermore, a high R-value was required for the external cladding to achieve the required energy efficiency (reduced need for heating and cooling). From an environmental perspective, energy saving ETICS (external thermal insulation and cladding system) was used for the external cladding.

The wind load on the roof parapet walls, some 3 m in height, was overcome with the reinforcement of wall panels by using a LSF joist, turned on its side. The use of LSF and EPS cladding requires less or no crane time, rapid installation, reduced need for cleaning operations, and ensures weight reduction on the super structure resulting in savings of structural concrete. It provides a durable external cladding with low maintenance requirements.

One of the most impressive aspects of this project from the team's perspective was the speed and the ease of construction. One of the biggest technical challenges faced by the engineers included the extra

large openings and unusually high parapet walls. Light Steel Frame has opened up a whole new world for architects – and as they start exploring what is possible, it challenges engineers to become more innovative and creative. The Mall of Africa is a great example of this, and a taste of bigger and more exciting things to come for LSF.

Swaziland Government Hospital, Mbabane

“Key to the success of the project was meticulous planning – the LSF was manufactured in Gauteng, 430 km away. Due to site constraints, the LSF panels had to be delivered exactly in the sequence they were required on the site – any errors would result in considerable time delays. The architect and client are satisfied with the outcome – so successful was this project that the next major LSF project in Swaziland has already been awarded” – John Barnard, Director SASFA (The Southern African Light Steel Frame Association).

Initially Razorbill presented two different LSF building solutions to the client: one was Agrément certified while the other was a rational design to SANS 517 Light steel frame building.

“The benefits of opting for the rational design route was highlighted to the PA and the client,” says Chris Smith Razorbill CEO. “These included the speed of construction, an imperative under these circumstances; site neatness; energy efficiency over the lifetime of the building; and a building process that would minimise interference with patients and ongoing main hospital operations, and more.”

Smith says that the project site had some challenges in terms of the topography, site access roads, sewage lines, storm water systems and available space on site for the offloading and storage of building materials. The scope of works included the rolling of about 100 tons of 0,8 mm and 1,2 mm light steel frame sections in Vereeniging and transporting them to Mbabane; the erection of all the LSF panels including 16,5 t of heavy structural steel; the erection of 2 198 m² of external cladding and 7 512 m² of internal lining comprising 15 mm thick fire stop and moisture resistant Saint-Gobain gypsum board; and the placement of the roof.

John Barnard, Southern African Light Steel Frame Association (SASFA) director, adds that SASFA has had two senior building inspectors from Swaziland attend its six-day training course for building contractors, which was presented in March in Gauteng.

“This project is yet another excellent example of the benefits of LSFB,” says Barnard. “If you take just the advantage of being able to construct a substantial building right next to a hospital without interrupting the daily operation of that hospital, it would be reasonable enough to choose LSF instead of dusty, noisy, heavy, labour intensive masonry construction.

“If you add the other benefits such as speed of construction and long term energy efficiency, one can understand why this method has grown so quickly in popularity in South Africa and why the PICC (Presidential Infrastructure Co-ordinating Commission) has decided to encourage the use of IBT's (Innovative Building Technologies) for all new hospitals, clinics, schools and student accommodation.”

Swaziland Government Hospital.



Mall of Africa.



A LADY LEADING THE WAY IN SUSTAINABILITY

Chatting with Lisa Reynolds, sustainability development director at Saint-Gobain, world leader in the habitat and construction market, is an enriching encounter. One thing is for sure, she is a very involved, knowledgeable, influential, passionate lady, particularly when it comes to energy efficiency, energy management, the environment and encouraging women's presence in the world of sustainability.



Lisa Reynolds sustainability development director at Saint-Gobain.

➤ Reynolds believes that having an environmentally aware society starts in the home.

"It is our responsibility as parents to teach our children to be environmentally aware, and demonstrate practical ways of making a difference to the planet starting in our own homes," explains Reynolds. "Teach kids that littering is forbidden, to use water sparingly, to turn off lights and electrical appliances not in use, and implement basic recycling practices so that everyone in the home makes an active contribution to the process," suggests Reynolds.

She explains that while households can make a difference en-masse, industry needs to make the biggest contribution to sustainability, and erode the age old mind-set of purely driving profitability. "The environment must be a priority, businesses must implement sustainable practices, which will, in the long-run, result in major financial savings and improve their bottom line," she adds.

"When it comes to driving sustainability in business, women must stand up and own this space. Women must demonstrate leadership in

driving corporate sustainability and responsibility. Women must work together to develop strategies that will make businesses adopt a sustainability mind-set. We need to move to a place where companies embrace creative, meaningful sustainability projects, based on the economic and social advantages of these," says Reynolds.

Sustainability in South Africa is certainly making significant strides to catch up with commonplace practices employed across the globe.

According to Reynolds, the real problem in South Africa is not whether or not we have electricity, the real problem is if we have no water. "Electricity can be generated, at a cost, but there is no possible way to generate water." A very scary thought. "The water crisis is catastrophic, by 2025 we will be 1.7% short on the water needed for people to survive. Our infrastructure is very old and needs to be upgraded. We are currently losing 43 million litres of water a year due to leaking pipes," she explains.

In 2011 energy efficiency for buildings was

legislated, thanks to Lisa's passion and commitment to the cause. Today the building envelope must be designed and built in such a way that heat loss and gain are minimised. Every five years the standards are re-drafted to increase the requirements, with the long term vision as per the National Development Plan, for zero carbon emission building standard by 2030.

It takes leading ladies, like Lisa Reynolds to show us the way on how to make a real difference to the planet, to ensure that the planet is sustainable for the children of the future. ■



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Quantity surveyors **GO GREEN**

By Larry Feinberg, executive director, Association of South African Quantity Surveyors (ASAQS)

For those in the construction industry the term ‘quantity surveyor’ is commonly known. But, a quantity surveyor’s function is not always understood. To illustrate the value of this key function we take a look at green buildings.

> The role of a quantity surveyor (QS) is to quantify and manage the various cost items of material, labour, plant and equipment, which make up the total cost of a construction project. A QS is a professionally registered advisor who provides a value add service, from the feasibility stage of a project right through to completion. And, in the two key areas where construction projects typically go wrong, e.g. budget and project completion date overruns, a proactive QS will save the contractor and their client both time and money.

Familiar with public and private sector procurement strategies, they can be rather useful in getting past the hiccups that usually occur when procurement procedures are unfamiliar. With setting up budgets their forte, this can be a distinct advantage when preparing large, complex tenders, and even small ones too.

But why go Green?

Climate change is no longer a speculation but a reality in our lives. As populations grow bigger and urbanisation grows cities at an unprecedented rate, with local authorities building upwards and not outwards, this concentration of people and the conveniences of life impact our natural environment – aggravating climate change even further. The construction and operation of modern buildings, those in which we will live and work, are responsible for the consumption of many of our natural resources, and the generation of carbon and other gases that cause global warming. In the United States, to which South Africa’s major cities can draw a parallel, buildings account for 39% of total energy use, 68% of total electricity consumption, 30% of landfill waste, 38% of carbon dioxide emissions and 12% of total water consumption.

Environmental benefits

Going green has a number of environmental benefits. But what does going green mean? In a nutshell, it means that we, as humanity, pursue the knowledge and practices that will lead to more environmentally friendly and ecologically responsible decisions and lifestyles, which will help protect the environment and sustain our natural resources for current and future generations. Among the benefits are enhancing and protecting biodiversity and ecosystems; improving air and water quality; reducing waste streams; conserving and restoring natural resources.

Economic benefits

But, it’s not just environmental benefits that are created by going Green. There are a number of economic benefits to add to the equation. With a little savvy one can achieve a reduction in building operating costs, e.g. wastewater reuse in air conditioning systems and solar power, or energy from waste, an improvement in occupational productivity, the enhancement of asset values, and in profits due to lower operating costs, and the optimisation of economic life-cycle performance.

Social benefits

And, it doesn’t stop there. The social benefits of going Green include the improvement of domestic, occupational and leisure health and comfort through greatly improved indoor and outdoor air quality, lighting and temperature control, improved landscape aesthetics in minimising local utility infrastructure and a general improvement in our overall quality of

life – because our natural environment will be less impacted.

How quantity surveyors can assist the green revolution

Against this background the Green Building Council of South Africa (GBCSA) conducted a study on how best to address South Africa’s environmental challenge. In terms of its study findings, SA’s Green Star ratings increased, with an average premium for a four star Green Star SA rated building 5,5% and 6,6% for a five star Green Star SA rated building.

Interestingly, there was a slight difference in the average cost in three major economic hubs, and a correlation between the cost premium and penetration. Penetration was found to be slightly higher in the Western Cape (46%) versus Gauteng (41,8%), and KZN (40,4%), while the average cost premium in the Western Cape was at 6,9%, 6% in Gauteng and 4,5% in KZN.

According to Manfred Braune, chief technical officer of the GBCSA the study was undertaken to analyse the actual cost premium of building Green in South Africa and to challenge the belief that Green buildings cost much more than conventional buildings.

“South Africa has seen exponential growth in certified Green buildings, from the first Green Star SA building in 2009 to 165th in June 2016. Despite this there are many more buildings that could go Green but are not doing so,” Braune said.

By using a professionally qualified and experienced QS, preferably a member of the Association of South African Quantity Surveyors, a building owner will be given an accurate projection of the costs involved in a Green building construction project, or the conversion of a traditional building to a Green building, as well as having a highly effective cost strategist in the team to help lower costs through ideas, substitutions and experienced advice.

This will certainly lead to increased certainty that the building phase will be finished on time and within budget; ensuring that value for money is attained by the client and a value added to the project through a unique blend of construction knowledge, advice on strategic and cost planning and the procurement of construction products and services.

If, as a building owner or construction company, you are looking at the viability of a future project, a QS can look at the demographics of the project and advise on its feasibility – before any substantial costs are incurred. In drawing up plans, a QS will give an accurate determination of the materials needed and the costs involved, including labour, for each aspect of the construction project.

And, if required, and in order to reduce costs wherever possible, and permissible, an analysis of the specifications can be carried out. This circumspect analysis can be equally applied in the evaluation of tenders and tender submissions.

It’s here, within the context of a construction project, that the value of a quantity surveyor has been highlighted. And, in addition, the importance of Green buildings has also been highlighted. We know that Green buildings, or what we alternatively refer to as sustainable design, is a best practice in increasing the efficiency of a building and its use of energy, water and materials, as well as to reduce building impact on human health and the environment over the entire life cycle of the building. This is known as ‘value engineering’, and quantity surveyors are the people to help in making this become a reality – saving you time and money in the process. **<**



Larry Feinberg, executive director, Association of South African Quantity Surveyors.



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ROCK SOLID PERFORMANCE

from Babcock and Terex Trucks

In October 2015, Babcock was appointed as the official distributor in South Africa of Terex Trucks' off-highway rigid and articulated trucks that are used in mining, quarry and construction applications



F From the highlands of Scotland where Terex Trucks is headquartered to the coal fields of Middelburg and home to Babcock's flagship state-of-the-art branch, the two companies have been working hard over the last year to forge a pioneering spirit and a combined reinvigorated attitude towards performance, quality, customer care and after-sales service.

stock lines required for the Terex Trucks, and Babcock has made a considerable investment in stocking Terex Trucks parts to ensure the highest availability possible of components required to repair and maintain the trucks and to ensure that downtime is kept to a minimum for customers.

association with Babcock in October 2015, sales have increased, particularly in the articulated dump truck (ADT) range. He maintains that one of the main advantages that Terex Trucks has over its competitors is the support that is now available for the trucks through Babcock, not only in terms of components, qualified service technicians and appropriate maintenance facilities, but also with regard to service contracts and extended warranties.

David Vaughan, sales director for Babcock's equipment business, says the Middelburg branch is fully prepared to support Terex Trucks in terms of infrastructure, spare parts, equipment and trained staff, and has already seen sales of a number of Terex Trucks. "We have just had a team return from the Terex Trucks factory in Scotland where they spent a week getting up to speed with all the latest developments," adds Vaughan. He explains that skilled personnel are vital to Babcock's support services and the company maintains a firm commitment to ongoing training.

"Service and maintenance contracts can be tailor-made to suit customers' needs and extended warranties are available, making the packages very flexible and versatile," says Lundberg. Offerings from Babcock such as long term replacement strategies, fleet maintenance and associated technologically advanced services are proving to be increasingly attractive options to customers, particularly in the mining industry where machines operate long hours and any downtime translates into lost revenue.

Babcock becomes local distributor

Although Terex Trucks have been available in South Africa for the past 20 years, in June 2014 they were acquired by Volvo Construction Equipment whose distributor in Southern Africa since 2000 has been Babcock International Group. A natural progression was for Babcock to partner Terex Trucks in the region. Erik Lundberg, business manager in sub-Saharan Africa for Terex Trucks, says since the

Manufactured in Motherwell, Scotland, Terex Trucks deliver a robust performance in the steepest, deepest mines and largest quarries around the world while simultaneously providing durability, comfort and efficiency. In South Africa, the TA300, a compact and highly versatile articulated dump truck that can be used for various light mining and construction applications, has proven popular.

"Babcock's Middelburg facility is well positioned in the heart of the coal fields as

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Southern African headquarters

Earlier this year, Babcock opened a new state-of-the-art branch in Middelburg that serves as the official headquarters for Terex Trucks in Southern Africa. The facility is equipped with 12 purpose-built workshop bays to accommodate the largest of the Terex Trucks as well as specialised components and tools. It includes a 1 615 m² warehouse that can hold full



The TA300 is equipped with true independent front suspension as standard to enable excellent traction control and operator comfort.



many of our customers operate in the mining sector. With a payload of 28 tonnes, the Terex Trucks TA300 is the ideal machine for these types of applications as it can be used for quarrying, light mining, earthworks as well as civil construction, general construction and agriculture," says Vaughan.

Terex Trucks versatility is key

The Terex Trucks TA300's versatility is a strong selling point as it can perform a variety of functions on a single project and operates in diverse underfoot conditions. The trucks are designed with the customer and operator in mind and offer straightforward solutions to the toughest challenges, with the ability to operate efficiently under extreme working conditions. "These ADTs can operate just about anywhere from hard surfaces to wet and muddy conditions, and offer excellent fuel efficiency in addition to being tough," says Vaughan.

Terex Trucks' TA300s are powered by fuel-efficient Scania engines, renowned for their high uptime, reliability and ease of maintenance underpinned by a global service network. The trucks feature a world-class operator's environment and have been rigorously tested in extreme conditions for proven power and productivity, while superior gradeability and higher top speeds increase production.

