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> CONTENTS

04 GREATER COMPLIANCE Attracting non-members of the Bargaining Council for the Civil Engineering Industry.

08 WOMEN IN CONSTRUCTION AWARDS Recognising the role women play in Africa's construction industry.

12 CONCRETE'S RECYCLING BENEFITS Placing more emphasis on the how concrete can be recycled.

14 HOTEL GROUP'S AFRICAN EXPANSION Newmark Hotels has an aggressive plan to extend into Africa.

15 A MORE PEDESTRIAN FRIENDLY SANDTON Keeping abreast with trends elsewhere in the world.

22 ACCOLADES FOR GOUDA Wineland wind farm's innovative construction impresses.

24 CONCRETE FOOTPRINT IN GROWTH NODES AfriSam has strengthened readymix supply and production in KZN.

27 LSF SOLUTION FOR SWAZILAND CLINIC Light Steel Frame Building is increasingly preferred in SADC.

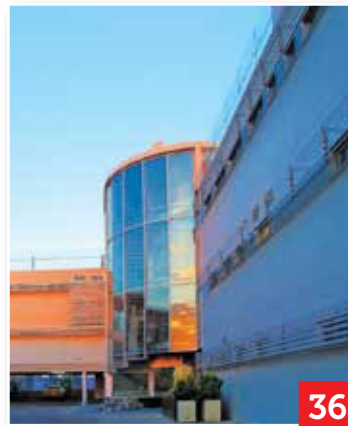
29 MANHATTAN QUARTER TOPS OUT New development in Century City is on track for October completion.

30 ONE MILLION ACCIDENT FREE HOURS AT KUMASI MALL WBHO recently reached a milestone in Ghana.

32 SUSTAINABLE WASTEWATER TREATMENT IN GAUTENG Ground-breaking technology introduced.

36 CONTEMPORARY BUILDING FOR HISTORIC PORT PRECINCT Lion Match Company's new head quarters.

42 GROWTH IN VOLATILE INDUSTRY Chryso Southern Africa marks 20 years as construction chemicals supplier.



18 ON THE COVER

Geotechnical work in the marine environment demands creative solutions to complex challenges. That's the nature of the game and there is no one better at it than Franki Africa, which has developed a reputation throughout Africa for its innovative and cost-effective solutions.

On the cover: Drilling Pile A10 South Jetty (PE Jetty).

1

REGULARS

- 4 Marketplace

- 11 Environment & Sustainability

- 13 Property

- 20 Project & Contracts

- 30 Project Profile

- 38 Equipment

- 41 Products & Services

EDITOR'S COMMENT

> A business-to-business magazine has the function of being a vehicle for a specific industry to share something newsworthy or add to the knowledge base within that industry. At the same time, it is a way in which products or services can be advertised to a specific audience – and the inference is that there is little wastage as the message will reach only those who have a vested interest. This applies to both editorial and advertising.



2

In the past few years there has been a rapid change in the publishing landscape. This has varied wildly and is magazine-type specific: in extreme cases, online publications have replaced print publications completely, while in others print and online publishing co-exist in a symbiotic relationship. Sadly, many (and business-to-business publications are big culprits), traditional print publications are clinging onto 'how it was done in the past' for dear life and have done little to nothing in terms of an online offering.

The matter is further complicated: it is no longer a case of a mere online offering that conveys content to an audience via electronic media. I am referring to social media – here business-to-business publications often lack sorely.

Our offering to the construction world

In addition to the PDF replica of the print magazine that is available online in a 'page-flip' format, www.constructionworldmagazine.co.za carries

up-to-date news snippets and sector news. Our weekly newsletter reaches some 6 000 people every week – it is short and to the point.

The industry that *Construction World* has served for 33 years is slowly but surely realising that social media (Facebook, Twitter, LinkedIn etc.) can enhance brands, create awareness of what is offered and can direct recipients to paid products.

Construction World has a healthy Twitter and growing Facebook following. Newsworthy items are retweeted and reposted – the number of Twitter followers indicates to me that *Construction World* is seen as a source of information – people and companies want to follow it. In addition, my LinkedIn profile has created a growing construction community of 3 600.

It is vividly clear that it is no longer only about the print magazine. It is almost like a spiral – the community that it serves and informs is getting bigger and bigger – not limited by who receives a physical copy of the magazine. At the same time advertisers can reach a potentially bigger market.

A year ago I referred to this as the 360° offering. In the past, the benefit of business-to-business print publishing was that it served a specific, but ring fenced audience. This audience is growing – no longer limited by geographical factors. It gives advertisers (especially in *Construction World* a great opportunity to widen the reach of their message.

This is the symbiotic relationship I referred to earlier: print will always be vital in a business-to-business context, but it must have a significant online presence too.

Wilhelm du Plessis
Editor

- Best Projects 2016 is now open for entries. Please see the overview of the awards and entry requirements on page 16.
- *Sustainable Construction World* will be published in October. This will be our second sustainable supplement. Support this supplement with advertising or editorial.

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Attracting **GREATER COMPLIANCE**

A collaborative approach underpins the continued drive by the Bargaining Council for the Civil Engineering Industry (BCCEI) to locate those companies in the sector that are not members and facilitate their access to information and road to compliance that will continue to see the playing fields being levelled.



“Being informed is key for these companies as this will allow them to understand the benefits that the BCCEI will bring to both the employer and the employees,” Lindie Fourie, operations manager of the BCCEI, says.

Fourie, a non-practising attorney who has specialised in labour law and industrial relations for more than 10 years within the civil engineering sector, explains that the ongoing drive to recruit companies that are not members of the BCCEI is all about building relationships.

“Historically, bargaining councils have been seen in a negative light and from the outset the BCCEI set to change this perception within the civil engineering sector,” she says.

Becoming a member of the BCCEI is mandatory under legislation, but Fourie says that the BCCEI believes it is far more beneficial to educate those companies that have yet to register and assist them in understanding the major advantages that the BCCEI can bring to their operations.

“The collaborative approach is essential as this will facilitate the retention of relationships,” Fourie says. “This type of partnership approach with the BCCEI is essential – for both employer and employee and applies to companies of all sizes, and is especially important to the smaller contractors and the emerging contractors.”

Not being able to comply

One of the fears among smaller contractors is that they may not be able to comply with all provisions of the collective agreements, and this has been highlighted through discussion with such companies who are not in a position to pay the respective minimum wages.

Fourie explains that one of the major benefits that the BCCEI offers is the level of protection provided to all companies that fall under the scope of BCCEI.

“We have found that here are a lot of companies that are either not aware of the BCCEI or do not understand how the BCCEI can assist them. Once better informed, these contractors typically experience levels of relief from knowing that there is a body that can and will assist them,” she says.

Educating and assisting both employer and employees is important and the BCCEI works with companies to advise and explain that there is an exemption process available to assist them. “We educate, advise how the process works and how to submit an application for exemption.”

All applications for exemption are heard by an exemption board that comprises specialists who are very conscious of the fact that the civil engineering sector is in distress. Fourie is quick to add that there is a delicate balance between the employer and the employee’s respective rights and expectations and that this is where the BCCEI plays an important role.

“The BCCEI cannot ignore non-compliance within the civil engineering sector but we have to be able to apply the sensitivity needed to find an appropriate and equitable solution to exemption applications,” she says. She does, however, caution companies to make contact with the BCCEI as soon as possible as last minute attempts to obtain exemption are seldom successful.

“It is no use to ignore what is legislated and hope that it will simply go away. Those companies who don’t understand what is required or feel unable to comply must make contact. It is also essential to recognise that the BCCEI is impartial and able to assist both employer and employee.”

“What is most significant is that the BCCEI has not issued a single compliance order as yet, and our teams have gone out of their way to educate and assist companies in reaching compliance and bringing them aboard.

The BCCEI Compliance Department is the engine room of the bargaining council, and it is the success of this department that will make or break the council. Fourie says that the current approach to compliance is part of the strategy to level the playing field by ensuring that all companies in the civil engineering sector have access to the appropriate and correct information.

It is for this reason that the BCCEI is committed to investing in the education and training of its agents to ensure that they are equipped with mediation and facilitation skills. “In most cases, it is the BCCEI agent in the field that interfaces with both the employer and the employees and these carefully selected individuals understand the definitive vision of the BCCEI and are aligned with our collaborative stance,” Fourie says.

There are currently five collective agreements, concluded under the auspices of the BCCEI, in place between the employee representatives, BCAWU (Building, Construction and Allied Workers Union) and NUM (National Union of Mineworkers), and the employer representative, SAFCEC (South African Forum of Civil Engineering Contractors).

All companies within the civil engineering sector must be compliant with the collective agreements, and the BCCEI is responsible for investigating any requests, queries or complaints pertaining to issues relative to these collective agreements.

Fourie says most queries are related to understanding the collective agreements, questions about the levies that need to be deducted or about the dispute resolution process. The BCCEI also facilitates training for HR departments at companies and this is normally done in conjunction with various levels of management and employees. “We have found that with understanding and knowledge compliance becomes an easy process for companies,” Fourie concludes.

More about BCCEI

The Bargaining Council for the Civil Engineering Industry (BCCEI) was registered at the Department of Labour on 7 December 2012. Completely independent, the BCCEI is a statutory body bound by the Labour Relations Act (LRA), Act 66 of 1995 and the process it follows is mandatory and legislated.



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Limpopo High Court, a GVK-Siya Zama project completed in October 2015.

Group's **FIRST FEMALE DIRECTOR**

Jabu Serithi has been promoted to commercial director: key projects (Gauteng) at GVK-Siya Zama – making her the first female director to be appointed within the company.