Both Vaughan and Lundberg remark that Babcock and Terex Trucks have a mutual focus on partnership, combined team effort, sharing of knowledge and open channels of communication that has forged a highly productive and efficient working relationship – the benefits of which are ultimately passed onto their customers. Vaughan adds that Babcock also supplies a full spectrum of loading tools and accessories with everything from wheel loaders to hydraulic excavators to complement the Terex Trucks range. The company's extensive branch network and support infrastructure extends across South Africa, Namibia, Zambia, Botswana and Mozambique, providing comprehensive support for existing and new customers. ◀



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A brick and mortar **TRIBUTE** to **CULTURE**

Afrikaans Hoër Seunskool in Pretoria – affectionately known as Affies – recently launched its new music centre, an architectural gem that strikes a high note for the 96 year old high school that was established in January 1920 as South Africa’s first purely Afrikaans-medium school. The new facility was created to fill a need for hi-tech music facilities.

➤ The school is known for its sporting prowess and turning out both national rugby and cricketer heroes. What many don’t know is that its music department is among the largest in South Africa and is home to both a full orchestra and a jazz band. The music department trains about 240 music theory students.

Architect Pieter Mathews from Mathews and Associates said that the completed arts campus – identified by sculptured, strong graphic lettering spelling out ‘Affies Kunstekampus AD 2015’, symbolised a bringing together of two art forms – music and architecture.

“Poetically, the design is inspired by interpretations of music into architecture as well as the composition of place. As a place, the design approach intends to provide a spatial response that is rooted in the traditions of the school and its students, but also which allows for students of music and art to identify with this new intervention and feel a sense of belonging within the larger school campus,” said Mathews.

In addition to embracing the artistic and musical legacy of the school, the new music centre also overcame significant practical challenges. It is located on what was once regarded as an inaccessible ‘left over space’ on the ‘back’ edge of the school grounds.

Challenges

A noisy Metrorail and Gautrain line that runs along its south-eastern edge made this the most unlikely site for the much needed hi-tech music facility which includes a 160-seat auditorium for orchestral and choir practice (including a recording studio), four acoustically sound classrooms, twenty individual practice rooms and offices, admin facilities for staff and connective outdoor spaces.

The project comprises three separate buildings that each cater to a specific function. They are linked by intimate outdoor courtyards and walkways.

Mathews said that the aesthetic responded to the clues set out by the existing Union-style architecture with its corrugated sheeting and redbrick gable façades. At the same time, individual detailing picked up on the notion of sound waves travelling through the site.

“The building scale and materiality relates to the existing built heritage fabric, but the aesthetic resolution is not one that copies the style of the existing buildings. Rather, theirs is an interpretation of existing roof heights, materials, vistas, thresholds and edges that interpret the qualities of the old, into a new contemporary aesthetic,” he said.

Design materials

Both the design and building materials were carefully selected, taking into account both the design needs and the tight R7-million budget.

Building contractor, Tunduwe Construction, used 62 000 Terracotta Satin. These provided the closest match to the original red bricks. Solid bricks were used at several intersecting angles as well as the end of a soldier course row of bricks.

Investing in local materials such as Corobrik clay bricks resulted in lower material costs in order to focus on the high quality of acoustic infrastructure and multipurpose communal space. The longevity and low maintenance of buildings constructed using clay brick, together with thermal properties that helped maintain ambient temperatures

in both summer and winter thereby saving on energy costs would minimise maintenance costs, Musa Shangase commercial director of Corobrik pointed out.

Mathews said that the challenges posed by the seemingly unsuitable site were overcome by dividing the building into three with each segment catering to learning, practice, and performance respectively. Asymmetrical forms not only provided for perfect acoustics but also met the challenges posed by the terrain.

“In much the same way as different musical instruments come together in the creation of a symphony, so the grouping of buildings with different forms and corners blend together,” Mathews explained.

The buildings that make up the music centre also frame outdoor social spaces or ‘rooms’ that can be used by students informally or as outdoor learning spaces. They are linked together by covered walkways. Special care was taken to design around existing trees to instantly ground the new addition within the established feel of the rest of the school campus.

“The awkward shape of the site provided an opportunity to inform the design of the practice rooms as a buffering edge to the railway line at an angle that is different to the rest of the school’s grid. This results in pockets of sheltered outdoor courtyards framed by the rest of the program and then leading into intriguing gathering spaces for the public to meet before a performance,” Mathews said.

A new courtyard defined by the existing hall and new buildings is home to an eye catching steel sculpture entitled *Kwartet* (Quartet in English) by South African artist Strijdom van der Merwe. His artwork forms a focal point in this gathering space and encapsulates the musical theme that follows through the centre.

“Design elements complement functional properties but provide a creative interpretation of notions of rhythm, repetition, pause, and layering present in musical notation. Functional steel columns supporting an off shutter concrete peristyle across the front facade of the complex are placed in a rhythm reminiscent of notes in a tune. These columns also form a threshold leading the user to the entrance of the centre, while a wall of soldier course masonry behind it mimics a choir,” Mathews added.

He emphasised that the bricks used during the construction process played a strongly symbolic role. They were turned upright, standing proudly like soldiers. “But, in this building, they represent members of the Affie choir rather than soldiers, standing proud and straight. This brick choir welcomes the visitor and makes visual music.”

The well-known, Affie Choir, also known as ‘Die Rooidasse’ owing to the red ties worn during performances, is made up of about 100 boys. It was established 18 years ago and has won many awards and toured internationally.





From the inner hall, steps lead to the first floor. Another functional artwork on the landing – a laser cut steel screen depicting the school's first anthem in braille – fulfils an important architectural purpose as it hides the staircase.

Even the materials of the old school are re-interpreted in contemporary and functional ways, according to Mathews. A graphic screen of piano keys that adorns the southern façade of the existing school hall adds a fun element while, at the same time, hiding unsightly drainage pipes from the ablution block. ◀

“The building scale and materiality relates to the existing built heritage fabric, but the aesthetic resolution is not one that copies the style of the existing buildings.”

SANDTON CENTRAL – LIVE THE PARK LIFE

South Africa's commercial capital, Sandton Central, offers visitors and residents more than just world class business, retail, residential and tourist facilities. It also is also home to three wonderful parks that connect this thriving city to the great outdoors.

➤ Providing the perfect venue for summer festivals and year-end functions, Sandton Central offers ample space for people to reconnect with nature, unwind and socialise with friends and family on lush green lawns sheltered beneath the shady trees.

Elaine Jack, city improvement district manager of the Sandton Central Management District (SCMD), says: “Joining leading cities across the globe, Sandton Central recognises the importance that green lungs play in well-designed urban fabric that provides a full experience for the people who use it. These precious outdoor spaces provide people with an opportunity to take a break from the hustle and bustle of city life, and they also provide opportunities for groups of people to get together and enjoy themselves without feeling the restrictions of four walls around them.”

Innesfree Park, conveniently located on Katherine Street in Sandown, offers residents and visitors respite from the rigours of city life. Here you'll find two tranquil dams and plenty of open space in which to have picnics or just take a lunch break.

“Due to its size, Innesfree Park is known to host large-scale events like music concerts, motor shows, arts and culture exhibitions and a number of other outdoor shows. It is also ideal for smaller private parties and picnics,” says Jack.

Another extraordinary lush green hideaway situated in the heart of the Sandton Central

business district, Mushroom Farm Park, renamed Hyundai Sky Park, boasts a fully equipped playground for the kids, a duck pond, amphitheatre, hilly landscaped lawns and an outdoor gym. Popular with families for weekend picnics, the giant Hyundai branded hot air balloon, which rises 120 m above the park, offers visitors an incredible view of Sandton, weather permitting.

Dog walkers are also welcome to this park provided that their pooches are on a leash, and the neatly paved walkways are perfect for strollers or joggers. There are also tables, benches and clean public toilets available.

A small, intimate park located in the heart of the financial district, Sandton Central Park offers a blank canvas, perfect for planning niche events. The park occasionally hosts live music day festivals as well as other events and offers an amphitheatre, sculptured garden beds, indigenous

tress, solar powered lights and benches to sit on.

Jack says: “Sandton Central's parks build a healthier community by providing green spaces for people to socialise and enjoy recreational activities and events. These spaces have been designed to be enjoyed and shared by the community, and we encourage people to make good use of them.”

The mandate of Johannesburg City Parks and Zoo (JCPZ) is to create safe recreational spaces for residents of the greater Johannesburg. JCPZ has been fortunate in having the opportunity to form mutually beneficial relationships with residential associations as well as business communities to protect these open spaces. Louise Gordon (GM new business development) says numerous opportunities exist to create safe cycling, trail running and walking lanes in parks as well as events that will encourage outdoor lifestyles. ▶

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SUFFERING FROM contractual ignorance

At least 100 000 people are involved with building contracts in the South African construction sector every year – but the majority know very little of the contracts in common use, or the legal procedures to be followed during the course of a building project.

> This is the view of Uwe Putlitz, CEO of the Joint Building Contracts Committee (JBCC), South Africa's leading organisation in the compilation of documents that protect the rights of all parties involved in building contracts.

Putlitz says there is alarming lack of awareness among smaller, and the so-called "emerging building contractors", about the need to protect their interests through proper contract documentation. "Many emerging contractors lack communication and administrative skills in addition to limited technical skills and the use of labour-saving equipment. Subcontractors also are often abused by main contractors particularly when it comes to payments which are often not made at all or are made late or partially. This kind of practice holds grave dangers when it comes to survival for the smaller builder in a struggling sector of our economy. The situation is exacerbated because far too few subcontractors or emerging contractors work on a project without having had their appointment – and working operations – formally ratified in a recognised form of contract," Putlitz stated.

"Then, to make matters even worse, many subcontractors or emerging contractors tend to read whatever form of contract they hold

only when a crisis arrives on site," he added.

Putlitz says JBCC recognises that the contractual needs of the now substantially increased number of small builders and subcontractors operating in South Africa differ markedly from the situation, say 20 years ago. JBCC has therefore already considerably started simplifying the use of language and style of writing since the 2014 editions of JBCC Agreements. Future editions will include further improvements in choice of wording, with more sub-clauses instead of long clauses to confuse the smaller operator, and also incorporate a simplification in the layout of the text.

"But basically, if a JBCC Agreement is in place, the main and smaller contractors – as well as the principal agent – involved in a building project merely have to follow the content of the Agreement's clauses within the stipulated time limits to avoid disputes. But far too many of these parties regard contract administration as time-consuming and consider compliance with statutory and contractual provisions as a nuisance and serious threat to their company's productivity. So important contractual obligations, such as inspections on site, record keeping, and issuing of instructions and various certificates, tend to be neglected."

Indecisive and dictatorial employers and their principal agents can also cause spiralling strife on a building project. "Although JBCC Agreements form a binding contract between all the parties involved on a building project, far too many employers – after the Agreement has been signed – make changes that are unfair to contractors. This leads to the contractors in turn imposing totally unfair performance and payment conditions on subcontractors. At JBCC training seminars, we therefore concentrate on the unintended, but also inevitable, consequences of such changes to the original Agreement. The employer may think the change to an Agreement is minimal but often the repercussions are far-reaching for the rest of the construction team. The disputes and stress on site that follow such unexpected late changes to Agreements is disruptive to performance and could be avoided if the provisions in the contract are followed by all parties concerned," he added.

JBCC presents 10 to 12 training seminars in most of the main centres of South Africa every year: twice annually in Cape Town, Johannesburg and Durban and annually in smaller centres. JBCC also presents in-house seminars, tailoring the content to suit the user: for example, focusing on clauses relevant to contractors, subcontractors or property developers. <

Subcontractors and smaller builders ignore the importance of building contracts at their own peril, JBCC has warned.

SANRAL CONTRACT

Aveng Grinaker-LTA Civil Engineering has been awarded a R92-million contract for the South African National Roads Agency (SANRAL) to resurface the 40,6 km road between Sun City and Boshhoek in the North West province.

> The scope of work for the NR R556 Section 1 from R510 to Sun City and R565 Section 1 from N4 to Boshhoek consists of an asphalt overlay of 35/45 mm (CGMG A-E2 36 300 t) and SMA 20 mm (A-E2 7mm). Further work includes rehabilitation and ancillary works, including base repair patches (720 t) and edge break repairs (150 t), 64 000 m of crack sealing and 285 700 m² of asphalt reinforcing grid.

Commenting on the importance of winning this contract, managing director of Aveng Grinaker-LTA Civil Engineering, Richard Evans, said: "We are proud to partner with SANRAL to improve our road infrastructure. Winning this contract is a clear indication of our industry-leading track record in executing complex projects professionally, efficiently and timeously."

Aveng Grinaker-LTA Civil Engineering makes provision for construction of all major projects including dams, stadia, mining process plants and infrastructure, industrial buildings and factories, industrial process plants, water and sewer purification plants, bridges, airports, harbours and marine structures, irrigation systems, hydro-electric schemes, reservoirs and concrete paving. <

About Aveng

For more than 125 years, Aveng has evolved in character, capacity and reach and continues to make its mark across the globe. Its origins lie in modest construction projects but Aveng, a leader in infrastructure, now boasts expertise in steel, engineering, manufacturing, mining, concessions, public infrastructure and water treatment. Aveng operates in a diverse range of sectoral and geographic markets. Our primary geographic markets are Southern Africa and Australia and we leverage our presence in these markets to pursue growth opportunities in East Africa, Southeast Asia and the Middle East. The company employs some 16 000 people and has an annual turnover in excess of R33-billion.



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PIPES AND CULVERTS

for Polokwane eastern ring road

Six new bridges and four new major structures (overpasses) will be constructed along Phase II of the Polokwane Eastern Ring Road development which will align the N1-27 towards the south of Polokwane in order to ensure a more streamlined traffic flow on this very congested freeway.



The N1 through Polokwane is the main route to Beit Bridge for entry into Zimbabwe and carries an enormous amount of consumer and freight traffic on a daily basis.

Rocla, part of the IS Group, was contracted to supply the culverts and interlocking joint pipes for this project due to its expertise in the local manufacture and supply of these specified products.

“This project commenced in December 2015, and is scheduled to be

completed at the end of 2018. The N1-27 will become a four-lane undivided dual carriageway between 10,5 km and 11,5 km and a four-lane divided dual carriageway between 11,5 km and 14,9 km which will give preference to traffic flow on the N1-27 Ring Road,” says Abri Lubbe, site agent for Basil Read the primary contractor.

“In addition, approximately 80 minor culverts are to be constructed on this ring road consisting of new culverts on the new road sections, on the extensions of existing culverts as well as replacing existing culverts with insufficient hydraulic capacity. The minor culverts are pre-fabricated culverts constructed on in-situ casted floor slabs. The sizes range between 900 x 600 Box Culverts (BC) and 1800 x 600 BC portal culverts and 2500x1500 SAR Culverts.

“Diameter pipe culverts of 900 mm will also be constructed, and 900 mm diameter median pipes (approximately 930 m long) are to be constructed to address median drainage in cuttings,” says Lubbe.