> Serithi followed her father's dream and pursued a profession in the construction industry. She began working as a quantity surveyor in training through a bursary programme with one of the major construction companies in the country. Over the course of her career she has been involved in numerous construction projects, ranging from those in the mining/industrial infrastructure sectors to the residential and commercial spheres. Her experience over the years has exposed her to various clients in these areas, ranging from mining giants and private developers to members of the public sector.

side. I can also have far-reaching impacts in terms of being able to upskill people both within our organisation and those that are entering the industry. Simply put, it is about creating a long-lasting effect that lives beyond just myself." She also aims to reach greater heights in the industry and to play a role in the company's future growth.

She attributes her success to having her potential recognised and being mentored by the company's CEO Eben Meyburgh and group MD Dumisani Madi. "I'm a firm believer that success is not just through one's hard work. Eben has been fundamental to my growth in the organisation, while Dumi has been a constant source of support and wisdom for me. The industry can benefit from selfless leaders like these. Leaders who want to see the potential in women and young people being fully reached. There is a lot of unrecognised talent in the industry and it needs true commitment from its leaders. I strive to be one of those leaders myself."

Serithi offers the following advice to other women wanting to attain similar success: "It is possible. It requires a lot of hard work and dedication. It also takes some level of self-sacrifice. And if you have a young family like me, a bit of self-forgiveness too, because you will miss a school play or two. But it is essential that you have the support of your family



Jabu Serithi has been promoted to commercial director: key projects (Gauteng) at GVK-Siya Zama.

and partner. I am very blessed to have that."

Serithi adds that she would like to see more women in the industry. "It's not easy being a mother and a partner, but I wouldn't want to use it as a crutch or for other women to see their roles at home as an inhibition in any way.

"I consider myself as being representative of many women out there and therefore it is my responsibility to empower others. This male dominated industry needs more women in it and we've got to stay committed. Look out for that mentor, find the support that you need to grow. When you achieve this, it makes reaching those goals possible," concludes Serithi. **<**

6

NEW GM APPOINTMENT

Lafarge South Africa is pleased to announce the appointment of Noriko Solomon as general manager of Aggregates.



> Solomon joined the building materials company from Aveng Grinaker-LTA, where she was operational executive in charge of overseeing projects amounting to approximately R1,5-billion.

Solomon's appointment brings the leadership team of Lafarge South Africa to 67% female.

"We are delighted to welcome Noriko to Lafarge where we believe she will continue her remarkable rise in the construction industry. We believe that she will prove to be an invaluable addition to our company," said Lafarge South Africa CEO Ken MacLean. "I am especially delighted that her appointment means women now make up two-thirds of

Lafarge South Africa's senior management team. That is an achievement not only in South Africa but especially in the construction and building materials sector which has traditionally been a very male-dominated industry," added MacLean.

Solomon has overseen key projects including Kusile Power Station, upgrades on the N1 (Free State) and the rehabilitation of a section of the N12.

She says she is looking forward to making her mark at Lafarge. "The buildings materials supply sector is obviously a new field for me, but I look forward to learning and growing Lafarge's share of the aggregates market. This is the start of an exciting new journey for me," said Solomon. **<**

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WOMEN in CONSTRUCTION awards

The winners of the Women in Construction Awards, recognising excellence in Africa, were announced on 10 May 2016. The prestigious event took place at Gallagher Convention Centre and was hosted by the City of Johannesburg – alongside NHBRC as a gold sponsor, CETA, SEDA Construction Incubator and The City of Cape Town's Transport Authority, as the bronze sponsors of the event.

Over 300 guests from the construction, cement and concrete industry applauded the finalists and celebrated the various winners of the 2016 Women in Construction Awards.

The Women in Construction Awards evolved through a need to recognise and celebrate the role of women in the construction, cement and concrete industry. The awards, which comprise of both individual and organisational categories, acknowledge the increasing importance of women in the industry.

The call for nominations for the Women in Construction Awards resulted in 37 nominations. A panel of judges – that consisted of 19 global industry experts – identified five individual finalists, representative of three African countries and six organisational finalists.

The individual categories recognise women who are pioneers in innovation within the built environment, as well as identify 'New Starters' – women under the age of 30 years – who through their efforts have been identified as women 'to watch' as they get a foothold within the sector.



Thobile Bhembe, junior site agent, Inyatsi Construction Group Holdings, Swaziland.

BELOW: Over 300 guests from the construction, cement and concrete industry applauded the finalists and celebrated the various winners.

The organisational awards acknowledged organisations which have stepped up and developed women's roles through innovative

INDIVIDUAL CATEGORIES

Pioneer of Innovation

Noluthando Molao (37), associate director, Turner & Townsend, Johannesburg

"Winning the award is recognition of all the hard work I've put in over the last ten years while building my career. I'd like to encourage other women wanting to break into the construction industry by saying that anything is possible with hard work, perseverance and a plan. It's vital to remember no one wins alone. I have learnt that different people have different strengths and one should be able to acknowledge this and draw from this," says Molao.

New Starter of The Year (under 30) – category sponsored by: City of Johannesburg

Etheldreder Koppa, assistant project manager, National Housing Corporation, Tanzania

ORGANISATIONAL CATEGORIES

Excellence in career development – category sponsored by: NHBRC

Thobile Bhembe (35), junior site agent, Inyatsi Construction Group Holdings, Swaziland

"I am honoured to be recognised by receiving this award. I am also proud to be the first female site agent at Inyatsi Construction Group Holdings. I'd like to remind the youth interested in the construction industry to not only like Mathematics and Science, but work hard at it too. Construction is not a just for certain people, it's for everyone," says Bhembe.

Most innovative women training programme

The City of Cape Town's Transport Authority, Cape Town



training programmes as well showing their commitment to developing the careers of women in the industry.

"The Women in Construction Awards is an enabler, which shows women that their efforts within the industry are recognised. Seeing and hearing about women excelling in the construction sector proves that there is support for women in this male dominated industry," said Women in Construction Awards director, Athi Myoli.



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MOU WITH ARCHITECTS' COUNCIL OF EUROPE

The South African Council for the Architectural Profession (SACAP) has honoured its commitment to position the South African architectural profession within the global community. This was achieved with the recent signing of a Memorandum of Understanding (MOU) between SACAP and the Architects' Council of Europe (ACE).

> The MOU commits the organisations to work towards an agreement that will facilitate sharing of knowledge and skills; engaging in critical dialogue on critical issues facing the sustainability of the profession; establishing international standards, norms and benchmarks and promotion of excellence in architecture, to name a few areas of mutual

ACE president, Luciano Lazzari and Yashaen Luckan (SACAP President).



interest. It promotes consistent professional qualifications criteria and national syllabi based on international standards, such as the UNESCO/UIA Charter for Architectural Profession and the Canberra Accord (CA), as well as international dialogue on issues facing practice.

According to SACAP president Yashaen Luckan, who signed the MOU with ACE president Luciano Lazzari on 22 April 2016 at the ACE General Assembly in Berlin, the recent rapid changes in global climates, societies and economies has placed the architectural profession in a position of self-reflection, self-critique and new opportunities. Such challenges require broad participation, intense collaboration and a better world view in order to develop meaningful responses.

SACAP was established in late 2000 and fulfils the function of controlling the standards of education at tertiary institutions, through visiting boards, for the purposes of professional registration. It protects public interest by identifying the type of architectural work each category of registered person is capable and competent to perform and administrates a Code of Conduct.

The Architects Council of Europe (ACE) is non-profit organisation that represents the architectural profession at the European level. Its membership consists of regulatory and professional representative bodies throughout Europe. Through them, the ACE represents the interests of architects.

Speaking from Berlin, SACAP President Luckan said, "SACAP's mission is to transform, grow, develop and regulate the architectural profession through collaborative engagement in the pursuit of excellence. This MOU recognises our shared goals.

"We are convinced that the co-operation described in it will help to consolidate and reinforce actions and efforts towards addressing mutual concerns and interests pertaining to architecture, architectural education, research, professional standards and regulation, professional mobility, environmental issues, professional development and practice and political influence - among others."

ACE President Lazzari says, "The signing of the MOU between ACE and SACAP marks an important milestone on the road to international collaboration of our profession, bringing new impetus to our common cause for enhancing the value of architecture, for the betterment of all. It is particularly significant because it brings a new and thoughtful alliance between architects of two continents, based on a future that is both challenging and promising." ■

SIX PMR AFRICA EXCELLENCE AWARDS

Aurecon has excelled in the national survey of consulting engineers undertaken by the management journal *Professional Management Review Africa* (PMR.africa).

> To determine the award winners, PMR.africa interviewed 140 professionals in the South African built environment and construction sector, including property developers, architects, quantity surveyors and contractors.

During the interviews, participants were asked to rate their perceptions of the performance of companies across a number of attributes such as Black Economic Empowerment, Competitive pricing, Problem solving, Reliability, Reputation, Responsiveness, Skills and qualifications of personnel, Technical competence, Timely completion and Understanding and commitment to the clients' interests.

The awards ceremony was held on 13 May at the Killarney Country Club in Johannesburg. Three of the six awards that Aurecon received were Diamond Arrow Awards, signifying 'highest rated in category'. These categories include mechanical engineers, combined electrical and mechanical consulting engineers and electrical consulting engineers for firms with over 400 employees. The company also received three Golden Arrow Awards, which indicates that Aurecon was 1st or 2nd overall and rated at least 3,75 (Excellent) out of 5 by respondents. The categories that Aurecon received Golden Arrow Awards for are civil consulting engineers, structural consulting engineers and combined civil and structural consulting engineers.

Ferdi Nell, Aurecon managing director Africa, says that the company is honoured to receive these prestigious awards once again. The company

received six awards last year as well as the same number of awards in 2014.