“We have worked with Rocla before on a variety of projects, so we know the quality of their culverts and associated products – it is very good. We required a broad spectrum of culvert sizes to cover vastly differing lengths as well as the appropriate interlocking joint pipes, all of which appear on the Rocla product list but had to be supplied to our engineer’s specifications and delivered to site as required. The compe-

tency of the Rocla technicians in assessing and assisting and advising us in the correct technology and product selection was extremely helpful to have on this enormous project. The Rocla pricing was very competitive, and it is one of the key factors that stood in their favour,” says Lubbe.

Part of the Polokwane Eastern Ring Road project includes a bridge structure under the north-south bound B0260A with Ramp C serving to channel the river underneath and pre-cast SATS culverts will be installed due to the load subjected by the amount of fill that will be constructed over the culvert. An estimated 180 no. of 0-5m SATS culverts will be installed on Ramp C and 480 No. 5m-10m SATS culverts will be installed under the north and south bound carriageways. Lubbe added “We were faced with an excavation challenge on the R4540 Roodepoort bridge as blasting demolitions due to the tight location of the structure was not possible, therefore we had to excavate the road for 2,4 m below ground level in order for our work to progress.”

“This is a very large project that has been badly needed in the Polokwane area for some time, and we were pleased to have been selected by Basil Read to work with them on it,” says Sarel Pretorius, Rocla sales representative. “Some of the challenges faced so far on this project included accommodating the daily heavy traffic loads while work was in progress, and this was done with careful planning and re-routing in order to minimise the disruption to traffic flow.

“I believe we at Rocla have such vast experience in major municipal infrastructure developments and upgrades that we were able to offer valuable assistance to Basil Read on this Polokwane Eastern Ring Road project and coupled with our technical and product expertise it is a win-win partnership,” says Pretorius.

Rocla manufactures precast concrete infrastructural products through an extensive network of factories throughout South Africa, Namibia and Botswana. Rocla offers specialised pre-cast concrete products for as infrastructure, such as pipes, culverts, manholes, poles and various other related products. ◀



CRANES at the new Atlético de Madrid STADIUM

The runner-up of the 2016 UEFA Champions League Final, Club Atlético de Madrid of Spain, has planned to stop playing at the Vicente Calderón stadium at the end of the 2016-2017 soccer season.

> Leaving this mythical venue, its home field since 1966, would be very difficult to understand for the fans if it wasn't because the new stadium will be simply spectacular. Furthermore, the new stadium will have capacity for approximately 68 000 spectators, 13 000 more than the Vicente Calderón, and will have more and better services for the fans, more parking spaces, etc.

The new stadium, yet without an official name, is being built since 2011 at the East of the capital city of Spain, and has counted on the assistance of five Linden Comansa cranes, property of GRUYMSA and rented to construction company FCC. GRUYMSA (Grúas y Maquinaria S.A.) is official dealer of Linden Comansa and one of the main tower crane rental companies in Spain.

A previous stadium which opened in 1994 was the base of the new venue. It was part of the Olympic bids that Madrid made without fortune, and only had a single but large stand. Most of this stand was integrated into the new project, so the main tasks of the tower cranes have been preparing the foundations and building the new stands that now completely close the stadium.

From the five Linden Comansa cranes installed by GRUYMSA at the site, three are model LC2074 and two are model 21LC290, all of them with 12 tons of maximum load capacity. GRUYMSA began the erection of the cranes in July 2013, but due to the proximity of

the Adolfo Suárez Madrid-Barajas International Airport, the cranes were not able to be installed with their final height until the arrival of a special permission from AESA, the Spanish Aviation Safety and Security Agency. Finally, GRUYMSA could successfully climb the cranes to their final heights, being 52,1 metre tall the smallest, and 69,6 the highest.

Four of the Linden Comansa cranes from GRUYMSA, as well as other two tower cranes from FCC's machinery park that also worked on the project, have already finished their duties in the stadium and have just been dismantled. A Linden Comansa 21LC290 is the only tower crane that remains now at the venue, but will be removed in the upcoming weeks. Then, FCC will begin to build a spectacular roof that will allow 96% of the Atlético de Madrid fans to enjoy the games under cover, and that will give the iconic touch that only the best stadiums of the world have.

GRUYMSA (Grúas y Maquinaria S.A.) has a rental fleet of more than 250 Linden Comansa tower cranes and has been part of some of Madrid's most relevant projects, like the Torre de Cristal tower, the airport's Terminal 4, the expansion of the Reina Sofía Museum, the



refurbishment of the Prado Museum or the construction of the headquarters of multinationals like Telefónica or BBVA. Its full range of cranes and services (preliminary studies, technical consultancy, maintenance tasks, crane erections, etc.) also allowed GRUYMSA to work in large projects in other points of the Spanish geography, like the La Fe Hospital in Valencia or the Zapateros Dam in Albacete. <



NEW FOUR STAR MEYERTON HOTEL

The close proximity of the Ocon Brick manufacturing plant at Three Rivers in Meyerton made the company a natural choice for Socrasync Civil Construction to source the three million clay stock bricks required for the upgrading of Meyerton's four star Lord's Signature Hotel.

> The increased demand for suitable accommodation in the Meyerton area was one of the reasons the Lord's Signature Hotel invested in increasing the number of rooms as well as the revamping of the hotel's restaurant and surrounds.

"This project commenced in November 2013," said Kobus Coetzee, owner of Socrasync Civil Construction who were the contractor on the project. The hotel's need to increase the number of rooms available and refurbish existing facilities was done over two phases. We chose Ocon Brick for the project because of their ability to supply the quantities of bricks needed, which for Phase One was one million clay stock bricks for 29 rooms and a restaurant and two million bricks for the 22 rooms in Phase II.

"The entire project, worth R30-million, was completed in June 2016. There were a few challenges we had to overcome. For example, in the Meyerton area one is not allowed to connect to the local sewer system so we had to use the biorock sewage system and supply additional electricity due to the project location. Thankfully we had no storage issues for the vast quantity of bricks that were being delivered on a regular basis from Ocon Brick," says Coetzee.

"We have worked with Ocon Brick before, and will be working with them again on our next project. In our industry, a reliable supplier of clay stock bricks is crucial to keep the construction on track and therefore avoid penalties for delays. Ocon Brick not only offers an economical product, but their service and assistance throughout the project's lifespan has been excellent. Also, the consistent quality of the bricks from Ocon Brick is what gives them the edge," concludes Coetzee.

"One of our philosophies at Ocon Brick is that we like to build and maintain relationships with our customers. It is through these relationships that we get to know the challenges facing our clients as well as their expectations.

"We have worked with Socrasync Civil Construction before the Lord's Signature Hotel project, and we are delighted that we will be continuing as their preferred supplier of clay stock bricks on their next contract. The final finish at Lord's is magnificent. It certainly is a reflection of the four star rating that the hotel group has achieved," says Mariana Lamont, regional sales manager for Ocon Brick.

All Ocon Brick clay stock bricks are manufactured on site and subjected to stringent quality testing. Random selections of clay stock bricks are sent to an external laboratory for SANS 227 compliance testing on a monthly



basis. The company has a manufacturing capability of over 13 million bricks per month in a normal shift which ensures that major projects are supplied with the quantities of bricks they require, when they require them.

The stock brick range from Ocon Brick offers characteristics such as: fire resistance; superior thermal insulation; low carbon footprint; acoustic properties; low water absorption and ease of handling as well as durability and being environmentally friendly. ■



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COLLABORATIVE Project Management

Viewpoint For Projects™ is a collaborative project management solution used to improve communications, workflow, mobility, and decision-making to meet the unique needs of customers performing large-scale projects in the manufacturing, mining, building, infrastructure and energy industries.

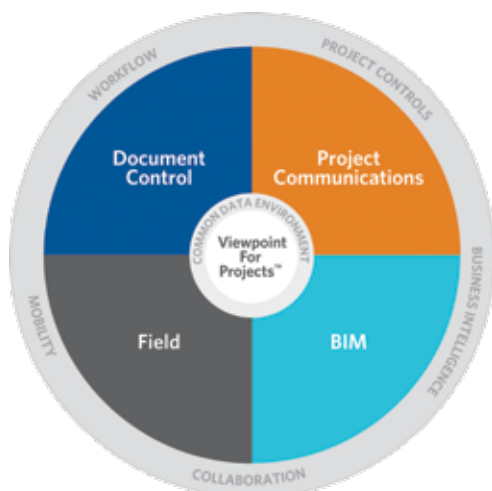
What service/solution do you offer the construction industry?

Designed to connect people, information, and processes, Viewpoint For Projects™ can help you save time and money, improve control, and reduce risk. Built on a common data environment, Viewpoint For Projects™ includes capabilities for document control, project communications, BIM and field mobility.

Viewpoint For Field View is a cloud based and off-line mobile (available on Windows, Android and iOS) solution that replaces pen and paper in the field for daily logs, snagging lists, safety observations, inspections, defect management, commissioning and much more. With Field View, users can easily create mobile field forms to streamline disparate processes for all available field data. This includes giving field users an easy-to-use mobile application to capture field observations from anywhere on the job site – even when there is no internet connection – helping to resolve issues more quickly, reduce risk and deliver higher quality projects.

What makes it unique?

Viewpoint For Projects™ allows users to not only automate and better control processes, but also to gain mobile and BIM capabilities to complete projects faster and more efficiently while connecting field teams with project information wherever they are. Viewpoint For Projects™ works by ensuring a single point of reference, accountability and data capture. Put simply, it builds an audit trail, which is essential in reducing the likelihood of disagreements and disputes, and providing a clearer path to resolution if discrepancies occur.



When was the product launched?

Viewpoint is a US based construction software company with more than 35 years' experience. The UK based company, formerly known as 4Projects, was launched in 2000 and acquired by Viewpoint Construction Software in early 2013, resulting in the product now known as Viewpoint For Projects™. In December 2014 Viewpoint also acquired Mobile Computing Systems, bringing its mobile field management solution, Priority 1 (since renamed Field View) into the product portfolio.

In August 2016, Viewpoint appointed Agile Business Technology (www.agile.co.za) as the authorised partner and reseller for Viewpoint's suite of products in South Africa.

Do you offer training?

Viewpoint end-users require very little or no training as the software is fairly intuitive to use and very similar in look and feel to Windows Explorer. Administrator and Super-User training is normally conducted as part of the 2-3 day implementation phase of the software.

What are the benefits?

Viewpoint For Projects™ enables customers and their project teams to increase the speed of information management including time taken searching, sending and waiting for information from project stakeholders. It also delivers quantifiable cost savings in the form of information management time, print, couriers and error reduction impact. The 2015 customer survey revealed the following:

- 27% of customers improved the speed of information management on projects by over 25%;
- 49% of customers reduced project spend on information management and reduced print/courier errors by 10%;
- 44% of customers rate the impact risk mitigation with Viewpoint For Projects as 'high'; and
- 27% of customers reduced project errors, duplication and mistakes by more than 25%.

Asset owners and portfolio owners are also starting to realise the ongoing benefit a solution like Viewpoint brings to their organisations during the Asset Maintenance and Portfolio Management phases of projects.

Statistics?

In 2015 the global coverage of Viewpoint For Projects™ reached 83% with users from 163



Jaco Barnard – Head of Sales at Agile.



Jabus Kotze – Viewpoint Consultant at Agile.

countries (from 196) logging in. Viewpoint For Projects™ has more than 450 000 users globally, and adds on average 5 000 new users every month. Some 17 000 projects are registered with more than 6,5 million documents uploaded in 2015 alone. Furthermore, data volumes increased by over 1,2 terabytes per month in 2014 and Viewpoint expects more than 65 terabytes of project data to be stored by the end of 2016.

Where are you based?

Viewpoint is headquartered in Portland, Oregon, USA, and the main EMEA office is based in Newcastle upon Tyne in the UK. They also have regional offices in the Middle East (Dubai) and Australia and the global workforce now boasts more 900 employees. In addition to this workforce, Viewpoint has global network partners including the recently formed partnership with Agile Business Technology, based in Stellenbosch, South Africa. Contact Agile for further information on Viewpoint at viewpoint@agile.co.za

Who are some of your clients?

Viewpoint For Projects™ is primarily used by construction companies, asset owners, developers, project managers, architects and engineering consultants. Global Clients include the Ministry of Justice, MACE, IKEA, Parsons Brinckerhoff, Scottish Renewables, Arup, Capita Symonds, Mott MacDonald, Sir Robert Calpine, Morgan Sindall and many more. With a relative new footprint in South Africa with its Agile partners, Viewpoint For Projects clients in South Africa includes Group Five, Aecom and NMC Construction.

How cost effective is the solution?

Viewpoint for Projects™ is a cloud based SaaS (Software as a Service) offering and can be purchased on a User, Project or Enterprise basis. Clients who only want to use Viewpoint for specific projects would purchase ('rent') the use of the software for the duration of the project, whereas companies wanting to execute all their projects on Viewpoint normally acquires an enterprise license.

The right software for exceeding project profitability, delivery, and quality expectations, Viewpoint For Projects™ is simple and easy to use, quick to deploy, and can deliver tangible returns on your technology investment. <

MARRIOTT: FIVE new hotels in SA

Amdec Group, South Africa's leading developer of new urban lifestyles, last month confirmed it is developing five hotel properties for the world's leading hotel company, Marriott International. All five of these properties will be firsts for Marriott brands in the country.

> Amdec is injecting a massive R3-billion into the development of these properties as a result of its growing partnership with Marriott International. This investment comes with welcome economic and employment benefits, during construction and long afterwards.

Commenting on the announcement, James Wilson, Amdec CEO says: "We are proud to pave the way for Marriott International's growth plans in Africa and help to open up new markets for this leading hotel company and its many loyal guests from around the globe. At the same time we are thrilled to develop property assets that create even more reasons to visit South Africa and see the cities they are located in. It is exciting to be part of creating new dimensions to hospitality and tourism in the country and, by doing so, provide more opportunities for visitors and locals alike."

The hotel developments are in response to increasing visitors' numbers to the two major South African cities. Their development is expected to create around 8 000 building related jobs while under construction and over 700 new sustainable hospitality jobs will be created on completion – 470 in three new Cape Town hotels and 320 in the two Johannesburg hotels.

Johannesburg

The new hotels in Johannesburg will be the first two Marriott-branded properties in South Africa – the signature brand Johannesburg

Marriott Hotel® Melrose Arch and the Marriott Executive Apartments® Johannesburg Melrose Arch.

Both the hotel and executive serviced apartment projects are part of Amdec's latest phase of the iconic Melrose Arch mixed-use precinct, the striking One on Whiteley which also includes a health club and luxury motor retail, and exclusive residential apartments. The Johannesburg Marriott Hotel Melrose Arch will offer 150 rooms and the Marriott Executive Apartments Johannesburg Melrose Arch will have 200 apartments. They are set to welcome guests at the celebrated live, work, play and stay Melrose Arch precinct in 2018.