"Getting positive feedback from clients and colleagues in the industry shows that we are on track to achieve our goal of bringing clients' ideas to life. The PMR Africa awards is a recognised and valuable indicator of a company's technical expertise, brand awareness and their ability to serve in the best interest of their clients. We are humbled to be recognised as a top performing consulting engineering firm by so many decision-makers and professionals in the industry," comments Nell. ■

Jaco Blynnaut (Aurecon technical director) and Emmanuel Makhele (Aurecon structural engineer).



COMPLIANCE MADE SIMPLE

There is a considerable move away from the continued use of in-house people to do applications for authorisation and other environmental aspects within the mining sector.

> Sonette Smit, managing director and senior environmental consultant, at Greenmined Environmental, believes this is both an appropriate and cost saving stance to have taken as when it comes to applications for authorisations, environmental audits and other related activities, all work done in-house at a mine or quarry will need to be reviewed by an independent environmental assessment practitioner, in any event.

Changes in legislation have seen the regulations surrounding the Environmental Act, the Water Act and the Minerals and Petroleum Resources Development Act combined into a single system. While this is advantageous for mines and quarries, the distinct lack of understanding around the requirements has made this quite daunting for individuals within these operations.

Smit says that in the past mine and quarry managers would have appointed either an in-house person or a consultant to handle the requisite applications. "Today, even where an in-house person prepares the applications for authorisation, organisations will have to employ the services of an independent consultant to review these. The external review is to ensure the integrity of the information being supplied," she explains.

Impact of cut backs

Cut backs, due to the pressure under which the mining sector has been operating, have also meant that, in many instances, the infrastructure which supported an in-house environmental department or officer has been significantly reduced. In some cases the environmental aspects of the operation have even been incorporated into the function of the safety department or officer.

"All this has created an increased demand for a skilled independent environmental consultancy with practitioners that can bring complete impartiality to the table. This impartiality, coupled with our broad spectrum of applications knowledge and in-depth understanding of the duties as well as the rights of the applicant or licence holder, ensures our customer base of a level of proficiency not readily available elsewhere," Smit says.

This depth of knowledge and experience includes that of all departmental processes and even though the application process has been dramatically simplified, Smit believes that it is ever more critical for organisations to use the services of practitioners that are able to seamlessly follow the requisite processes through the One Environmental System.

A differentiator

An important differentiator that Greenmined Environmental offers its client base is access to an in-house legal advisor. "This assists with the processes according to the legislation time frame, and having this level of expertise on hand is a real advantage as should there be any legal issues on a client site then we are able to offer a legal service directly from our consultancy," Smit says. "This can translate into a major cost saving in terms of time, which is of the essence in such applications, and is obviously also a saving in bottom line costs."

Another service offering that is seeing a steady increase in demand is that of occu-

pational hygiene. With the focus on uplifting levels of occupational hygiene and the need to comply with the requirements of the Mine Health and Safety Act operators are reviewing current programmes to ensure that these are in line with the mandatory codes of practice applicable to individual sites.

"We are able to conduct a full audit on occupational hygiene monitoring programmes and this includes aspects such as personnel exposure to noise, airborne pollutants, the thermal environment and ergonomics. We are able to assess both the physical and chemical stresses and provide comprehensive feedback," Smit says.

Such programme audits will determine any gaps in the management and monitoring system, and then identify appropriate corrective action to address any non-conformances. Greenmined Environmental is able to make recommendations in terms of implementing the corrective action and then monitoring the programme going forward. **<**

An important differentiator that Greenmined Environmental offers its client base, is access to in-house legal advisor, Jemma Bowles.



11

The Greenmined Environmental team, from left: Sonette Smit, managing director; Daryn Price, office administrator; Murchellin Saal, project consultant and Jemma Bowles, legal advisor.



The quality of the concrete in demolished structures will determine the concrete's suitability for reuse, says The Concrete Institute MD, Bryan Perrie.

“Eight billion tons of concrete are used annually - twice as much as any other building material.”



12

Concrete **RECYCLING'S BENEFITS**

More emphasis should be placed worldwide on the recycling of concrete, the most commonly used building material on earth, Bryan Perrie, MD of The Concrete Institute, has urged.

➤ “Modern civilisation is built on concrete and its positive social impacts are immense. However, as a result of its extensive usage, concrete has a relatively large environmental footprint which could be reduced by increasing the volumes of recycled concrete,” Perrie told the Concrete Society of Southern Africa's ReCon 2016 seminar held in Johannesburg recently.

He said there were many misconceptions about the extent of concrete's effect on the environment but worldwide, the cement industry was responsible for only about 5% of man-made carbon dioxide. Of this, 40% is derived from the burning of coal and 60% from the calcination of limestone.

“Eight billion tons of concrete are used annually - twice as much as any other building material. This means that the volumes of Construction and Demolition Waste (C&DW) also reach substantial volumes. In Europe, for example, the annual volume is estimated to be around 510 million tons, in

the USA it is 325 million tons, and in Japan, 77 million tons. The totals for China and India - where half of the world's concrete is produced - are not known. Enormous volumes of C&DW are ending up in landfills, completely ignoring their recycling potential.”

Perrie said recycling concrete also had many other benefits, including the reduction of natural resource exploitation, lower transport costs of new building materials, and increased employment opportunities - an important element in a country such as South Africa where many people are jobless.

The most common usage of recycled concrete currently is in roads, with 41 states in the USA already using recycled concrete in their road projects. In Anaheim, California, for example, 700 000 tons of recycled concrete were used on a new freeway project, resulting in savings of about USD5-million. In Australia, building materials for the construction of the Western Link highway at Melbourne included around 15 000 cubic metres of recycled concrete, yielding savings of AUD4-million.

“But concrete can also be recycled for other purposes. Old demolished concrete structures provide a potentially rich source for recycling concrete for a wide range of applications; precast concrete components are often reused in new buildings; and old factories and warehouses can be converted into dwellings. The quality of the concrete in structures will determine its suitability for reuse.”

Perrie said there were, however, some challenges to be overcome in the quest for using higher volumes of recycled concrete. “Included are aspects such as irregularity of supply, contamination and lack of consistent quality, coupled with the high cost of quality concrete recovery, site sorting, noise and pollution resulting from recovery and processing on site, as well as potential legal aspects.

“But the benefits, particularly for countries with shrinking economies, by far outweigh the challenges. The Concrete Institute believes there is a need for legislation banning construction and demolition waste from landfills, or the introduction of taxation to limit the volumes ending up in landfills. This must be coupled with increased policing to stop illegal dumping of construction waste. Architects and specifiers also need to increasingly consider the use of recycled concrete when designing new buildings,” he added. ◀



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Hotel group's **AFRICAN EXPANSION**

Newmark hotels, reserves and lodges is embarking on an aggressive growth plan on the African continent. A key strategic intervention for the group's expansion is the establishment of Newmark's first office outside South Africa in Lusaka and the creation of the Kaufela Collection in Zambia.

> Kaufela, which means 'together' in Lozi, brings together lodges of a certain quality standard under one management brand. The Kaufela Collection has already signed three independent lodges (100 rooms) and plans to add another 400 rooms by the end of the year. Newmark is currently taking on a new property in Zanzibar and a further 170-room business hotel in Lusaka.

Newmark's director for Africa, Dr Hans Heuer, who is based in Newmark's new Lusaka office says that the Kaufela Collection meets a critical need in Zambia. "There are literally hundreds of independently owned lodges in Zambia that do not have the resource to market and sell their properties effectively. The Kaufela Collection is a solution that allows these lodges to retain their independence and individuality while benefiting not only from Newmark's management, sales, marketing

and reservations infrastructure but also its two representation offices in London and New York."

The collection will be competitively priced for tourism and business groups and the Newmark name and reputation will promote confidence, assurance and awareness. "This is also a major intervention for Zambian tourism", adds Heuer. "It meets a business need for the lodge owners while helping visitors who often do not know what to expect when they make bookings."

The Lusaka office will also focus on other COMESA countries in Africa, such as Zimbabwe, Tanzania and Zanzibar. Heuer continues: "The Lusaka office is mandated to develop new territories for Newmark - under either the Kaufela Collection or the Newmark brand, depending upon the standard or size of the property."

Newmark's portfolio is managed and, in some cases, invested in by Newmark. The group, which was established in 2007, attributes much of its success to the fact that the brands in its portfolio retain their individuality. Newmark CEO, Neil Markovitz says: "We allow iconic products to flourish and we do not dilute the offering. We are not swamped or cramped by a global brand mind-set. The hotels are their own brands and this is why our properties constantly out-perform the market."

On the expansion plans, Markovitz is quick to emphasise that Newmark's offering will not be compromised. "We turn down more properties than we take on - we're very specific about the product portfolio."

Newmark prides itself on having great representation and systems, with a fluid strategy and the ability to 'stock-broke' its products across time zones at all times. "At Newmark, we have a highly skilled team backed by excellent infrastructure," adds Markovitz. "And with a great team, you can be flexible and intelligent about your choices. You can allow creativity to flourish to constantly improve your offering without a restricting mind-set that is bound by having to 'tick typical hotel management boxes'. This culture ensures that our expansion plans are managed properly and successfully." **<**



Newmark's director for Africa, Dr Hans Heuer.

The Newmark portfolio includes, among others, Nyungwe Forest Lodge in the Rainforest National Park in Rwanda.





A more PEDESTRIAN FRIENDLY Sandton

Sandton Central is taking a significant step into the future by becoming more people-friendly in keeping with leading cities worldwide.

➤ South Africa's business capital is increasing its walkability and, at the same time, boosting the economic, health and environmental benefits for the many people who live, work, visit, run businesses and have real estate investments in the financial hub.