Cape Town

The three new hotels in the mother city include the first Marriott Hotel in Cape Town; the second hotel will be under the upscale extended stay brand, Residence Inn by Marriott®, the first in South Africa; and the third hotel will be under the upper-moderate tier lifestyle brand, AC Hotels by Marriott®, which is the first hotel under this brand for the Middle East & Africa (MEA) region.

Amdec's latest mixed-use development – Harbour Arch – is to be constructed in the burgeoning Culemborg node of Cape Town, and will become the site of the 200-room Cape Town Marriott Hotel Foreshore and the 150-room Residence Inn by Marriott Cape Town Foreshore. Harbour Arch will be a new 200 000 m² mixed use development modelled



on the iconic award-winning Melrose Arch mixed use precinct in Johannesburg. On completion, it will comprise seven individual blocks located along a landscaped pedestrian walkway running the entire length of the precinct and will offer a sumptuous blend of retail, commercial, residential, hotels, restaurants and coffee shops, gyms and health clubs, banking, entertainment, and much more. It is expected to open in 2019.

The 189-room modern, design-led AC Hotel Cape Town Waterfront will welcome guests at The Yacht Club, a unique mixed-use landmark by Amdec which recently began construction. The Yacht Club is within the Roggebaai Canal Tourism Precinct, named after the Roggebaai Canal which runs through it. It is linked to an

30

James Wilson, Amdec CEO.



Johannesburg Marriott Hotel Melrose Arch.





Marriott Executive Apartments® Johannesburg Melrose Arch.



AC Hotel Cape Town Waterfront.

outstanding variety of world-class tourist, business, transport, retail and recreation facilities, all within its immediate vicinity. It is superbly located at the magnificent gateway to Cape Town's waterfront and a short walk from the Cape Town International Convention Centre (CTICC).

The Yacht Club also includes exclusive residential apartments and prime grade offices. The AC Hotel Cape Town Waterfront at The Yacht Club will be ready to greet guests from June 2018.

The growing relationship between Amdec and Marriott International is built on its ongoing partnership originally established through the Protea Hotels by Marriott® two existing hotels at Melrose Arch, African Pride Melrose Arch Hotel and Protea Hotel Fire & Ice! by Marriott Melrose Arch. <

The Amdec Group is a privately-owned property development and investment business recognised as South Africa's leading developer of New Urban lifestyles. Its pioneering portfolio includes the iconic Melrose Arch mixed-use precinct, the Evergreen Lifestyles brand including its six retirement villages, XtraSpace state-of-the-art self-storage facilities and many other landmark mixed-use, residential and commercial developments.



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OUTSTANDING STEEL APPLICATI

The project profile in this issue is Eastgate Phase II redevelopment which was the overall winner for the 2016 Steel Awards.

We also feature the two projects that were joint winners for LSFb in the same awards in the ‘environment and sustainability category’ as LSFb has various green properties. Here we feature the remaining category winners in the 35th annual steel awards.

Residential category winner

The Tree House Constantia

Winner of the Residential Architectural Category, The Constantia Tree House is a custom designed residence that embodies both simplicity and luxury. Getting all steel components to a sloped site without direct vehicle or crane access meant using both a sleigh and then chain blocks attached to two I-beams on the top of the scaffolding.

One enters the floating building by means of a weathering steel bridge with a timber deck walkway. The lowest floor contains a living area and kitchen, with two double volumes and a circular stair linking the living area visually and physically to the bedroom level above. Large sliding doors, 6 m high, open up the living level to a balcony overlooking the estate’s gardens

A circular stair, with sculptural treads carved from solid standing laminated oak, and supported on weathering steel steel reaches, lead up to the bedroom level (with bathroom), and then further up to a roof deck with views over the Constantia Valley.

The structural system was executed in laser-cut weathering steel plate, bent to form faceted columns, branch-like arms and rings. There are four structural column clusters, each consisting of four weathering steel columns held together with the arms and rings, to support spruce and western red cedar floor beams. The columns are bolt fixed by means of a large circular baseplate on conical concrete pad footings.

There is no steel connection between any of the steel structural columns but the timber floor plate construction. The stair ‘drum’ consists of a half circular lattice framework of mild steel hollow tubing and angles – bracing the structure as it is bolted down onto a concrete

drum at ground level (where the building’s utilities are concealed behind a slatted timber screen).

All shapes cut from the weathering steel plate had to fit into the laser cutter’s maximum size restriction, as well as the allowance for shapes that can be folded. All components of the steel structure needed to be transported to a site with narrow driveways. The house is situated high on a slope without any direct vehicular or crane access. Components were pulled to the site on a sleigh with a winch, and then hoisted up by means of a gantry supported by scaffolding surrounding the house site. Getting to a building inaccessible by road proved challenging. Some of the larger components were winched up an embankment to the position of the construction site. The site was enclosed in a scaffold structure that was covered with a tarpaulin and hail netting so that work could take place during the rainy season. Chain blocks were attached to two I-beams at the top of the scaffold structure to raise and lower components into position.

The slender nature of the vertical steel structural elements meant that there was flex in the structure when loaded and the steel structure had to be braced prior to the timber being installed. What makes this project special is the high level of customisation and detail required, with very small manufacturing and assembly tolerances. Steel was used to express the natural structural systems of the trees surrounding the house.

Global roofing solutions metal cladding winner

New Office for Statistics South Africa

Over and above its aesthetic appeal is the innovative use of metal side cladding on a commercial building, which is most unusual these days. It’s also unusual and interesting because on this state of the art modern building, we have a profile used that dates back to the 1960s. Another thing that impressed me was the incredible quality of the workmanship. In this type of an application you really have to pay attention to the detail, or the cladding will look very tacky very quickly.

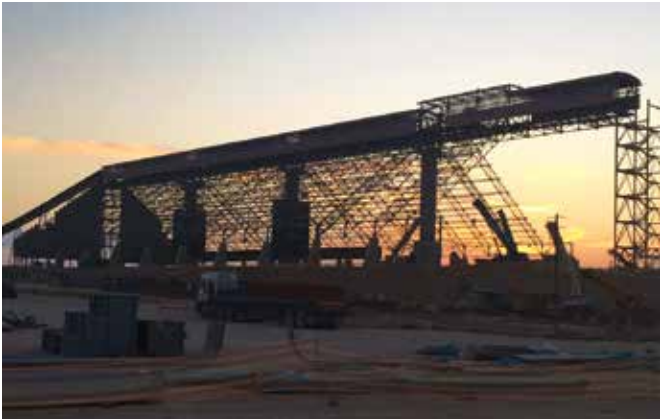
The Stats SA project consists of new offices and an archive building. Roof and side cladding is 0,58 mm thick galvanized Z200 GRS Brownbuilt 406 profiled sheeting with standard Chromadek finish one side and standard backing coat to other side. Sheetting colours include Dove Grey, Dark Dolphin and Charcoal. Insulation used over purlin on roof and sides were 40 mm thick white faced Lambdaboard and Sisalation 405.

The site was extremely congested and installation programme duration very short. The buildings were high, with lots of angles and direction changes on sides. Underslung sheeting in long lengths in Brownbuilt 406 profile tapered with angles. The Architect requested concealed-fix flashings. In order to address these challenges, the main contractor assisted with cranes and special scaffolding. Another solution included the design of special clip-on flashings.

All roof sheeting, side cladding and soffit sheeting is concealed-fix sheeting. Majority of flashings was concealed-fix or designed to hide fasteners. The most impressive technical aspect of this project is the underslung Brownbuilt 406 profiled sheeting and special flashings.

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Mining and industrial category winner

Husab Uranium stockpile cover & ancillary structures

The Husab Uranium Stockpile Cover & Ancillary Structures entailed the detailing, fabrication, corrosive protection, delivery and installation of two thousand six hundred tons of steelwork, as well as twenty-one thousand square metres of IBR sheeting. The project duration including on and offsite activities was fourteen months with the site duration being eleven months.

There were a number of interesting challenges to overcome, i.e. short lead times, high specifications required by client, galvanizing of trusses, for the logistical challenges due to cross border distances, lifting and jacking in the 140 ton gantries and sheeting the building on forty-five degree slopes. We pioneered some ideas at each phase to overcome the challenges and ultimately bring the project home safely and in time. Some highlights were:

- The logistical concern of delivering this volume of steel and sheeting was overcome by partnering with a local transported and dedicated trucking supplemented our in-house fleet.
- The development of the idea and plan to strand jack the gantries (50-meter span and 140 tons) into place forty meters above ground level, as opposed to using the traditional method of cranes, allowing for this part of the project work to be done faster and safer, ultimately saving the project time and the client monies.
- The development of sheeting gondola platforms, which supported a four-man team, tools and materials. These working platforms allowed for the sheeting installation crews to achieve around one thousand two square metres of sheeting installation per day. The safety risk of working on the steep slope was totally eliminated and went a long way in ensuring that Union Steel achieved another incident free project.
- Preassembly of truss box section allowed for the site crews to lift into place bigger sections of steelwork, minimising works being carried out in the air, again target our approach to ensuring that our focus on all projects is safety first, and driven with this mind-set.



Tubular category winner

Siesa Ramabodu Stadium

Scooping the award for best Tubular Steel structure was Siesa Ramabodu Stadium in Bloemfontein. Home to Bloemfontein Celtic, the Stadium was renovated to better serve the community by increasing its capacity, comfort and quality as a sporting venue.

When interviewed regarding this project, the first aspect architect Aadil Bham commented on was the professional and excellent manner in which the team collaborated while executing this project. "All contractors and subcontractors really came together well to give us a good final product." says Bham. The project came about from a collaboration between the Mangaung Municipality and the Freestate Department of Sports, Arts, Culture and Recreation, and the Department of Public Works. They identified this site as a priority for development within the municipality and developed a wishlist in terms of what they wanted to achieve. Their main priority was the upliftment of the sports offering from this facility, bringing it to a contemporary standard. They also wanted to create a facility that provided a quality experience to the community, with soccer being such a loved sport in the area.

The structural frame of Seisa Ramabodu Stadium consists of main raker beams, frames or columns which are founded on solid rock, with seating panels and a box gutter frame bolted to a structure cast into the concrete, carrying a cantilevered roof. The cantilevered roof spans about 30 m and consists of triangular trusses, constructed from circular hollow sections. The trusses vary from 2 m at the back to 500 mm at the nose cone, with a curved bottom member. It has IPE profile purlins that span 9 m (more or less the span of the raker beams) with curved cladding rails fixed to the back of the concrete frames, which carry the circular purlins that support the curved cladding.

The main challenge was casting in the structure that carries the gutter boxes at the back. This resulted in variable items, and the need to align trusses in order to create an even visual line, which contributes to the aesthetic of the stadium. Between the engineer, contractor and architect a three member connection was designed to solve this challenge. All aspects were surveyed, and each section had its own cleat made to align the trusses and achieve an even visual alignment. ◀



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N7 UPGRADE PROJECT COMPLETED SUCCESSFULLY

South Africa has successfully delivered a project to upgrade and improve Section 3 of the N7 between the Western Cape and Namibia. This 27,7 km stretch runs between the Citrusdal and Cederberg intersections.

The tender for engineering services was awarded to SMEC's Cape Town office by the South African National Roads Agency SOC Ltd (SANRAL) in 2009. This included investigations, design and construction monitoring.

Mynhardt Augustyn, function manager for construction and pavements in Cape Town, has been involved with the project since tender stage as design leader. Ivan Jacobs, regional manager for the Free State region, assumed the duties of contract engineer during the construction stage.

Five technical staff members from SMEC South Africa were employed on-site full time for the duration of the project, including three engineers assisting resident engineer Neels de Jager, and a senior materials technician. Fernando Pequenino, section manager for geotechnics in Johannesburg, was involved during the design, attending to geotechnical matters during the construction period.

The existing road, which consisted of a

surfaced width of 6,6 m with narrow gravel shoulders, was upgraded to SANRAL's standard cross-section of 12,4 m surfaced width. Jurgen Oosthuysen, engineer: construction and pavements, SMEC South Africa, says the main challenge faced by the project was that the existing roadway had considerable vertical alignment inadequacies.

"Over the full length of the road, the Olifants River runs on the eastern side of the road reserve, with valleys created by watercourses crossing the roadway at regular intervals. The existing roadway followed the contours of these rolling hills closely and reduced sight distance to the point where passing was impossible," Oosthuysen explains.

To this extent, the standard of the vertical alignment was improved by constructing numerous large fills using material obtained from cuttings, a total of 650 000 m³ of material. Improving horizontal alignment at two major watercourse crossings required the construction of two bridges. In addition, 12 major on-site culverts, as well as several smaller culverts, were required to provide sufficient infrastructure for drainage requirements.

A hard-rock quarry was established to produce approximately 175 000 m³ of crushed material for use in the pavement layers, for stone in concrete, as well as for use in stone pitching to erosion protection works.

The project provided unique challenges in meeting conflicting demands for traffic



Mynhardt Augustyn, function manager construction & pavements, SMEC Cape Town.

accommodation, keeping hauling distances to the minimum, and ensuring that available cut materials were put to best use as dictated by their engineering properties.

The geology consists of sandstone dipping towards the road with varying strike, mostly perpendicular to the road. The sandstone formation included interbedded clay layers, resulting in a number of slope failures in places during construction, and which were stabilised using rock bolts and mesh. ■

ENCORE FOR AFRICA'S OLDEST THEATRE

The oldest theatre on the African continent and in the Southern Hemisphere, the PE Opera House, has recently undergone intricate renovations and expansions. This was done to transform the building from a heritage site into a first class facility.

As the only surviving example of a Victorian Theatre in Africa, leading specialists in the construction, renovation and recycling of buildings, GVK-Siya Zama, were enlisted to ensure that it would be preserved for future generations to enjoy.

When the PE Opera House opened, it was dubbed by press as 'The finest theatre in all the World'. However over the course of its 124 year history, the building and a number of its unique elements have decayed. GVK-Siya Zama was tasked with preserving its historic architectural features, while at the same time expanding its facilities with modern twists.

The building, known as the 'Old Lady', houses two theatres: The Barn, which is a cabaret venue, and the Main Stage, which was built for ballet, opera and musicals. The upgrade called for the addition of a dedicated foyer space and passenger lift in The Barn as well as extensions to the theatre. The Main Stage required renovations to its foyer along with internal and external painting and damp damage repairs. Carpets and wallpapering throughout the building had to be replaced and new air-conditioning, lighting, fire detection and ventilation systems had to be installed to ensure compliance with the latest building and energy regulations. Access for disabled persons also had to be improved. All of this had to be carried out whilst retaining

and protecting as much of the fragile original heritage elements – from pressed ceilings and tiles to ornate fretwork – as possible.

Barend Delport, regional managing director at GVK-Siya Zama, says that some of the most interesting components of the project were the reconstruction of the original gallery floor to increase seating capacity and the installation of an all-new fire escape route.

Delport believes that the revamped PE Opera house now provides PE and its residents with a first class facility that will attract local and international acts. Once more funds are secured, the 'Old Lady' will house a rotating restaurant, modern stage, roof garden and opera school. ■



The existing road was upgraded to SANRAL's standard cross-section of 12.4 m surfaced width.



The standard of the vertical alignment was improved by constructing numerous large fills using material obtained from cuttings, a total of 650 000 m³ of material. Improving horizontal alignment at two major watercourse crossings required the construction of two bridges. In addition, 12 major on-site culverts, as well as several smaller culverts, were required to provide sufficient infrastructure for drainage requirements."



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EASTGATE PHASE II

redevelopment wins 2016 Steel Awards

The highlight of the structural steel industry calendar, the 35th Annual Steel Awards hosted by the Southern African Institute of Steel Construction in partnership with BSi Steel, took place on 15 September 2016 in Johannesburg, Cape Town and KwaZulu-Natal concurrently. Attended by over 1 000 people the event showcased projects completed in the previous year that demonstrated excellence in the use of structural steel.

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The event culminated in the announcement of the overall winner for 2016, the Eastgate Phase II Redevelopment, submitted by Tass Engineering – Steelwork Contractors and project team members. In addition to being the overall winner, this project also won the Commercial Architectural Category.

The Eastgate Phase II Redevelopment encompasses a number of new structures to give the centre a major facelift. The primary change is the relocation of the lower level cinema complex onto a section of the roof-level car park, enabling more retail space at the lower level plus incorporating substantial additional retail space within the new cinema complex at roof level.

When asked about Eastgate Redevelopment Phase II project, Spencer Erling, retired SAISC Director

and seasoned Steel Awards judge convener remarked: "I've sent students there. I've seen the drawings. I just think that what they've achieved in a working shopping centre, that's absolutely changed the mall totally, is really a fantastic piece of engineering work."

What makes this entry special?

What is special about this project goes hand in hand with why steelwork was chosen as the main structural component in its design. Building a major 5 000 m² structure such as this one on a suspended concrete carpark slab over two levels of retail space and keeping the entire shopping centre operational in the process is no mean feat both from a design and a construction point of view.

Underpinning of the foundations was undertaken by mining under the existing lower level suspended slabs firstly by excavating using remote controlled Bobcats with their hoods cut off and then installing mini precast piles.

Special consideration had to be given to access to the workforce for the installation of most of the steelwork. The loading limitation on the rooftop carpark slab was only 2 kPa with the maximum vehicle weight limited to 5 000 kg.

The tower crane that was installed by the main contractor on the site covered only 60% of the rooftop cinema complex area and had limited load capacity at radius.

A number of the internal structures were designed with plate web girders spanning in excess of fifteen metres which had to be manhandled into position and hoisted by scaffold tower and chain blocks.

Loads of up to 3,5 ton and lengths of over 18 metres had to be trolleyed/man handled through and around the cinema structure to then be hoisted to final level by building high scaffold towers over them and pulling them up with suitable capacity chain blocks, an extremely time consuming and expensive means of erection.

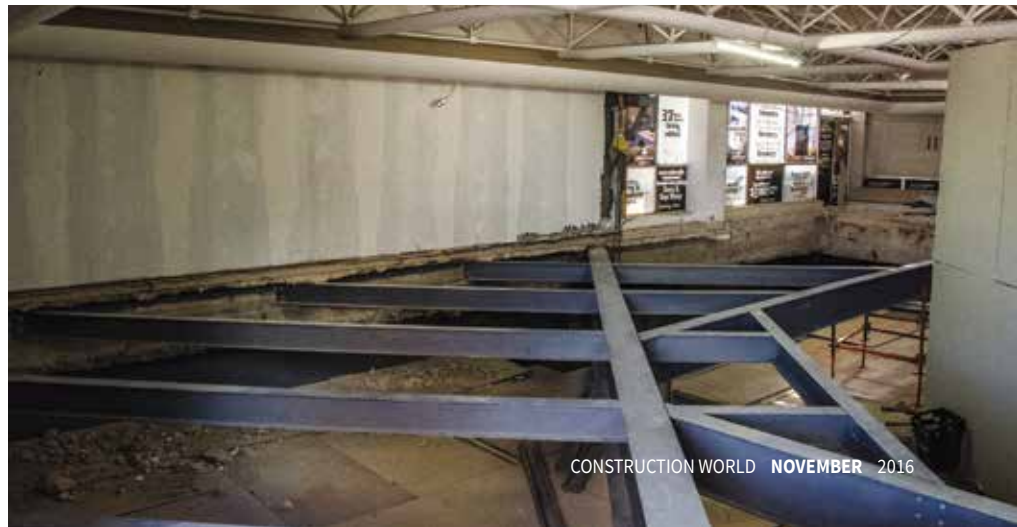
Connection design, particularly between the numerous beams throughout the lower levels of the cinema complex and all the Bond-Dek slab support beams was a major cost saving item from a fabrication





point of view. Minimal if any welding was employed rather opting for bolted connections with back to back angles bolted through the incoming beam webs to achieve all end plate connection details.

Due to the high visibility of the building, great care was given to the aesthetics. The building form consisted of scalloped segments with sloped Kingspan side cladding & aluminium roof sheeting. ◀



SANDTON'S LATEST SHOWPIECE ...

Client:	Johannesburg Development Agency
Main contractor:	WBHO
Design Engineer:	Hatch
Form-and-falsework:	Form-Scaff
Location:	Katherine Street, Sandton
Project type:	Cable Stay Bridge



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More than 1 300 tons of Form-Scaff form-and-falsework is on site at the Katherine Street Bridge where WBHO is undertaking a technically challenging project to construct Sandton's latest showpiece structure.

➤ With a span of 120 m including two bus lanes and a pedestrian walkway, the ultra-impressive cable stay bridge will form part of the City of Johannesburg's new generation Rea Vaya BRT route linking Alexandra to Sandton. Its span over South Africa's busiest highway will provide safer and faster access to the central business district for thousands of commuters every day.

During the construction phase however, the spanning of the highway without impeding workday rush hour traffic is the greatest challenge of all requiring the assistance of the country's top structural support experts to design and building temporary structures to allow construction to continue unimpeded.

Custom designed

Chris Erasmus, Form-Scaff technical director, explains that the entire weight of the bridge needs to be supported from the time of the first concrete being laid (early last year), until the massive cable stays are

in place and carefully tensioned later this year. Until such time Form-Scaff's combination of Super-Beams and Kwik-Stage will form the basis of the support for the bridge.

"We also manufactured special formwork to pour the towering 52 m high main pylon and ensure that the cable anchors can be carefully aligned with the anchors on the road-level bridge beam. Lobster-back forms were also made for the casting of piers that support the bridge as it touches down on either side.

"With limited headroom across the 24 m and 27 m wide portals over the north and south carriageways, our heavy capacity Super-Beams provide the only feasible answer with a low enough profile for unimpeded traffic below, while being strong enough to support the thousands of tons of construction materials above. Another advantage is that the five separate beams, each comprising four connected Super-Beams, could be preassembled offsite to save time and space on the crowded construction site," says Erasmus.

Precast solution

WBHO construction manager for the BRT Cable Stay Bridge, Nicol van Rensburg, says the construction starts with the Super-Beams supporting 19 pre-stressed precast concrete transverse beams spaced at 3,5 m intervals across the bridge. These 8,55 m long by 400 mm wide and 750 mm high concrete beams then provide support for 100 mm thick pre-stressed concrete planks which are in turn placed across the 3,5 m gap between the transverse beams.

Casting of the main beams and slabs follows with the main beams tying into the exposed rebar of the transverse beams. At the same time the main pylon is constructed with formwork designed to reduce in plan dimension from 6 m at the base to 1,5 m at the top of the pylon.



This reduction allows for the construction of a slanting front face which creates both functional strength for the pylon as well as being aesthetically pleasing. Additionally, for the stability of the structure, the pylon base required 20 x 1,2 m piles to be cast each more than 20 m deep to make contact with bedrock below.

The pylon also requires five cross beams to assist in torsion control to brace the two legs. These are spaced about 4 m apart and begin at 35 m from the base of the pylon. Once completed the pylon legs will support the heavyweight 27-strand cables measuring up to 88 m long, as well as the weight of the structure, traffic and other calculated exterior forces. Following the final tensioning and completion of the concrete work, the final step in the construction of the bridge will be the addition of a bitumen running course to provide a smooth surface for the Rea Vaya buses, as well as a 'bolt-on' structural steel pedestrian walkway.

Dependable partnership

Van Rensburg's summation is, "For a job of this size and complexity we prefer to deal with a professional and dependable partner. Form-Scaff helped us overcome some of the challenges associated with working on a project which requires dynamic design solutions in very limited time spans.

"A good example is the cable formwork tubes that are cast into the pylon which needed to be lined-up perfectly with the ties at the bottom. This is not an easy task considering the tubes have to be held in place for multiple lifts as the concrete pouring progresses. In the end however we worked on solutions and in collaboration with Form-Scaff were able to overcome these potential pitfalls," says Van Rensburg.

"Another challenge was the balancing and anchoring of the bridge

considering it has an 88 m reach on the Sandton side – and just a 33 m reach on the other. To overcome this, Hatch, the design engineers, called for the construction of a much thicker, solid deck on the short side of the bridge to help counterbalance the weight deficit. The piers also needed to be anchored from the deck level into bedrock on the short side to provide additional stability.

Overcoming challenges

"Likewise, the solution for the cable formwork tube alignment issue has also been solved and involves slotting the formwork to allow them to be lifted after each pour without interfering with the cable tubes.

"Although these were technically challenging, they are just some of the many complex issues that you get on a live site. In my experience the kind of technical support you surround yourself with ultimately determines the manner and success of the solutions created to address them.

"Having worked with Form-Scaff on a number of similarly complex projects in the past we are 100% confident in their overall ability to deliver according to the specifications of the project. On this particular site the expertise and technical support provided by them has been pivotal to the success of the project overall," concludes Van Rensburg. ◀



CANTILEVERING for super-slim PIERS

Doka's formwork expertise is currently in demand during the construction of one of the busiest motorway viaducts in Germany. The Lahntal bridge located in Limburg dates back to the early 1960s and is 400-metre long. Every day about 100 000 vehicles cross the valley of the River Lahn on the viaduct. Its traffic load has increased sharply, so a new bridge is being built sited just a few metres west of the old viaduct.



Pairs of super-slim reinforced columns carry the superstructure. The diameter is no more than 2,80 m at the widest and the highest piers are 57 m tall.

➤ The new Lahntal viaduct will measure a massive 43,50 metres overall in width. So in future, there will be a total of eight lanes, plus hard shoulders. A major improvement over the old motorway bridge. It had only six lanes, and no hard shoulder. Work started in September 2013, with the new bridge scheduled to be open for traffic in autumn 2016. The project is funded by Germany's federal government and total cost will be around €92,7 million.

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Cantilevering is the construction method for the haunched, twin-cell pre-stressed box girders of the superstructure of this 450-metre girder bridge. All photos courtesy: Doka



The old bridge is due to be fully demolished and removed by autumn 2017. Work overall is scheduled for completion by the end of 2017.

The beam bridge 450 metres in length is a design by the joint venture of 'Bürogemeinschaft Konstruktionsgruppe Bauen' from Kempten and Munich-based architects 'Architekturbüro Karl + Probst'. The roadways are 62 metres above the lowest point of the valley floor and the seven spans range from 45 to 90 metres in length. No bridge pier had to be set in the waters of the River Lahn itself. Haunched, twin-cell pre-stressed concrete box girders form the superstructures. Pairs of super-slim, circular reinforced concrete columns will transfer the loads of the bridge. Maximum pier diameter is a mere 2,80 m, and the tallest piers stand 57 metres high. Cantilevering method is used to construct the superstructures. Secondary pier structures provide additional stability for the build phase. Lead contractor is Max Bögl Stiftung & Co. KG. Doka was awarded the contract for the extensive formwork technology.

Climbing-system technology for the primary piers

Automatic climbing formwork Xclimb 60 is used to build the circular-section columns of the primary piers. The system climbs hydraulically and is anchored to the structure at all times by guiding shoes. So it can climb even when wind speeds are as high as 72 km/h. The formwork itself is made up of Large-area formwork Top 50 planned specifically for this project. The panels consist of Timber formwork beams H20 top and Steel walings WU14. Maximum pouring height is 5,75 m at a formwork height of up to 6 m. Ladder systems XS with cages ensure safe up/down access between the three platform levels.

Workspace flat measuring 340 m² for pier heads

Asymmetric pier heads are the springers for cantilever construction. The pier heads are



The formwork for the circular-section primary piers climbs with Automatic climbing formwork Xclimb 60. Guiding shoes hold the system locked against the structure at all times.

constructed on top of each pair of primary piers and are anchored into the adjacent pair of secondary piers. There are 675 m³ of concrete in each pier head. This corresponds to a concrete self-weight of just under 1 700 metric tons. Plus the weight of the reinforcement and the weight of the formwork. The pier heads are poured in three casting steps. The heavy steel structure used is 90% Doka rental material. The entire formwork solution for the pier heads plus falsework came from Doka, so everything was from a single source.

Two primary beams HEB 1000 each 20 metres long are the basis of each pier-head formwork structure. The secondary beams are ten coupled Anchoring cross beam CFT. Together they carry a closed workspace flat measuring 340 m² poised at heights up to 50 metres above the valley floor. Pre-assembly of the bottom formwork units and the all-round guardrail systems was handled by Doka's



doka

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**Faster, and
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Panel floor formwork Dokadek 30

Extraordinary fast forming

High forming rate thanks to large, 3 m² Dokadek 30 panels and seamless connection with Dokaflex

Extra-safe working

Panels can be put up and taken down easily and safely without walking on top of the slab formwork

Easy handling

No need to calculate or measure up, as the positions and numbers of props are all made clear by the system



Designed as a lightweight steel construction with powder-coated frames, this beamless hand-set formwork system is faced with wood/plastic-composite sheets and makes possible three different working methods: with or without drop-head, and early stripping based on proof of concrete strength. Dokadek 30 combines the advantages of panel floor formwork system with those of Dokaflex floor slab formwork, that means its 3 m² large panels make it fast in typical zones, yet – thanks to Dokaflex – it is also quick and flexible in the infill zones. Dokadek 30: Slab formwork at its most evolved.



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TWISTED high rise architecture

The 170 m high office tower in Milan elegantly winds its way upwards and bears the signature of Zaha Hadid. Through the interplay of perfectly coordinated formwork and scaffolding solutions on the basis of a well thought-out safety concept, the shell construction could be completed within just 17 months.