This is having remarkable knock-on effects, with many of Sandton Central's new buildings responding with exciting designs to welcome people on foot.

Traditionally, many of Sandton's buildings' main access points, regardless of how you arrived, were through parkades. Now, Sandton is seeing a new generation of innovative commercial properties with welcoming street-level entrances that invite pedestrians in.

Elaine Jack, City Improvement District manager of the Sandton Central Management District (SCMD), which manages the public urban spaces of South Africa's cosmopolitan financial hub, comments: "Much of Sandton's road infrastructure was developed with only vehicles in mind, typical of the development of its time. Today, however, it is increasingly recognised that walkability is an important part of sustainable urban design."

Factors influencing walkability

Walkability is influenced by the quality and width of pavements, footpaths and other accessibility features that give pedestrians right of way. It is also influenced by safety and how accessible buildings are to people on foot.

Beyond the environmental and health

benefits of a walkable city, there are also many economic benefits. Better walkability can promote tourism and increase property value. It can also result in cost savings to both individuals and the community, more efficient land use and increase the liveability in the area, as well as economic benefits from improved public health and economic development.

Sandton's improvements

Improvements that add to the walkability of Sandton Central can be seen mushrooming all around the city. Among the most visible are the latest changes underway around the Sandton Gautrain Station that connect vibrant street-fronted retail with people on foot. In fact, by bringing commuters right into the very heart of Sandton Central, the Gautrain has played a major role in growing pedestrianisation.

West Street's pavements were improved for last year's EcoMobility World Festival, hosted by the City of Johannesburg and held in Sandton. Now, these pavements are getting an additional makeover that will significantly improve access for pedestrians.

Kgoro Central

Situated above and adjacent to the Sandton Gautrain Station, Kgoro Central is a new mixed-use development that creates a pedestrian and bicycle friendly environment with urban planning and design that supports a pedestrian-centric milieu. This smart and green development includes wide, demarcated walkways, cycle paths and facilities, desirable activated public space for 24/7 living, and a healthy lifestyle in open and safe surrounds. It is aligned with public transport to enable people to flow more freely, be exposed to greater choices, and connect in new ways.

Already, the outer face of the station has come to life with new coffee shops, eateries and shops. Improvements to the adjacent pavement will make them superbly accessible with a wide pedestrian zone of 5,2 metres in most areas – a massive improvement on the

small strip of pavement that were there until recently. The new pavement design, which includes trees and balustrades, will also create a more social space that is appealing to people.

"The intention is to move Sandton into a much more slick, friendly, robust, and useable outdoor environment," says Diaan van der Westhuizen, Urban Designer at StudioMAS, who designed the look and feel around the Sandton Gautrain Station.

Human friendly buildings

It isn't only Sandton's streets and pavements that are becoming more human friendly, its buildings are too. Becoming more connected with the city, Sandton City added a new pedestrian-friendly entrance with its Protea Court expansion. The new entrance opens up to the corner of Rivonia Road and Sandton Drive and provides welcoming connection point for the increasing street-level interaction in the area. In addition, the next generation of premium quality office buildings in Sandton Central are also being designed to welcome pedestrians.

Discovery is set to move to a new resource-efficient, cost-effective and environmentally-sustainable 87 000 m² global head office in 2018, developed in joint venture by Growthpoint Properties and Zenprop Property Holdings. The developers are delivering a purpose-designed, ground-breaking green building at the gateway to Sandton Central, on the corner of Rivonia Road and Katherine Street, diagonally opposite

Sandton City and a short walk away from the Sandton Gautrain Station. The building also meets Discovery's brief to create an inviting space for its employees to do their best, and features a striking street entrance to welcome pedestrians in.

Another prominent example is Abland's Alice Lane development, which will open out onto West Street and Alice Lane. The development will feature its own vibrant piazza, with ground level retail and attractions, creating a people-friendly setting that encourages pedestrian movement. ❏

2 BEST PROJECTS 16

FIRST CALL FOR ENTRIES

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

In its 14th year, the aim of *Construction World's* Best Projects is to recognise projects across the entire construction industry: from civil and building projects to professional services to specialist suppliers and contracts.

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

Judging

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

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

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

Awards evening

The awards ceremony will be held on **Wednesday, 9 November 2016**. The venue and format will be finalised in due course.

Entry criteria for each category

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

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

Category A1: Civil Engineering Contractors

Prerequisites for entries

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

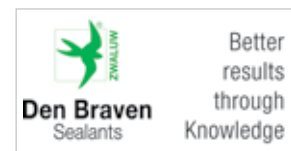
REFER TO ENTRY CRITERIA

Category A2: Building Contractors

Prerequisites for entries

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

Bronze sponsor:



REFER TO ENTRY CRITERIA

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

Prerequisites for entries

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

REFER TO ENTRY CRITERIA



Submitting entries

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

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

Deadlines

Deadline for entries is **Friday, 9 September 2016** at 17:00.

Contact

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

Special issue

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

Category B: Specialist Contractors or Suppliers

Prerequisites for entries

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

Criteria for category B

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

Category C: Professional Services*

Prerequisites for entries

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

REFER TO ENTRY CRITERIA

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

Category D: Public Private Partnerships

Prerequisites for entries

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

REFER TO ENTRY CRITERIA

Category E: The AfriSam Innovation Award for Sustainable Construction

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

Prerequisites for entries

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

This category will be judged on the project's

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

REFER TO ENTRY CRITERIA

FRANKI SHOWS ITS MARINE EXPERTISE

Introduction

Geotechnical work in the marine environment demands creative solutions to complex challenges. That's the nature of the game and there is no one better at it than Franki Africa, which has developed a reputation throughout Africa for its innovative and cost-effective solutions. It is interesting that in both the marine projects below, one of the common themes is great teamwork – a perennial Franki skill.

Quantities on the Dormac project

230 no. x 900 mm diameter CFA piles 24 m deep; 180 no. x 800 mm diameter jet grout columns 16 m deep; 180 m long x 5 m high quay wall capping beam; 1 500 m x 63 mm diameter tie bars; 80 000 m³ dredging and excavations; 6 000 m² new dock yard surface with services.

Pearce says that Franki is concluding installing the capping beam and are currently busy hanging the facial panels on the quay wall. "This has been a challenging project but we are proud of our ability to work in marine conditions – a skill that we have acquired throughout the company over many years. Apart from knowledge and experience, the most important ingredient for jobs of this nature is teamwork and we had that in abundance on this job," concluded Pearce.

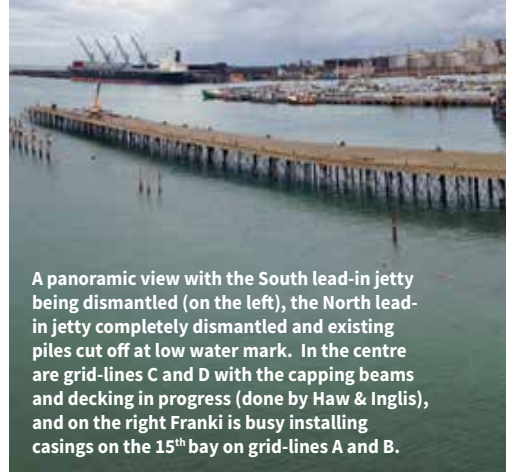
Project 1: Dormac Quay Wall

The first project is the construction of a 180 m-long, 16 m-high (4 m above water and 12 m under water) quay wall for marine engineering company Dormac's new floating dock at their marine works facility at their Bayhead, Belfast Road site in Durban. Shipping is renowned for tight schedules and high operational costs and this project is subject to the same pressures in order to meet the schedules of the future users of the dock.

Franki Africa's Paul Pearce says that this has been a complicated, multifaceted contract. "Although it is one structure, it has required many highly specialised geotechnical skills for a successful outcome," he says.

One of these skills was specialised jet grouting using a rig from Franki owner Keller's German division. "In fact the co-operation between Franki and Keller Germany was most helpful," says Pearce, "and confirms the supreme advantage that we have being part of the Keller network and able to tap into the best technology and equipment in our industry." He adds that the jet grouting was a highly technical and complicated operation requiring top-end management, operators and support. "After a three-week training

1. **Exposed CFA piles and jet grout in-fill columns.**
2. **Quay wall face panels around north mooring pawl position.**
3. **Overview of site showing dredging and CFA piling in progress.**



A panoramic view with the South lead-in jetty being dismantled (on the left), the North lead-in jetty completely dismantled and existing piles cut off at low water mark. In the centre are grid-lines C and D with the capping beams and decking in progress (done by Haw & Inglis), and on the right Franki is busy installing cappings on the 15th bay on grid-lines A and B.

and test phase, the jet grout operations began and, after some initial hiccups with Franki Cape Town coming to the rescue with their experience in jet grouting, we were able to source the faulty parts from Europe and continue with a productive and successful operation," Pearce says.

There have been a few significant challenges on this job with the first, as expected, having to work in tidal conditions and being exposed to the moods of the ocean. The Franki crew worked around the clock to accommodate tidal movement and, operating when they could; they lay down a high-spec working platform for the piling rigs. "This was an exacting job to say the least," says Pearce, "but when it was complete we were able to work with the sea being kept at bay and the biggest risk to our operation allayed."

The second challenge from a piling perspective was the positioning and tolerance of the piles in relation to the jet grout columns. "It was critical to get the positioning spot on to ensure a vertical face to the quay wall," Pearce says. "Our works department came up with a very innovative idea in the manufacture of special guides and frames to assist us in placing the piles in accordance with the fine tolerances and this worked perfectly."

Piling challenge number three – to increase our piling production rates – was



1 3



2





as a result of Dormac's request for Franki to complete the contract two and a half months earlier than initially agreed to.

"This required some fast action and we decided to purchase new, more efficient equipment specifically for the Dormac contract. Our Plant division put in a sterling effort with the new machinery, going way beyond the call of duty to fine-tune the machines and to train the operators. The end result was that we were able to sufficiently increase our production," Pearce says.

Another major challenge still to come is the installation of two 1 800 mm diameter mooring pawls which are part of the integrated dolphins for the floating dock attachment. With extremely tight tolerance to accommodate the tidal movements of the dock and the sheer scale of the pawls, this will also require an exceptional effort from the Franki team at Dormac.

Job 2: PE Jetties

In September 2014 Franki Africa's Cape branch was appointed, on an Alternative Design, as subcontractor to Haw & Inglis on the PE Lead-in Jetties Contract, which comprises two components:

- A 40-ton slip converted into a 90-ton boat hoist jetty comprising two sets of connecting jetties of 16 bays each; and
- Two lead-in jetties for the 1 200-ton slipway consisting of a Northern Jetty (with 30 bays) and a Southern Jetty (with 39 bays).

Franki was responsible for the entire pile installation operation, while Haw & Inglis undertook the concrete deck structure in accordance with Franki's design.

According to Franki divisional director, Roy Louw there was a concern about the effects of vibrating through the 4 m seabed, drilling a 1,5 m rock socket and having a crane walking out on to the jetty before the concrete had gained sufficient strength. "For this reason we finally decided to install 610 mm diameter piles using the Rotapile or ODEX method as this would be the least risky and would also allow quicker access. I'm pleased to say that this decision certainly proved to be the correct one."

But this meant 'back to the drawing board' - quite literally - for alternative design and drawings and the design of the single tube guide-frame. At the same time Franki requested permission to proceed with the soil investigation, as the last one was

conducted on the quay way back in 1975, and no geotechnical information was available on the lead-in jetties.

In early January 2015, the Franki Durban team commenced with a geotechnical investigation and the results were totally unexpected! The seabed was found to be 3,5 m - 6 m thick with a boulder layer of 12 m - 18 m thick before the bedrock was encountered. This completely vindicated the decision to opt for the ODEX piling method.

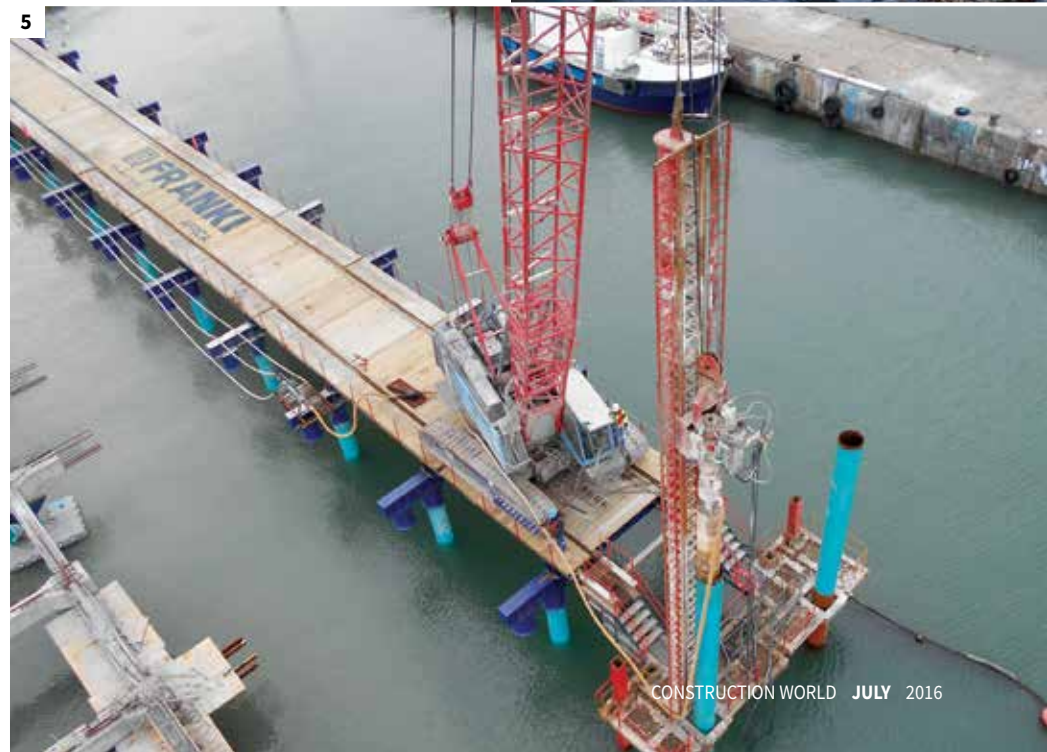
With the soils information available a test pile to 3 000 kN, twice the working load, was undertaken. "With the test pile passing with flying colours, we proceeded with the pile installation, now only required to be 9 m deep below the seabed with a minimum 3 m socket into the boulder layer," explains Louw.

As the team became more adept at drilling into the boulders, productivity increased significantly. It managed to complete the 30 piles on grid-lines A and B on the 90-ton boat hoist at an unprecedented rate, coming from 22 days behind the programme to only eight days.

4. Inserting rods on the 3rd bay on grid-lines A and B of the 40-ton slipway.
5. An aerial view of the casing being drilled down on the 15th bay grid-lines A and B of the slipway. On the left are the capping beams cast on grid-lines C and D.

In the beginning of August 2015 piling commenced on the Northern Jetty of the 1 200-ton slipway, which was completed on 5 November 2015, 13 days ahead of programme. The equipment was quickly transported over to the Southern jetty and the installation momentum was kept at a high standard. Piling to the Southern jetty was completed on 9 March, a staggering 53 days ahead of programme.

"This has been a monumental team effort," says Louw. "From the management of the complex contractual issues to the safety management and the welding team and everyone else this team raised the bar in terms of performance," Louw concluded. <



CAPTAINS OF CONSTRUCTION

Top-level executives and heads from Africa's leading infrastructure and construction companies and institutions met to discuss strategies to foster industrialisation at a special event held in Johannesburg.

> The 'Captains of Construction' annual leadership forum included delegates and special speakers from the South African and Congolese governments, as well as key local and global private sector stakeholders.

In his keynote address, Moe Shaik, former head of South African Intelligence and current general executive of international finance from the DBSA warned those present of the current threat posed to regional development through declining levels of infrastructure.

As a result of the global slump in commodity prices, in 2015 the total revenue from infrastructure and construction projects dropped along with net profits. "Funding from international development financing institutions is drying up," warns Moe Shaik, and should economies not diversify from single commodity incomes, business would decline dramatically. "Your operating model is at risk," explained Shaik, "and if the current trends continue, how will you survive?"

A panel followed with an interactive discussion between members of the DBSA, the Industrial Development Corporation (IDC), the ambassador of the DRC to South Africa, Power

Africa, Arup, and David Humphrey – the global sector head of power and infrastructure from Standard Bank. The panel discussed industrialisation policy goals and how to align strategies between the private and public sectors in order to boost infrastructure projects.

It was widely agreed that there is a need to change the way in which public private partnerships (PPPs) are approached. Sinazo Sibisi, group executive: infrastructure delivery at DBSA explained that in order to drive industrialisation, "Both public and private parties need to find more effective ways of working together."

Within this context, it is only when the public sector effectively enables innovation, and when the private sector learns to work with the state, will industrialisation take place in Africa. "Ultimately we need to look at innovation not only in terms of economic returns, but also in terms of development returns for the region."

This view was later echoed by Lizeka Matsheka, the divisional executive agro, infrastructure & new industries from the IDC. "Coming from the public sector, we need to be clear up front. It will be imperative to find better ways of partnering with private bodies."

One of the proposals to kick-start PPPs came from Vibhuti Jain, project finance advisor at Power Africa. Power Africa, backed with financing from the US government, has pledged to provide Africa with 30 000 MW of energy by 2030, and connect 60 million households. She suggested that by utilising a third party such as Power Africa in the initial stages of project development, a more promising partnership between private and public groups could be established.

The open concern of so many high level



Moe Shaik, former head of South African intelligence and current general executive of international finance from the DBSA.



Sinazo Sibisi, group executive: infrastructure delivery at DBSA.

executives regarding the future of infrastructure in Africa was welcomed by many of the participants, including Moe Shaik. His final message was that in order to innovate, return to profit making, and make a meaningful contribution to regional development, both private and public sector groups would need to design new models, and "run away from what's comfortable." ■

NEW R&D CENTRE

In April, work began on the expansion of Wacker Neuson's light equipment production site in Reichertshofen. The company invested around EUR10-million in a new R&D centre for light equipment between now and the beginning of 2017.

> Back in 1998, the company already moved production of vibratory plates from the previous site near the Olympic Park in Munich (now the location of Group headquarters) to the factory in Reichertshofen (65 km away) to support strong growth and overcome capacity bottlenecks. Now, over the coming year, R&D, product management and materials management will also be relocating to Reichertshofen near to the production facility.

"Moving all technical operations for light equipment to the same site will improve processes, shorten workflows and boost productivity even further," explains Helmut Bauer, managing director of Wacker Neuson Produktion GmbH & Co. KG.

Wacker Neuson currently employs around 330 employees at the Reichertshofen site. Now, the company is constructing a new office building and test hall next to the existing production facilities on an area spanning more than ten hectares. This will include around 3 500 m² of additional room for up to 120 employees, primarily in R&D. Adjacent to this will be a large, modern test hall providing almost 3 000 m² of space for extensive testing of light equipment during the development phase. In total, the company



The silver-spade ceremony was held on 22 April and the first employees will be moving into the four-storey administration building and test hall by the end of the year.

is channelling more than EUR10-million into the expansion project.