Il Dritto (The Straight One), Lo Storto (The Twisted One) and Il Curvo (The Curved One) – the names given to the three skyscrapers at Milan's Piazza Tre Torri, the core of the ambitious CityLife urban development project. Lo Storto, The Twisted One, is the future administrative building of the Generali Insurance Group. The 44 floors of the 170 m high-rise office building gracefully wind their way upwards. It was designed by the recently deceased star architect, Zaha Hadid. Likewise part of the CityLife project, the Hadid Residences also feature her distinctive style and clear design language.

The concrete shell of the striking Generali Towers was completed in April 2016 – after a construction phase of only 17 months. With the help of project-specific PERI formwork operations, it was possible to finish ahead of the originally planned schedule by a full three months. This was because the formwork and scaffolding specialists at PERI Italy developed an execution solution with consistently safe and thereby fast operating sequences. In spite of the complicated building geometry, the standard storeys could be realized in continuous weekly cycles.

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The 170 m high office tower bears – as does the residential development section of the Milan CityLife project – the handwriting of the recently deceased star architect, Zaha Hadid. (All photos: PERI GmbH)

One climbing system as protection panel and climbing formwork

The PERI project solution was based in particular on the RCS Rail Climbing System. On the one hand, this was used as a climbing protection panel for the top floors under construction at any one time. In addition, the RCS system served as climbing formwork for the building's core. Through the rail-guided climbing operations, the climbing units were securely connected to the building at all times which ensured the climbing procedure was always carried out quickly and safely even during windy conditions. By means of mobile climbing hydraulics, the units could be lifted to the next section each time without requiring a crane.

Climbing combination for the core


The floor slabs revolve around the centrally-positioned core of the high-rise building whose complicated ground plan geometry is composed of circular and angular external walls as well as contrasting slender internal walls. Furthermore, the external walls of the core taper in 15 cm increments from a massive 90 cm at the base to a much thinner 30 cm in the upper floors.

The PERI climbing formwork solution was based largely on the crane-independent working RCS Rail Climbing System, combined with a self-climbing ACS Platform Unit along with crane-climbed CB Climbing Platforms and BR Shaft Platforms. With the help of the ACS technology, the placing boom could also be guided upwards. The reinforced concrete walls were formed accordingly using TRIO Panel Formwork and VARIO Girder Wall Formwork, supplemented by project-specific special formwork elements.

Maximum safety and fast shuttering times

The RCS P Climbing Protection Panel secured the leading edges of the twistedly-arranged floors so that the walls, columns and slabs could be safely formed at all times. In addition, the increased feeling of safety – due to the gap-free enclosure – accelerated the construction progress ensuring that forming operations could continue throughout independent of wind and weather.

For realizing the 32 cm thick floor slabs, SKYDECK Panel Slab Formwork complete with the drophead system was used. In the process, fast shuttering times with short striking times were achieved. Problem-free adaptation to suit the slab geometry which changed from storey to storey as well as shuttering the columns was carried out by means of standard compensation elements.

PROKIT anti-fall protection usefully supplemented the PERI execution solution and consistently implemented the safety concept in all floors for all shell construction operations and finishing work. With side mesh barriers, posts and slab feet, flexible use without any additional planning effort for accommodating the complex building geometry also proved to be unproblematic. 

The 44 storeys elegantly wind their way upwards from the ground.



pre-assembly service on site. And the team also takes care of installation and removal of the eight steel-girder grilles.

The bottom slab is the first construction section of the pier head. It has a self-weight of 437,5 metric tons and during its construction the steel-girder grilles slowly drop about 10 cm.

Secondary piers for added stability during construction

The superstructures of the new Lahntal viaduct are constructed toward each other from pier head to pier head. The cantilever forming travellers work in pairs, so that the horizontal forces acting on the bridge piers are always in equilibrium. Each pair of primary piers has two adjacent secondary piers. They stabilise the pier head at all times while cantilevering is in progress. The secondary piers have a cross-section of 2 x 2 m and they are up to 50 metres high. Lead contractor Bögl used its own slipform formwork to erect these stabilising structures.

Cantilever forming travellers

The cantilever forming travellers on the Lahntal viaduct each have four longitudinal trusses. They can handle varying section lengths from 3,75 to 5 metres and concrete weights up to 250 metric tons. Complete with platforms the bottom grid is 9,50 metres wide and 25 metres long. With formwork and platforms, each of the four cantilever forming

travellers weighs some 130 metric tons. First to last, initial assembly of all the cantilever forming travellers was in the capable hands of the specialists from Doka's pre-assembly on site. Twelve complete repositionings of the cantilever forming travellers had to be handled as well. Doka also designed and built a special strand-jack platform using the Bögl company's own materials for cantilevering. This platform was used to hoist the bottom grids straight off the ground without the assistance of heavy-duty truck-mounted cranes.

Through to the closing cycle, there is a 1,25 height variance at the bottom of the bridge's cross-section. So the bottom formwork telescopes in the area of the webs to allow for this difference. The inside formwork for the trough consists of a drawer structure for speedy repositioning. All the formwork elements come from the Large-area formwork Top 50 modular, 'building block' system. Fully integrated platform systems ensure safety at work.

When the cantilever forming traveller advances an articulated carrier system automatically adjusts the bottom grid.

Unlike the typical cycles, the closing cycle has to be cast in two concreting sections. The bottom and the web are cast first. The top-slab rails of the cantilever forming traveller are then extended without any prior dismantling. The concrete is then cast for the roadway slab. When the closing cycle is completed the cantilever forming carriage is brought back into



Doka supplied four cantilever forming travellers with four longitudinal trusses per carriage for building the superstructure of the Lahntal viaduct. Complete with formwork and platforms, each cantilever forming traveller weighs about 130 metric tons.

position above the axis of the piers. Special retractors come into play at this stage of the procedure. With the carriage back at the piers, the bottom grid can be lowered. The carriage is then stripped down into big, largely undismantled repositioning units. Even the anchoring cross beams, more than 24 metres in length, remain in place complete with the platform. At night, massive heavy-duty haulers manoeuvre the units into position for work on the other carriageway of the new bridge. ◀



The PERI climbing formwork solution for the high-rise core was based largely on the crane-independent working RCS Rail Climbing System, combined with a self-climbing ACS Platform Unit as well as crane-climbed CB Climbing Platforms and BR Shaft Platforms. **BELOW:** In addition to ensuring short striking times, the SKYDECK Panel Slab Formwork also allowed easy adaptation to match the slab geometry which changed from storey to storey.



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Work in progress applying a.b.e. protection near the top of the towering wheat silos in the Port Louis harbour, and the fully repaired structures which are a focal point of the ocean gateway to Mauritius.

OCEAN-EXPOSED wheat silos protected

A special protective coating system supplied by a.b.e. Construction Chemicals was used for the repair of 16 massive wheat silos in the harbour of Port Louis, Mauritius.

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> Luis Ferreira, business development manager: exports for the Chryso Southern Africa Group – the holding company of a.b.e. – says a.b.e.

durakote WB was applied in four coats to the 40 metre high silos of the leading Mauritian flour producer, Les Moulins de la Concorde Ltée. The towering silos, with a collective storage capacity of 40 000 tonnes, form a focal point and landmark of the Port Louis harbour. Adjacent to the concrete silos on Quay D is the Les Moulins de la Concorde mill to which the wheat is discharged from the silos for processing.

Ferreira says a.b.e. durakote WB (water-based) is a high performance flexible aliphatic acrylic polymer coating with high crack bridging properties. The system comprises durakote WB primer, a powerful penetrating organic carrier coat that incorporates acrylic resin and silane-siloxane molecules that form a reactive hydrophobic primer barrier coat that chemically bonds to the substrate.

durakote WB itself is a pure aliphatic acrylic polymer protective topcoat with high elastomeric crack bridging qualities – the coating is capable of bridging a 0,3 mm dynamic crack at 20 degrees Celsius. The system forms a durable, decorative, UV-stable protective coating that inhibits the passage of water and aggressive water-borne corrosive contaminants from entering the pores of the concrete silos.

“durakote WB is particularly suited to structures exposed to harsh, aggressive atmos-

pheric conditions and was the ideal choice for the repair and waterproofing of the marine-exposed silos,” Ferreira stated.

He said four coats of durakote WB was applied to achieve a 400 micron dry thickness on the silos. “Normally two coats offer sufficient protection but because of the silos being right next to the ocean, an additional two coats were specified and applied for maximum protection,” he added.

Some of the other benefits of a.b.e.’s durakote WB system include:

- Forms a permanent barrier against the ingress of carbon dioxide, chloride ions, oxygen and water – the main contributors to corrosion;
- Tough, durable, weather-resistant and UV-stable decorative coating suited to the most adverse conditions;
- durakote WB coating system has the ability to breathe – and this allows water vapour to diffuse from the concrete pore structure;
- Improved dirt pick-up resistance;
- Low sensitivity to mould and algae growth; and
- Strong barrier to efflorescence.

“Finally, the system in addition to its protective qualities also provided a highly decorative finish so the refurbished silos are now an attractive feature in a harbour that receives dozens of luxury cruise liners every year,” Ferreira added. <

ISO 9001 FOR GAUTENG FACTORY

ISO 9001 is a quality Management System which provides the infrastructure, procedures, processes and resources needed to help organisations both monitor and improve their performance to drive efficiencies, client service and product excellence.

> Sika Head Office in KZN acquired their ISO 9001 standard in 1995, and subsequently adopted the ISO 14001 in 2006 and OHSAS 18001 standards in 2011.

“All Sika factories are required to be ISO 9001 & ISO 14001 certified as a minimum. Being certified and complying with the requirements of the standards enabled us to operate at and hold ourselves accountable to a higher quality operational and performance level. It gives us and our customers the additional confidence that we are working towards international levels and standards,” says Paul Adams, SIKA SA managing director.

No new standards were needed to be adapted in the audit. Having an existing system at Sika Head Office helped the process of extending the certification to the GP branch as they worked from the structure and framework in place already.

“It is important that the GP branch be audited regularly (the certification body does surveillance audits annually and our certificates are valid for a three year period) to ensure compliance with the requirements of the standard as well as to identify gaps in the system and areas for continual improvement, Adams added. <



CONCRETE BENEFITS

The current evolution taking place with raw materials in the construction environment is exciting and should not be seen as any form of constraint. It is actually enabling for architects and contractors alike, opening up new avenues.

> This is according to Marc Plancon, marketing director for CHRYSO, who recently visited this leading construction chemical admixture specialist's South African subsidiary, CHRYSO Southern Africa.

Plancon says that markets, both internationally and here in South Africa, are being driven by the need for sustainable construction and this includes the move towards the use of renewable resources.

"What is different is that each country is moving at its own pace in terms of this raw materials evolution," he says. "For instance, in South Africa there is a marked lack of natural aggregates which has led to the use of large quantities of manufactured aggregates."

As a result, CHRYSO Southern Africa has developed in-depth knowledge around the use of these manufactured aggregates. One of the major differences with manufactured or crushed aggregates is that these do not contain a lot of fines.

Plancon says that this means contractors have to deal with very coarse sand which can have a negative effect on the finishing quality.

CHRYSO developed QUAD® technology which allows customers to use coarse sand in large quantities and still maintain a homogenous and cohesive concrete. Previous construction chemical technologies, such as viscosity agents, had a negative impact on slump which affected the workability of the material.

Significantly, CHRYSO Quad® retains water in the mix for later use during the hydration process without impacting on air content or strength. This not only allows the production of a concrete with a higher slump, it also ensures increased flowability and placeability. By ensuring optimum workability it is possible to produce accurate repeatability with an improved quality finish.

Another technology that is receiving focus in South Africa is workability extenders. Construction in a warm climate presents its own set of challenges, but this coupled with

the volume of construction being done in the urban environment requires concrete mixes that have significantly extended workability time frames.

Plancon explains that when working in built up urban areas readymix trucks have to contend with traffic congestion and this increases the time between leaving the plant and delivering the material to the project site.

Leveraging its development capability has seen CHRYSO produce innovative admixtures that allow the readymix producer to achieve extended material workability levels without impacting on anything else in the mix design.

"Without the inclusion of appropriate admixtures, contractors are faced with limits in terms of slump extension and the concrete mix has to be constantly adapted to meet the construction material specifications. This places increased pressure on quality control activities," Plancon says.

"By applying appropriate admixture technology contractors are given the assurance that workability is extended without negative secondary issues on concrete."

"It is this in-depth knowledge of market conditions and understanding of the evolution of raw materials that enables our skilled technical researchers to develop new technologies that will assist both concrete manufacturers and contractors to achieve a quality end product," Plancon says.

As a full service provider, CHRYSO works closely with concrete producers to optimise the cost of concrete per cubic metre thereby allowing them to bring additional value to the end user, the contractor. <



Marc Plancon, marketing director for CHRYSO, recently visited this leading construction chemical admixture specialist's South African subsidiary, CHRYSO Southern Africa.

Billed as a very innovative technology by CHRYSO, EnviroMix® is engineered to boost Supplementary Cementitious Materials (SCM) performances. This allows significantly higher clinker replacement using by-products such as fly ash or slag while maintaining the desired plastic and hardened concrete properties.

This innovative admixture is based on proprietary and patented chemistries including a combination of specific cement dispersion technology with hydration catalysts. Importantly, the product can be optimised for local materials ensuring superior concrete placeability and finishability. It also enhances concrete strength performance at an early stage.

EnviroMix® is suitable for use in multiple concrete applications including readymix concrete, self-consolidating concrete, precast concrete and site batched concrete.



CHRYSO developed QUAD® technology which allows customers to use coarse sand in large quantities and still maintain a homogenous and cohesive concrete.

Q & A with president of **DOOSAN BOBCAT**

Martin Knoetgen, president of Doosan Bobcat Inc in Europe, Middle East and Africa (EMEA) answers questions on recent developments at the company in the EMEA region.

Doosan Bobcat has a strong and growing commitment to the EMEA market – could you explain your approach to this market?

To meet our aspirations, Doosan Bobcat has invested in new developments, infrastructure, manufacturing facilities and the growth of our people in EMEA.

The investment in the Bobcat telehandler plant at Pontchâteau in France has allowed us to significantly enlarge our telehandler product offering and improve product quality and efficiency. Pontchâteau serves Doosan Bobcat's global telehandler markets as the core source of Bobcat telehandlers for construction and agricultural applications.

But the changes have been even more profound at the Doosan Bobcat campus at Dobris in the Czech Republic, where integrating every part of our operations and product development on one site from engineering and design, sourcing, manufacturing, marketing, aftermarket, distribution and demonstrations to training for our EMEA dealers and customers, continues to bring enormous benefits in every part of our business.