"Expansion of the Wacker Neuson production site is currently the most important commercial development in our community," confirms Michael Franken, mayor of Reichertshofen. "It is creating a lot of promising new jobs that will strengthen our region."

Vibratory plates, various rammers (for example battery-powered rammers), internal vibrators and inverters, angle grinders, floor saws and breakers will be developed and manufactured at the Reichertshofen site. ■

ANCHOR TENANT ADDED

Checkers is the latest leading retailer to confirm it will open in Ballito Junction as part of the centre's major redevelopment and expansion that will see the mall growing to eight times its current size.

➤ Ballito Junction's sixth anchor tenant, Checkers, joins new additions Woolworths, Edgars and Game and its existing anchors Pick n Pay and Dis-Chem. The massive redevelopment will open in March 2017.

Owned and developed by the consortium of accomplished South African property companies, Menlyn Maine Investment Holdings and Flanagan & Gerard Property Development & Investment, Ballito Junction Regional Mall is the major expansion of an existing 10 000 m² shopping centre.

The expansion project was set to grow the mall to a sizeable 65 000 m². Now, by adding Checkers, Ballito Junction will increase in size to 80 000 m².

In addition, the owners of Ballito Junction are increasing their investment in the development from R1,4-billion to R1,6-billion.

Patrick Flanagan, joint-chairman of Flanagan & Gerard, explains the plans for Ballito Junction originally sought to develop a regional mall. Now, with Checkers, it will function as the dominant super-regional mall in its area.

"Ballito Junction's new, bigger size and added retail variety gives it greater market traction and boosts its appeal across a wider market," says Flanagan.

Carl Jankowitz, director at Menlyn Maine comments: "The addition of Checkers to Ballito Junction is significant in that it creates a meaningful consolidation of retail in Ballito in one magnificent world-class mall."

A confident answer to the rapid growth of the thriving Ballito and KwaZulu-Natal North Coast region, Ballito Junction is set to change the face of shopping and entertainment for the area's residents. It will introduce an unparalleled mix of leading retail and leisure choices.

The mall's 130-store shopping variety will also feature an appealing array of international brands, independent retailers and endless entertain-



ment for the entire family, to complement its powerful line-up of popular national retailers.

The large expansion project is making excellent progress. Earthworks began in March last year and the exciting new mall will open its doors in March 2017 as the only large dominant mall immediately north of the new King Shaka International Airport.

The existing mall, which continues to trade with minimum disruption, is already a favourite with shoppers and notches up strong sales. In addition to the massive new development, the mall will receive a full overhaul, and its popular Pick n Pay will be modernised, upgraded and will add a Pick n Pay liquor store. ■



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ACCOLADES FOR GOUDA

Consisting of 46 concrete towers, the Gouda Wind Farm, situated in the Cape Winelands District, is one of the largest wind farms in Southern Africa, and the first of these to use locally produced concrete instead of the usual imported steel towers.

22



➤ For the construction of these 100 metre tall towers, vast quantities of Sika products were supplied, including one that received the prestigious Fulton Award from The Concrete Society of Southern Africa. Jacques Reinecke, head of renewable energy for Sika SA, spearheaded the specification and installation of the Sika product as well as on-site training.

In September 2015, the Gouda Wind Farm, owned in partnership by the South African company, Aveng, and the Spanish renewable energy company, Acciona Energia, commenced operations with a generating capability of 423 gigawatt hours of electricity through which 200 000 homes will be powered per annum. It is estimated that the clean energy generated by this wind farm will prevent the emission of 406 million metric tons of carbon dioxide per year.

Sika products used in large quantities for the construction of the towers included Sikadur-31 CF (one ton per tower), Sealing Backing Cord (22km) and SikaGrout-295 ZA (30 tons per tower). Due to the extreme height of the towers, each tower is comprised of three precast concrete segments joined on site, one on top of the other. In turn, each segment comprises four sections that were sealed and grouted together.

Horizontal joints on the tower segments were sealed with Sika EVA Backing Strip. This semi-rigid, closed cell cross-linked construction foam is designed as a tough, flexible and resilient back-up support material for surface seals in load bearing joints. It can also be used as a bedding seal under precast concrete panels and to prevent loss of grout when joining precast concrete components.

Once joined together, the vertical and horizontal joints of the precast segments were sealed with Sikadur-31 CF and Sikadur-31 DW. Both products are moisture tolerant, thixotropic, structural two-part adhesives and repair mortars based on a combination of epoxy resins and special fillers. Easy to mix and apply, they are suitable for both

dry and damp concrete surfaces and harden without shrinkage. They provide high initial and ultimate mechanical strength and are impermeable to liquids and water vapour. Sealing Backing Cord was placed into the expansion joints to regulate the depth of seal and to provide a solid backing onto which the sealants were placed.

Weathered concrete areas were repaired with Sika MonoTop-620, a cementitious, polymer modified, one-component pore sealer and leveling mortar containing silica fume. With an adjustable consistency, it can be applied by the wet spray method and provides excellent adhesion with good resistance to water and chloride penetration.

Grouting of all vertical cavities using SikaGrout-295 ZA, was completed by Derman Construction who used local labour trained by Jacques Reinecke and Anthony Webster, Sika Technical Sales Consultant. SikaGrout-295 ZA is a one-component, ultra-high strength, cement based grout, specifically designed for use in the renewable energy field, under metal bases, between concrete segments and to fill cracks, gaps and large voids. Due to its good flow properties this is a pumpable grout that provides rapid strength development.

To ensure that SikaGrout-295 ZA could reach the horizontal joints on the 100 m high towers, a pumping trial became necessary. The trial necessitated sending the South African manufactured grout to Acciona Spain where it was successfully pumped to a height of 120 m on an actual tower. SikaGrout-295 ZA not only passed the pumping trial, but was also awarded a fatigue test certificate for durability – the ultimate test on a product. The results of these tests now validate SikaGrout-295 ZA for worldwide use, a noteworthy achievement.

As a final accolade for Sika SA, this project at Gouda Wind Farm won the coveted Fulton Award for Innovation in Concrete. Since the emphasis on this huge project was to use local content and local labour, it surpassed all expectations, proving local really is better. ◀

Experience vital for **SUCCESSFUL** **FOUNDATION PILING**

Entrusting piling projects to inexperienced operators who cut costs to secure business is short-sighted and could result in disastrous consequences, warns Nico Maas, chairman and founder of Gauteng Piling, which is this year celebrating its 20th anniversary.

➤ “Proper piling is critical to the durability and safety of any new structure. It provides the foundations of a structure whether one or 30 storeys high – so short-cuts, or awarding a contract purely on the lowest price, could be extremely dangerous, to say the least,” cautions Maas, who personally has been involved in the piling industry for 45 years, and is a former president of both Master Builders SA and what is now Master Builders Association North.

A long-standing member of Master Builders Association (MBA) North, Gauteng Piling has since its establishment in 1996 completed over 1 500 major piling projects in many parts of South Africa, including providing over 500 foundation piles for the construction of Southern Africa's largest single-phase retail centre, the new multi-billion rand Mall of Africa, in Midrand.

Maas believes that in piling, quality should never be compromised to save time or money. “Clients and contractors should remain satisfied with the foundation element the appointed piling company has provided throughout the duration of the building project - and the entire lifecycle of the asset. It is very important that the soil information supplied to tenderers is accurate and sufficient to allow piling operators to work out a competitive cost estimate.

“If the correct information is not supplied, or if a proper geotechnical investigation of soil conditions not done, then the project may be delayed due to the main contractor starting work on site and only then discovering that piling is required.

“All piling work should be undertaken and supervised by staff who are trade-qualified and competent to perform the necessary procedures. It is essential to invest time and money in training staff to ensure that quality is never compromised. On large or complex piling projects, quality should be managed systematically to ensure that quality assurance elements are not omitted due to the wider ranging scope of operations.

“Safety and health considerations are also important in an industry such as piling with its heavy equipment which could cause serious accidents on site. Gauteng Piling has full-time Occupational Health and Safety staff who conduct regular – and unexpected – site visits to ensure that safety regulations are adhered to. Our site managers also are all fully versed in this important aspect of piling operations,” Maas added.

“Experience in the provision of piles is vital and most errors in piling installation come about when short-cuts are taken or when inexperience leads to the piling contractor following totally incorrect procedures, such as pouring concrete into a pile hole into which ground water had seeped.

“In two decades, Gauteng Piling has had minimal failures – and when setbacks did occur, the cause invariably was unexpected ground conditions. All too frequently, clients or contractors refuse to spend the extra money to establish what lies beneath the surface of the site they are planning to build on. If there are enormous boulders underground, for example, not even the most experienced piling operator can keep to time schedules. Then the final costs of the piling project could exceed the

budget. The piling operator – who often carries the blame for the delays – through all of this also has to cope with planned operational schedules on other sites that would by then have been severely disrupted.

“The experience Gauteng Piling has gained in 20 years is being used daily to ensure that the piles that we install will safely carry the design loads supplied by the client's agents – and that we keep to stipulated time schedules as much as possible with the information we have been provided with at the outset,” Maas adds.

Apart from the piling for Mall of Africa, Gauteng Piling has also provided the foundations for other major shopping centres such as The Grove in Pretoria, I'langa Mall in Mbombela, as well as Cresta and Fourways Mall in Johannesburg. It was recently awarded the contract for the piling for the second phase of Fourways Mall's extension project and has also provided piling for the upgrade of the Kyalami Grand Prix Building Project, extensions to the Market Theatre complex in Johannesburg, as well as public sector projects by agencies such as PRASA and Telkom, to name just a few successful contracts of recent years. The company has a fleet of 20 auger drilling machines, three bore rigs, two cranes, four Grundo hammers and two lateral support machines. ◀



Gauteng Piling management team (from left, standing): Jaco Grobler, GM; Eulalia Maas, financial manager; and Ignatius Maas, contracts director. Seated are the company founders, Nico and Hettie Maas.

Gauteng Piling most recent high profile contract was for the provision of foundation piling for extensions to the Fourways Mall. Pictured: work on the second phase of the project.



Concrete footprint in **GROWTH NODES**

South Africa's leading concrete solutions provider, AfriSam has strengthened its readymix production and supply capacities in the northern areas of Durban, KwaZulu-Natal.

Background

Since September 2015, its new batching plant in Phoenix has been supplying concrete for the construction of the massive Dr Pixley ka Isaka Seme Memorial Hospital, and it will also be the source of material for a large low cost housing project in the area.

According to AfriSam's Marietjie Thompson, the building materials supplier is positioning itself to seize a share of the promised massive spending on infrastructure by eThekweni Municipality in the Inanda, Ntuzuma and KwaMashu (INK) areas. The local government has already made known its plans of investing billions of Rands into housing projects to help uplift these areas over the next five years.

Clinching the project

While the company has bolstered its production and supply capacities in the area its strong Broad-Based Black Economic Empowerment credentials places it in a very strategic position when tendering for public sector contracts.

This was one of the biggest reasons for AfriSam clinching the concrete supply for Dr Pixley ka Isaka Seme Memorial Hospital.

Dr Pixley ka Isaka Seme Memorial Hospital is a positive signal of more to come in the surrounding areas.

More than providing members of the INK community with important health care services, the KwaZulu-Natal Provincial Department of Health wants the build to uplift INK communities during the construction programme.

For example, one of the key objectives of the construction programme is that 30% of all sub-contracts are let out to 100% black-owned companies.

This is over and above its strict requirements to maximise employment opportunities and skills transfer during the build. By the end of the year, it is anticipated that there will be about 2 000 people from the INK communities employed on the site when fittings and finishing works start.

AfriSam is supplying 40 000 m³ of concrete to Aveng Grinaker-LTA Building and its joint venture partner, Enza Construction, who arrived on site in January 2015 to start tackling the four year contract.

Strong supply

The Phoenix batching plant is a mere 1,5 km from the site and has a production capacity of 40 m³ an hour. This plant services what is referred to as the P.I.N.K. area which encompasses Phoenix, Inanda, Ntuzuma and KwaMashu.

Six readymix trucks deliver 600 m³ of concrete to the construction site per day, while three more ferry concrete from AfriSam's Ottawa operation. This strategy mitigates any risk to customers should there be an unforeseen interruption at one of the plants.

In addition to supplementing production and supply capacities at Phoenix for the hospital project the Ottawa plant, located just more than 12 km away from the construction site, is supplying major developments well



AfriSam delivers 600 m³ of concrete to the site every day.

under way in Cornubia and Umhlanga. Both plants receive a steady supply of quality cement from AfriSam's grinding station in Roodepoort and aggregates from its Verulam quarry.

Mix design

Thompson says the company did four mix designs for the Dr Pixley ka Isaka Seme Memorial Hospital.

These were for the slabs, suspended slabs and columns. About 80% of the concrete for the structure has a compressive strength of 30 MPa, while 35 MPa concrete is being used for the columns and suspended slabs.

The materials producer also helped the JV to co-ordinate the use of the different mixes on site, once the batches had been delivered.

By the end of the year, it is anticipated that there will be about 2 000 people on the site.



AfriSam readymix has been used for the slabs, suspended slabs and columns.



Thompson says that a highlight of the supply contract has been ensuring timely delivery of quality concrete to site considering the very strict construction schedule.

Aveng Grinaker-LTA Building and Enza Construction intend completing the bulk of the structure this year, giving them a long enough timeframe in which to handle the extensive and intricate finishings and fittings component of the project ahead of practical

completion in the first week of October 2018.

Up to 18 decks are prepared a day, with between five and seven completed in a week. The concrete supplied by AfriSam has been designed to cure over 28 days.

Thompson says orders are placed at least a week in advance, with deliveries starting at 7:00 in the morning and ending by 17:00 when the construction shifts end.

In line with AfriSam's policy, trucks are turned around within 45 minutes.

The outlook for construction activity in INK areas of Durban remain strong, with the construction of Dr Pixley ka Isaka Seme Memorial Hospital a positive signal of more to come from both provincial and local government. And, AfriSam is in a very strategic position to play a meaningful role in many of these builds. <

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100 MW KATHU SOLAR PROJECT

Kathu Solar Park, near Upington in the Northern Cape, is a 100 MW greenfield Concentrated Solar Power (CSP) project with parabolic trough technology and equipped with a molten salt storage system.

ENGIE is pleased to announce that the Kathu Solar Park project in South Africa, owned by an ENGIE-led consortium with South African partners, has signed a 20-year Power Purchase Agreement (PPA) with Eskom – South Africa’s state owned power utility – making it possible for construction at the site to begin shortly. The concentrated solar park, situated in the Northern Cape Province, 600 km South-West of Pretoria, is expected to be operational in the second half of 2018.

The Kathu Solar Park project in South Africa has signed a 20-year Power Purchase Agreement (PPA) with Eskom.



Kathu Solar Park is a 100 MW greenfield Concentrated Solar Power (CSP) project with parabolic trough technology and equipped with a molten salt storage system that allows 4.5 hours of thermal energy storage and thus limits the intermittent nature of solar energy.

Bruno Bensasson, CEO of the ENGIE Africa Business Unit, commented: “This is an important milestone for our first Concentrated Solar Power project in the ENGIE Group. The Kathu Solar Park project supports South Africa’s strategy of increasing the contribution of renewable power and also underlines our commitment to be a key partner in achieving sustainable energy generation in Africa.”

The consortium, which is led by ENGIE (48,5%), includes a group of South African investors comprising SIOC Community Development Trust, the Investec bank, Lereko Metier and the Public Investment Corporation.

The project is funded by a mix of debt and equity. The debt is funded from a club of South African banks, namely Rand Merchant Bank, Nedbank Capital, ABSA Capital, Investec and the Development Bank of South Africa.

Approximately 1 200 jobs will be created during the construction phase. It is estimated that the Kathu Solar Park will save six million tonnes of CO₂ over 20 years and will further promote local economic development through various projects such as a local community trust for the benefit of communities in the John Taolo Gaetsewe District Municipality situated in the Northern Cape and sourcing of other services from local entrepreneurs.

Kathu Solar Park has been awarded preferred bidder in the third round of the Renewable Energy Independent Power Producer Procurement Program (REIPPPP) led by the South African Department of Energy (DOE).

In Africa, ENGIE has interests in two operational wind farms, the 94 MW West Coast 1 wind farm in South Africa and the 301 MW Tarfaya wind farm in Morocco. ENGIE is also constructing two state-of-the-art thermal power generation units (Safi – 2 x 693 MW) in Morocco. Additionally in South Africa, the group owns and operates two thermal power peaking plants, the 670 MW Avon plant (under construction) and 335 MW Dedisa plant (in operation). Through Solairedirect, it is in charge of two solar photovoltaic parks with a total installed capacity of 21 MW located in the Western Cape. ❏

CELEBRATING EXCELLENCE AND INNOVATION

The Concrete Society of Southern Africa NPC is calling for nominations for its prestigious biennial Fulton Awards which recognise and honour excellence and innovation in the design and use of concrete.

The awards continue to celebrate the legacy of scientific and technological advances in concrete within the built environment, and the late Dr. ‘Sandy’ Fulton’s life and achievements in the industry.

The 2017 awards take on a new look with brand new categories, and a new approach to judging, and the Society is proud to announce that PPC are, once again, the Anchor Sponsor for the Awards.

According to the John Sheath, CEO and director of the Concrete Society, after more than 30 years of the Awards’ existence, some serious updating was required in terms of both the criteria for adjudication of the entries and the entry categories themselves, many of which had been in existence for the lifetime of the awards.

“We had drifted away from identifying all that was special and exceptional in the concrete, Sheath said, “and in the opinion of the Fulton Awards Committee,

John Sheath, CEO of the Concrete Society



we were focusing too much on the total project on hand, considering aspects that had little to do with the material”.

So, irrespective of category, the criteria for adjudication that the judges will be using are:

- Quality of concrete – focusing on finish
- Sustainability – green building initiatives
- Inventiveness/innovation in the application of concrete technology
- Innovation in concrete construction methods
- Innovative geotechnical use of concrete
- Overall aesthetic impact of the concrete aspects of the structure
- Rational behind the chosen concrete finish
- Standard of workmanship of the concrete
- Effect of the concrete on the architectural landscape and environment

Some unique criteria will apply to the Innovation in Concrete category:

- Significance of the use/application of the innovation
- Industry need for this innovation
- Does it address or contribute to sustainability issues?

- Will it make concrete more competitive and therefore, grow the market?

The new categories for 2017 are:

- Buildings up to 3-storey
- Buildings more than 3-storeys
- Flatwork
- Infrastructure
- Innovation in concrete
- Architectural concrete
- Mining

The procedure for nominations has also changed. These can be made on-line through the Society’s website and will require a short motivation as to why it is felt that the nomination is worthy of an award. The judges will assess these nominations and a short-list of entries will be drawn up for subsequent adjudication on site.

The deadline for nominations to be made is 31 August 2016, while the completed Entry Packs have to be submitted by the end of November 2016. The Award winners will be announced at a special gala weekend to be held in Drakensburg from 2 to 4 June 2017.