Over the last decade, the compact equipment business in EMEA has been transformed from an importer model to a fully integrated manufacturer exporting more locally produced machines than we are importing from North America or Korea. Because of these developments, 80% of the compact product sold in the EMEA region is now made at Dobris. In addition, because of the competitiveness of the Dobris plant, which offers lower manufacturing costs, 30% of the output from the Dobris plant is exported for sale in North America and Asia.

Last year, I had the pleasure of officially inaugurating the new Innovation Centre at the Dobris campus, which is a further demonstration of the long-term commitment of Doosan Bobcat to EMEA and is the result of the bold decisions taken by the company when Europe and the rest of the world were experiencing a pronounced economic downturn, investing in people and innovative industrial and business solutions around the world.

We are developing the Dobris Innovation Centre as a European Engineering Centre of Excellence, which will serve as an expert R&D centre for all Doosan engineering teams across EMEA and has taken responsibility for small loaders and compact excavators from 1-3 tonne. Our Innova-

tion centre in Dobris is connected to two more centres in Bismarck (USA) and Incheon (Korea). While each centre is focused on developing solutions for their local markets, the three share a technology roadmap that allows us to coordinate our most advanced projects when it comes to Research and Innovation. We believe Innovation is what will get us to Number One in Compact Equipment worldwide.

Further demonstrating our strong commitment for European customers, we have also moved the European Parts Centre for the Doosan Heavy range of excavators, wheel loaders and articulated dump trucks in the last two years to Leipzig in Germany. Providing 24-hour delivery of parts to Doosan dealers and customers door-to-door anywhere in Europe from a stock of over 43 000 parts, the 6 000 m² Doosan European Parts Centre is housed in a large warehouse facility operated by Doosan's partner, DHL Supply Chain.

Established at the end of 2014, the Doosan European Parts Centre is the result of significant investment by Doosan Bobcat to provide a value-added parts service for our European customers and dealers. Based on the success of this model, Doosan Bobcat is looking to move the company's Bobcat and Doosan Portable Power parts businesses to Leipzig to benefit from the same parts customisation and distribution methods to further optimise parts service for customers in EMEA.

In May 2016, Doosan Bobcat EMEA announced its intention to close its headquarters in Waterloo, Belgium. Could you explain the reasons for this?

This important strategic decision is a logical consequence of the footprint changes described above. The consolidation of the Doosan Bobcat EMEA Headquarter functions from the facility at Waterloo and the relocation of them to the main operational site in Dobris with its R&D, training and demonstration, production and logistical activities will provide the company with much higher effectiveness and generate even more synergies. And most importantly it will support one of our key priorities: customer focus and proximity.

As I have mentioned earlier, Doosan Bobcat has high aspirations and a strong commitment to the Europe, Middle East and Africa market, and with our drive, determination, focus and increased resource allocation, we are aiming to support our EMEA customer base even better in the future.

As well as Europe, you are also responsible for Bobcat and Doosan Portable Power in the Middle East, Africa and Russia. Could you tell us more about the challenges in these markets and your plans going forward?

The new Innovation Centre, the compact equipment plant and all the other elements of the Doosan Bobcat campus in Dobris are a shared resource not only for Europe, but also the key markets of the Middle East and Africa (MEA) and Russia.

As well as the developments at Dobris, we have also instituted changes in our local operations in these markets. In 2015, for example, we opened a new Parts Distribution Centre (PDC) for Bobcat and Doosan Portable Power products in Dubai in the United Arab Emirates. The new PDC is a collaboration with Agility, a leading global logistics provider, which is hosting and managing the new facility at the Jebel Ali Free Zone in Dubai.

Designed to better serve our dealers and customers in MEA with better availability, shorter delivery times and lower logistical costs, the new Dubai PDC has made it possible for us to deliver parts to over 90% of the region within 24 hours. As well as enhancing our aftermarket service, the new PDC demonstrates our strong commitment to the MEA market.

We are always listening to our dealers and customers in every area and in response to local demand from MEA markets, we introduced a new product line earlier this year with the launch of the new Bobcat backhoe

An image from the Dobris Innovation Centre.



Martin Knoetgen, president of Doosan Bobcat Inc in Europe, Middle East and Africa (EMEA).



loader range in the Middle East. This has been a very successful launch which we are planning to expand to other markets in the near future.

While Middle East markets are suffering from the low oil price, the region is a very big market for us and we will continue supporting our excellently performing partners there, where we enjoy an exceptional position such as market shares of 50% and more for Bobcat loaders.

Russia has also been quite a difficult market recently, but there are signs of recovery and as we are prepared to support our partners in both difficult and good times, we will enjoy success together once market conditions improve.

In conclusion, do you have some general comments on the EMEA market and your plans going forward?

Doosan Bobcat stands for long lasting partnerships, and for individual solutions for all different markets whatever their challenges and demands. Like most businesses, we did see a slight suspension in activity in the UK before the referendum, but since the vote we have seen a normalisation in business levels. The UK is an important market for Doosan Bobcat and in our planning, we have not changed our business strategy in light of the Brexit result.

With the excellent dealer network channel we have in the UK, I see no big adjustments needed in the way we operate there and it will have little impact on our sales in the rest of Europe.

In the very competitive European market, no one country in Europe

really stands out in terms of sales volumes. Our strongest markets are in Germany, France, the UK and Scandinavia, but we are expecting good things from Italy in the near future. Like Spain, which is also beginning to wake up after the recession, the market in Italy has evened out since the recession. We also predict growth in Eastern Europe, where infrastructure projects are continuing to be funded by EU money.

We have made huge strides in the last five years with the Doosan Heavy range in terms of market share and brand loyalty in Europe and we believe that there is no big differentiation on the product side, with Doosan Bobcat now part of the top tier of manufacturers. Bobcat continues to defend its leadership position in EMEA in performance, quality and durability.

The company has a long term commitment to the construction equipment market in EMEA, simplifying procedures and processes throughout to make sure it is even easier to do business with Doosan Bobcat. Our continued focus on core businesses will enable us to be successful in difficult market environments and by concentrating resources on our key priorities, this will allow Doosan Bobcat to grow even faster in the EMEA market. ❏

DEAL SEALED AS FINAL APPROVALS RECEIVED

Eqstra Holdings Limited recently reported its last set of annual results as a combined industrial group following overwhelming support by shareholders and noteholders in favour of a R7,8-billion transaction with enX Group Limited. The Competition Tribunal has also approved the transaction.

The transaction with enX, first announced on 30 June 2016, involves the proposed sale of Eqstra's Fleet Management and Logistics and Industrial Equipment divisions to enX, whilst its Contract Mining division remains listed.

Noteholders approved the proposed amendments to the terms and conditions of the outstanding notes on 22 July with 85,81% voting in favour of the transaction. On 22 September 2016, 91% of shareholders voted for the proposed disposal of Eqstra's Fleet Management and Logistics and Industrial Equipment divisions to enX in exchange for enX shares. The last results announcement covers the 12 months to 30 June 2016.

Commenting on the results, Eqstra CEO Jannie Serfontein said: "This set of results confirms the rationale for the transaction with enX. As we have always maintained, the underlying fundamentals and performance of each of the respective divisions is sound. The change in capital markets and the need to evolve our funding strategy to position Eqstra for long-term sustainability requires us to appropriately match our gearing to the long term nature of associated capital equipment investments."

For the year under review, the group reported a loss of R2 253-million compared to a profit of R254-million in the prior year.

The Contract Mining and Plant Rental division remained focused on improving operating profit, reporting a 45,2% increase in operating profit over the prior year.

The Industrial Equipment division successfully increased its new and used unit sales in a declining SA forklift market by securing a number of new contracts with blue-chip companies and its forklift business in the UK continued to perform well. The division reported a 16,7% increase in revenue for the year.

The Fleet Management and Logistics division reported strong performance during the year with value-add products continuing to record growth. Profit before tax was up 9,9% despite a strategy of limiting leasing growth to reduce group gearing.

Other operations, including the IFRS 5 fair value adjustment associated with the enX transaction, reported a loss of R1 007-million (2015: R21-million loss) and remaining discontinued operations reported a loss of R1 018-million (2015: R150-million profit).

Looking ahead, Serfontein said: "Under the new eXtract banner, contract mining will continue

Industrial group announces last results in its current form

- Noteholder approvals of the proposed amendments to the terms and conditions of the outstanding notes
- Shareholders' approval for enX to purchase the Fleet Management and Logistics and Industrial Equipment divisions and to recapitalise the Contract Mining business
- Competition Commission approval received
- Right-sized businesses and discontinued non-core operations in all divisions
- New long-term funding secured for the continuing operations post transaction
- Loss of R2 253-million (2015: profit of R254-million)
- Decreased HEPS from 78,7cps to 29,9cps

to focus on improving the efficiencies of the mines on which it operates as well as seeking new projects to diversify the geographic and commodity exposures. Over the next 24 months, management will continue to realise best value for the impaired excess and idle assets within the business and proceeds will be applied to repay debt. In the long-term our new mining services group will look to grow by acquisition." ❏

Road building in **EXTREME CONDITIONS**

The planned large-scale projects for the development of Tunisia's road infrastructure will require highly productive and reliable equipment to meet the country's objectives.

➤ CASE offers a wide range of equipment for the road-building industry, and in the road building event demonstrated the performance and capabilities of its machines in the most extreme weather and terrain conditions.

The Tunisian government views the extension and upgrading of the country's road infrastructure as a major challenge in its aim to adjust the balance and improve access between its regions – vital for the development of its transport sector and its economy. The development plan for the 2016-2020 presidency allocates €3,5-billion for the construc-

tion, refurbishment and maintenance of roads and motorways.

The country's infrastructure development projects are also attracting funds from international financing organisations: for example, in July 2015 the World Bank granted a €180-million loan to refurbish 146 km of roads in some of the least developed regions in Tunisia, and in February 2016 the European Investment Bank signed a 150 million framework loan agreement to modernise main arteries in the south of Tunis to relieve traffic congestion.

Convincing infrastructure construction businesses

CASE invited construction companies operating in the infrastructure sector to see its road-building equipment in action and test-drive the machines in real job site conditions.

The event, organised jointly with importer Sotradies at their premises in Sousse, highlighted the qualities of the CASE machines developed specifically for road building operations in North Africa: tough, productive and reliable, they can operate in the toughest conditions, with the added benefit of a very competitive cost of ownership.

The exceptionally bad weather, which hit the area with days of torrential rains, created the most extreme terrain conditions the machines – and the guests – will probably see in their entire careers, and the CASE equipment performed flawlessly, handling the difficulties with grace.

"The construction business operators who braved the weather to travel from across

the country to the CASE Road-building event were delighted with the opportunity we gave them to see first-hand what the machines are capable of in the most extreme conditions," declared Slim Tlili, sales manager at Sotradies.

The full team from Sotradies, supported by the CASE business director and the product, training, service and marketing managers, welcomed the guests and led them in their voyage of discovery of the brand's road-building equipment.

B Series Grader proves its reputation for reliability

The first part of the day was dedicated to the star of the event: the state-of-the-art CASE 865B 18-ton, 220 hp grader. It is one of three models in the B Series, which have gained an excellent reputation for their ability to work in all environments and their high productivity. They are designed to provide superior operator control, visibility and comfort. They feature a powerful, fuel-efficient, turbocharged FPT engine. For higher performance, the Variable Horse Power on the 865B model maximises operation thanks to the triple horsepower engine curve. The transmission combines the torque converter typical smoothness for fine grading with the direct drive solution for full power transfer. The hydraulic system with load-sensor offers balanced flow for all applications. The front A-frame drawbar provides outstanding stability, while the heavy duty boxed frame design increases the life of the components. Ground-level access to the checkpoints means daily maintenance is easy and quick.

"We're in the condition to supply the best grader for the African market. The range is perfectly sized for roadbuilding and road maintenance jobs. CASE graders have been tested throughout the years on the challenging North African jobsites. The upgraded cabin, improved design and weight-to-power ratio make them the best-in-class solution for the market and value for money for the customer. We rely on the product and look forward to challenging the competition in the field." said Massimiliano Sala, CASE product marketing manager roadbuilding equipment for Europe Africa and Middle East.

A wide offering for road building guarantees

After the grader, participants discovered the 35-ton, 271 hp CASE CX350B crawler excavator, the 230 hp 821F wheel loader, two T Series backhoe loader models and two radial loader SR Series skid steer loader models.

In addition to demonstrations of all the machines in real road building jobsite conditions, participants were able to test-drive all the models in the field with the guidance of CASE demonstrator Steve Beardmore and product specialist Massimiliano Sala. ◀



New luffing jib crane offers **FAST LIFTING SPEEDS**

The Potain MR 418 is the first in an updated line of luffing jib cranes, each of which is equipped with full frequency-controlled mechanisms for precision control. Maximum capacity for the crane is 24 t and the maximum jib length is 60 m.



SA French has been recognised as an Elite Dealer by Potain of France, which means a guarantee of 80% availability of spare parts on first call.

BELOW: The Potain MR 418 is the first in an updated line of luffing jib cranes, each of which is equipped with full frequency-controlled mechanisms for precision control.



➤ Available from SA French, the sub-Saharan distributor of the Potain brand of tower crane, it offers a number of advantages. Among these is that this extremely compact crane is quick to assemble, quick to commission and capable of extremely fast lifting speeds on high rise job sites.

The crane delivers its best performance when fitted with the optional 270 LVF 120 hoist which offers industry leading lifting capability and is perfect for high rise buildings, including super tall structures.

The 200 kW (270 hp) hoist provides 826 metre (m) of rope capacity, which means that in a single-fall configuration a hook path of 826 m is possible, while in a two-fall configuration 413 m of vertical reach is possible.

In addition, the winch can reach speeds of up to 254 m/min for better productivity, while the power control function means it can operate off varying power inputs, allowing it to cope with lower power supplies on site. Furthermore, it can automatically adapt to a 50 Hz or 60 Hz power network, making it easier to move to between countries.

Flexibility of choice

Customers not requiring the full power of the 270 LVF 120 hoist can choose the 110 kW (150 hp) 150 LVF 120 hoist. This hoist has a drum capacity of 552 m and can produce line speeds of up to 210 m/min. The flexibility of choice with the design means customers can select the optimal configuration for them, ensuring they earn the best possible financial returns for their requirements.

But it is not only new mechanisms and better lift capabilities that are likely to appeal to customers. The crane's user-friendly design has the luffing mechanism and hoist uniquely mounted inside the counter jib while there is also a large, easily accessible service platform behind the cab, giving technicians a single location from which to access all major service points.

Quickly getting the crane into service comes courtesy of a new on-board control system that allows the technician to commission the crane into operation just minutes after assembly is completed. Simple input of the jib length, working height and test load into the crane's control board allows for a fast and accurate calibration.

In terms of working height, Potain's intelligent mast system gives the crane enhanced flexibility to cope with the challenges of modern high-rise buildings. The crane can be installed on fixing angles or on various sized chassis of 6 m x 6 m; 8 m x 8 m; and 10 m x 10 m.

For example, a freestanding height of 90 m can be achieved on a 10 m x 10 m chassis when fitted with 30 m of jib. And with its design focus on high-rise applications, the crane needs only three anchorages to reach a working height of 197 m when fitted with 30 m of jib and fixing angle P850A (wind condition FEM 1.001).

SA French has been recognised as an Elite Dealer by Potain of France, which means a guarantee of 80% availability of spare parts on first call. And it is this level of aftermarket support that has ensured the success of Potain cranes in Africa. ☑

Among the advantages of the new Potain luffing jib crane is that this extremely compact crane is quick to assemble, quick to commission and capable of extremely fast lifting speeds on high rise job sites.

PLANT SERVICES FOR STRATEGIC PIPELINE PROJECT

Babcock's commitment to delivering trusted engineering support services to industry saw their plant services division assisting Transnet in successfully completing one of the country's most ambitious engineering and construction projects to date.

➤ Babcock supplied mobile cranes and other mechanical construction equipment to four of the main contractors working on Transnet's New Multi-Purpose Product Pipeline (NMPP).

The NMPP is one of the largest and most complex multi-product pipelines in the world, covering an underground distance of 715 kilometres, designed to transport liquid petroleum fuel from Durban to Gauteng and neighbouring regions. Without the NMPP, South Africa's inland areas including Gauteng, the country's economic epi-centre, would have faced severe fuel restrictions as demand was fast outweighing supply. The new-24 inch main pipeline replaced the existing 12-inch Durban-Johannesburg Pipeline (DJP) which had been in operation since 1965 and was reaching the end of its economic lifespan.

Charles van der Westhuizen, senior sales representative for Babcock's plant services division, says that the four main contractors that Babcock supplied were Group Five Oil & Gas, Goss & Balfe, Mei Construction & Services and Msweli Industrial Projects, all of which worked on the Heidelberg/Nigel section of the project where Terminal 2 was constructed.

The project commenced in 2008 and comprised the construction of 160 kilometres of 16-inch steel inland pipelines; a 550 kilometre 24-inch main trunk pipeline; three inland pumping stations; and two accumulator terminals in Durban and Johannesburg respectively, with the aim of transporting three types of fuels along the pipeline to the inland terminal 2 at Heidelberg, from where the fuels will be supplied to various parts of the inland. The three fuels being transported are gasoline/petrol (both unleaded 93 octane and unleaded 95 octane), diesel (both low-sulphur diesel and ultra-low-sulphur diesel) and jet fuel.

"Babcock's involvement in the NMPP project commenced in July 2013 with the supply of specialised equipment and broad range of expertise," says Van der Westhuizen.

He adds that among the plant supplied by Babcock over a period of three years for the project included 14 mobile cranes, ranging from 8 tonne to 220 tonne, three tractors with 12 metre trailers, a 300 KVA generator, 35 generators in the 25 KVA to 50 KVA range, 10 single diesel welding machines, and approximately 110 inverters.

Babcock is a leading supplier of engineering support services and plant to the energy, process, mining and construction industries in Africa. The plant services division has a combined inventory of more than 40 000 items and specialises in the provision of mobile crane services, rigging equipment and expertise, abnormal transport, and welding and mechanical construction plant to meet the needs of any large or small contractor. The equipment and machinery for the NMPP project was supplied and serviced by Babcock's Sasolburg branch.

Babcock is the largest empowered mobile crane and plant service provider in South Africa with a substantial fleet of cranes managed by highly skilled operators and comprises modern, well-serviced mobile cranes with lifting capacities from 8 to 600 tonnes, distributed nationally and within

the other South African Development Community countries.

Van der Westhuizen says that the company operates to a safety first philosophy, striving to exceed standard safety requirements by ensuring all personnel are competent, qualified and well trained on what they need to do and that equipment for hire is serviced, certified, inspected to standard and ready for operation. The company moves equipment into place with a focus on safety and clear communication and planning while their QR code scan and tracking system monitors the life cycle of every single item of inventory so as to have instant access to the items' hire history, service intervals and related parts.

In addition Babcock's equipment is serviced after every hire and inspections are carried out every three months to guarantee the highest in safety and operational standards. Babcock's track record currently stands at 20 years without a single product fail or injury.

The NMPP represents cutting-edge innovation in concept, design and implementation and is expected to deliver significant benefits, particularly environmental and socio-economic, by enabling economic growth, reducing road congestion and road maintenance costs and lowering carbon emissions associated with road transport. The pipeline is a legacy project designed to serve South Africa for decades to come and is expected to be a strategically important world-class asset for the long term. ■

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KEEP THE JOB SITE SAFE

The new ML440 Light Tower from compact and light construction equipment specialist Wacker Neuson, is a game changer, delivering exceptional, reliable and affordable lighting for safe and uninterrupted work on the job site.



➤ According to Wacker Neuson's product specialist, Rainer Schmidt, no work-after-dark job site will be complete without the ML440 Light Tower.

"The light tower's unrivalled performance-to-affordability ratio and impressive features list deliver the benefits of low cost of ownership and rapid return on investment to both customers in the rental sector and end-users alike."

Schmidt points out that the difference between the performance of a good and an excellent light tower is the quality of the lighting. Elaborating on the quality and area size of the lighting delivered by the ML440 Light Tower, Schmidt says that the special pulse-start metal halide lamps not only provide exceptional luminance but also ensures extended lamp life compared to probe-start counterparts. "Furthermore, the lights' rectangular shape provides a wider lighting coverage of 403 m² at 54 lux, and the lamps can be turned individually to better focus the light where required."

A highlight of the ML440 Light Tower is that it is equipped with Wacker Neuson's proven heavy-duty MG5 jobsite generator. "This provides our customers with the convenience of a two-in-one solution, as the generator can be used separately for other purposes when the light tower is not in operation," explains Schmidt, "and for customers who already own compatible generators, we can also supply the ML440 without our generator."

The unit's robust high strength fixture frame does not compromise its compact and light weight design, which in turn facilitates easy transportation. Side stabilizers ensure stability in high wind conditions and the solid polyurethane wheels offer the benefit of never being able to be punctured on site.

No job site that requires reliable and safe lighting will be complete without Wacker Neuson's ML440 Light Tower, a high performance, affordable lighting solution that ticks all the boxes. Africa's harsh climate and environmental conditions are no match for the light tower, making it the perfect choice for construction sites, municipal road maintenance, commercial landscaping, emergency services, events, etc. ■

AUTHORITY AWARDS FIRST MARK OF APPROVAL



Garth McMillan, divisional general manager of Bosun Bricks, receives the CMA CS Mark of Approval from executive director, Frans Minnaar.

The Concrete Manufacturers Association Certification Services (CMA CS) has undertaken its first complete initial assessments and certified a number of products on behalf of its maiden client, Bosun Bricks.

Initial assessments were undertaken to test compliance with SANS specifications on a number of different precast concrete products that are manufactured by the company and that need to be certified to meet engineering and architectural specifications. The CMA CS Mark of Approval is the first non-SABS mark to be used in the concrete industry since legislation was changed to allow multiple certification authorities to undertake certification of SANS standards.

Born from the need to professionalise the certification of products within the precast concrete industry, CMA CS was established under the wing of the voluntary members' association for the industry, the Concrete Manufacturers Association (CMA). This was in response to undue delays in the issuing of SANS certification from the current certification body that had the potential to harm member companies whose products needed certification in order to meet customer requirements.

Peg in the ground

Speaking on acceptance of the Mark of Approval, David Wertheim Aymes, managing director of Bosun Bricks said that adherence to standards is critical and that the establishment of CMA CS is a step in the right direction for the concrete industry. "At the end of the day, standards are all about putting a peg in the ground as a measure of what is acceptable and what is not.

"SANS specifications are compiled by industry experts who deem them suitable for the type of product being manufactured. Thereafter it is the role of the certification agency to measure and certify that a product meets these standards, where after a Mark of Approval can be issued as proof to customers and end-users.

"We are pleased to have been the first to be certified and found the process to be similar to our previous SABS audits, but much more in depth. The actual audits took three days rather than a few hours that we were used to. The auditor was comprehensive and the process from start to finish was considerably quicker than it had been traditionally," said David.

Quicker turn-around

He added that Bosun Bricks will heavily advertise its newly acquired Mark of Approval in the media, on packaging and all other areas of business where it needs to be visible.

CMA CS general manager Christo van Zyl, concluded that the new certification process also marked an improvement over traditional certification as it is completely comprehensive, is undertaken by system auditors with industry knowledge and is done timeously to avoid manufacturers losing out on deals while waiting months for certification that should be done in a matter of days or weeks.

DRY MORTAR OFFERS NUMEROUS BENEFITS

The AfriSam Dry Mortar solution offers contractors a number of benefits in addition to time and cost savings. Using a pre-blended mortar mix will ensure optimum product integrity and subsequently quality construction on a project.

Manual blending of a mortar is labour intensive and time consuming, and requires careful attention to ensure the correct ratios of sand and cement are used. Incorrect blending or mixing will certainly affect the final product and in the case of plaster result in cracking.

This Class II mortar has been specially engineered as a dual purpose mix that can be used for both mortar and plaster work. It will achieve a minimum strength of 5 MPa at 28 days.

SANS 50197 compliant AfriSam All Purpose Cement was selected as this cement offers a spectrum of functional attributes that provide customers with guaranteed quality performance in concrete, mortar and plaster applications. This advanced composite cement contains milled clinker as well as advanced mineral components and additives, and therefore the ideal component for the AfriSam Dry Mortar product.

The innovative AfriSam Dry Mortar solution is being produced in partnership with Stick a Tile at a bespoke plant in Meyerton. Sand, quarried on the site, is dried to the requisite level, and blended with AfriSam's All Purpose Cement in a controlled environment to produce this quality mix.

The fully automated plant has a 400 ton per day capacity and batch printouts are produced to verify consistency and ensure optimum quality. Samples of the dry mortar product are taken at regular intervals and tested at AfriSam's Centre of Product Excellence to ensure compliance with the required specifications.

The AfriSam Dry Mortar product is supplied in either 10 ton or 20 ton silos offering optimum flexibility as customers can then decide on the size required based on individual project requirements.



The Class II mortar has been specially engineered as a dual purpose mix that can be used for both mortar and plaster work. BELOW: AfriSam's Dry Mortar product can be delivered in 10 or 20 ton silos to meet customer and project requirements.



WASTECON 2016 PARTICIPATION

Fibertex South Africa, manufacturers and suppliers of a wide range of geosynthetic products, participated at the Institute of Waste Management's (IWM) Wastecon 2016 conference held at Emperor's Palace, Johannesburg, between 17 and 21 October.



“On display this year was the company's extensive range of geosynthetic construction materials used in the waste management sector, with a particular focus on the construction of waste landfill facilities and other applications associated with waste management,” says Darryn Meisel, national sales manager, Fibertex South Africa. “Products included woven and non woven geotextiles, geogrids, subsoil drainage pipe and fittings, geocells and various composite drainage systems, as well as gabions and mattresses. Fibertex will also showcase a wide range of erosion control systems, geomembranes and geosynthetic clay liners (GCLs).

Fibertex South Africa – part of a global organisation, with its head office in Denmark – has made a substantial investment in the latest technology to increase production capacity of its geotextile, industrial and automotive non-wovens product range.

The company's manufacturing plant in Hammarsdale, KwaZulu-Natal, which is now the largest nonwoven geotextiles manufacturing facility in Africa, has recently been awarded the coveted CE marking – a mandatory certification for products sold within the European Economic Area (EEA). This certification endorses Fibertex South Africa's compliance with other quality assurance standards, including ISO 9001: 2008 accreditation and a range of industry specific quality requirements.

What's also notable, is that the Hammarsdale facility is the largest plant in South Africa that manufactures geotextiles from Virgin Polypropylene (PP). These needle punched materials, with a strong elastic bonding between the fibres, are used in building and construction works for separation, filtration, drainage, protection, stabilisation and reinforcement, as well as in the automotive, furniture and filtration markets. ❏

INDUSTRY FIRST

In a first for South Africa, Lafarge South Africa has launched the EkhayaBag, a readymixed bag of concrete for residential use or for small builders.



The readymixed mortar, concrete or Artevia colour comes in a 500 l bag (equal to 0,5 m³ or 1 200 kg) and won't set for up to 48 hours, depending on the building schedule.

The bag is intended for customers who don't require big amounts of concrete, and who don't have the tools or the inclination to mix it themselves.

“The EkhayaBag simplifies building projects as customers don't always require big amounts of concrete for their projects. Using this product, customers also don't need to purchase cement, sand or stone separately, as the EkhayaBag is delivered ready to use. No additional water or mixing is required, resulting in cleaner job sites,” says Alta Theron, general manager for Readymix at Lafarge South Africa.

“Ekhaya’ means “At home” in isiZulu. “Homes are a pivotal part of communities and at the heart of our company's ambition of Building better communities through our range of innovative products and solutions,” added Theron.

The EkhayaBag product range includes:

- EkhayaBag concrete: which is available in

two grades and can be used for domestic foundations, garage and house floors to light commercial floors, concrete walls and columns.

- EkhayaBag mortar: available in a 12, 24 and 48 hours workable mix and can be used for laying masonry units such as bricks, blocks and stone.
- EkhayaBag Artevia™ Colour: a range of pigmented concretes in sandstone, mahogany and charcoal colour tones. Can be used for floors, driveways, braai areas, swimming pool surrounds and patios.

Says Theron: “We are the first building materials company in the country to provide this unique value proposition, once again proving that we put innovation at the forefront of our business, and that we are always aim to provide solution our customers' needs.

“Homes are a pivotal part of communities and at the heart of our company's ambition of Building better communities through our range of innovative products and solutions.” ❏

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BLASE DUST SHROUDS LAUNCHED

Diamond Products – a leading specialist in the manufacture, assembly and sale of diamond tools and equipment for industrial applications – has launched its new range of blade dust shrouds to the local market.

There are a multitude of benefits to working in a dustless atmosphere. Diamond Products believes that controlling dust is important as the equipment being used to cut and grind creates airborne dust particles which in turn can create equipment problems, health issues and an overall decrease in working conditions or productivity.

“To combat this, we already offer a range of dust less options such as dust collectors, wet and dry vacuums and dust shrouds,” explains Brian Clark, director of Diamond Products. “To add to this range, we are now excited to

introduce blade dust shrouds. The benefits are that the dust being created will be contained within the dust shroud, as well as offer a better line of sight when trying to achieve a straight cut. These are for dustless cutting, such as joint cutting, and are ideally suited for the Makita 115 mm, 125 mm and 230 mm angle grinders.”

“Fitted with a small portable vacuum such as our LSU135 model, this enables the user or contractor to cut in occupied buildings without inconveniencing occupants,” concludes Clark. ❏





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