Full details of the 2017 awards are available on the Concrete Society website at www.concretesociety.co.za ❏

LSF SOLUTION for Swaziland clinic

In the SADC region, Light Steel Frame Building (LSFB) is increasingly becoming the preferred building method for those interested in energy-efficient buildings that can be built fast and with minimum waste, and Swaziland is no exception.

> The first notable LSFB project in Mbabane, Swaziland, is an out-patient clinic for the Ministry of Health, built by Razorbill Properties under instruction from the principal agent (PA) Ramashka Architects Swaziland. Razorbill is a Large Manufacturer Member of SASFA, and also undertakes turnkey LSF building projects.

The main purpose of the facility is to serve as a day clinic, which will alleviate the patient load from the neighbouring main hospital. Provision was made for a link bridge between the clinic and the main hospital to facilitate a free flow of pedestrian traffic between the two facilities.

Two different LSF solutions

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 for this project; thermal insulation complying fully with SANS 10400XA ensuring energy efficiency over the lifetime of the building; site neatness 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, stormwater systems and available space on site for the offloading and storage of building materials. Also, the construction tasks were split between different companies with the re-routing of sewer lines, installation of storm water systems and foundation and slab installation being awarded to a local Swaziland contractor.

"The fact is that LSFB minimises the volume of building materials required on site so we were able to overcome the site constraints," says Smith. "Based on our experience on several other project sites where foundations were outsourced to civil contractors with little or no experience in LSFB,

Razorbill decided to employ a fulltime Quality Control officer on the site to help ensure that the foundation was compliant with the standards and tolerances as required by the SANS 517 building code. This decision proved a very worthwhile one indeed," Smith says.

Scope of work

The scope of works included the rolling of about 100 tons of 0,8 mm and 1,2 mm LSF sections in Vereeniging and transporting it to Mbabane – ArcelorMittal's ISQ 550 high strength galvanised steel sheet was used for the LSF sections; the assembly and erection of all the LSF panels including 16,5 t of heavy structural steel; the erection of 3 700 m² of fibre cement board external cladding supplied by Everite, and 14 200 m² of internal lining comprising 15 mm thick fire stop and moisture resistant Saint-Gobain gypsum board and gypsum ceiling board; and the erection of the roof consisting of ArcelorMittal's Chromadek roofing, profiled by Safintra.

The hot-rolled steel sections were used in the project to achieve the heights and spans required in the building. "This was designed by South African engineers and the manufacturing was outsourced to local Swaziland engineering firms," Smith says.

"Furthermore, "Razorbill trained and employed more than 110 local Swaziland people for the project. This job creation for locals is consistent with Razorbill's strategy of maximising sustainable benefits for the local communities in which the projects take place," Smith says.

Energy efficient LSFB

The news of the energy efficient LSFB method has travelled fast in Swaziland. "The Ministry

and Ramashka Architects are delighted with the project and the obvious advantages of LSFB. We have already been approached for another important construction project in Swaziland where the developers are very interested in LSFB," says Smith.

John Barnard, Southern African Light Steel Frame Building Association (SASFA) director, adds that SASFA has had two senior building inspectors from Swaziland attend its 6-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. "Even if you take only 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 reason enough to choose LSF instead of dusty, noisy, heavy, labour intensive masonry construction.

"LSF allows for a neat, organised and clean building site with low traffic density. 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 Southern 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.

"The ability to achieve complex and aesthetically pleasing designs with LSFB is no longer in doubt and, given LSFB's significant contribution to a growing movement of sustainable and cost-effective building, the advantages of LSFB to developers and the environment at large, can no longer be discounted," Barnard concluded. <

The first notable LSFB project in Mbabane, Swaziland, is an out-patient clinic for the Ministry of Health, built by Razorbill Properties.





PRACTICAL SOLUTION TO SCHOOL OVERCROWDING

A shortage of space and significant overcrowding in some schools is a prevalent concern in the South African education sector. Highlighting this matter, the Education Minister of the Executive Council (MEC) Panyaza Lesufi has confirmed that 533 out of 1 856 schools within the Gauteng Education Department's (GED) domain have classroom shortages.

> The GED has furthermore deduced, based on its survey of these regional schools, that an additional 1 069 ordinary classrooms are still required.

In light of these circumstances, the GED recently contracted mobile buildings supplier Kwikspace Modular Buildings (Kwikspace) for assistance at Kaalfontein Secondary School in Tembisa, Midrand in the Gauteng Province. Kwikspace provided a permanent structure as an urgent solution that is a benchmark in the industry, providing functional, efficient classroom space for approximately 1 468 learners in a matter of weeks.

The mobile solutions company erected a first-of-its-kind, double-storey unit using alternative building methods that consisted of a steel and concrete structural frame. The project included the construction of 32 classrooms, 10 ablution units, an administration building, a nutrition centre and landscaping of the existing school grounds.

Comments Kwikspace construction proj-

ects manager, Con de Villiers: "The Kaalfontein project is a unique milestone for Kwikspace. We erected an alternative modular double-storey building for the very first time in South Africa, with a concrete slab on the second floor. This double-storey structure included an additional ablution unit that represents a new design style and methods of construction, incorporating classrooms and ablutions within the same block."

This project activity in the local community has provided a much needed boost by creating 95 local jobs and employing five local subcontractors who have used their skills in paving, plumbing, electrical and general building applications.

Some stringent challenges were presented during the restructuring of the school. The construction site was occupied by 30 mobile classroom units and learners, all of whom had to be accommodated and relocated while Kwikspace set to work. Construction proceeded without affecting the normal process of learning at the existing school. This meant that Kwik-

space's engineers and managers had to plan all site operations and construction activities in five phases, to adapt to the school's daily programme. Further arrangements were made to relocate mobile classrooms to their respective designated locations and settle learners into their new spaces on a weekly basis.

In a statement made in his budget speech in 2015, MEC Lesufi said that the GED was committed to improving learning conditions by providing students with a safe, well-equipped infrastructure for an environment conducive to learning.

"The double-storey building is a miracle – our school is now the envy of all other schools around Tembisa and Kaalfontein," comments Kaalfontein Secondary School Principal, KG Maduma

Kaalfontein Secondary School was established in 2012, after a steep increase in the community population there, which almost doubled between the years 1996 and 2011, rising from 237 676 to 463 109 citizens. ❏

LESSONS FROM CHILE

International transport expert, Professor Hernan de Solminihac from Chile will present a talk titled, 'The importance of the road infrastructure development in the socio-economic growth of Chile' on 5 July 2016 at the 35th annual Southern African Transport Conference (SATC).

> Partnerships for economic growth, is the theme of this year's annual SATC that will take place from 4 to 7 July at the CSIR International Convention Centre in Pretoria.

What can the industry learn from the Chile experience in improving the lives of all its citizens? This will be unpacked by Professor de Solminihac during his presentation and is a fitting theme considering the socio-economic issues in Southern Africa.

The objective of this address is to describe Chile's most relevant experiences and examples in its road system development and how this has impacted on the socio and economic development of the country.

Delegates will hear about the main problems encountered in Chile. At the same time they will have first-hand information on what solutions were implemented in developing the road infrastructure in offsetting these challenges.

Of particular interest will be Professor de Solminihac's ideas on how a developing country can work to improve its road infrastructure which in turn improves the quality of life for its population.

As these designs are being implemented, all road users in Chile are

benefitting. Reduced travel time, fewer accidents and improved vehicle operating costs are just some of the benefits. Business sectors such as road haulage, mining, agriculture and tourism are also seeing positive spin-offs due to the improved road infrastructure.

Delegates will also hear how revitalising a country's road infrastructure is a great incentive to revitalise a country's economy. New investments in roads, says Professor de Solminihac, will improve overall productivity.

Road transport connects nations and unites countries. Without proper solutions to move people and freight, economies will remain stagnant. The main aim of SATC is to respond positively to the challenges and needs of transport users. ❏



MANHATTAN QUARTER TOPS OUT

Construction of Manhattan Quarter, a complex of 63 apartments overlooking the Grand Canal in Century City, has topped out and is on schedule for completion in mid-October.

Being developed by the Rabie Property Group at a cost of R150-million, Manhattan Quarter comprises generously sized apartments which were all sold out months ahead of construction which started in July last year.

The apartments were sold for between R1 425 000 and R4,8-million and are housed in two adjoining blocks with a staggered skyline of three, four and five storey sections and serviced by two lifts off a central lobby with a concierge desk.

They range from one bedroom units to four bedroom duplexes and vary in size from 70 m² to 228 m², including balconies. All apartments will have secured, covered parking for two cars and overlook either the Grand Canal or the largest public park in Century City.

Manhattan Quarter is conveniently located on a site adjoining Manhattan Towers – a 15-storey block of 82 apartments set over a ground floor commercial component including a restaurant and conference facilities – and Manhattan Wharfside – a strip of single and double storey apartments fronting onto the Grand Canal. The existing Manhattan components were built in red facebrick and this architectural element is being carried through to Manhattan Quarter.

It is also in easy walking distance of Canal Walk Shopping Centre – which is a bridge over the canal away – as well as restaurants, a park, schools, a crèche and the MyCiTi bus station.

Designed by Munnik Visser Architects, Manhattan Quarter is being constructed by Big Ben Construction. Handovers and transfers are scheduled for November this year.

The rest of the Manhattan precinct, which will include a commercial component, a restaurant, a large park and a crèche for 160 children, is also under construction and due for completion in November.

According to Brian Usher, Sales Director of Property World, Century City residential properties have shown significant capital growth in recent years due to demand for properties in the precinct far outstripping supply.

"Century City has definitely become a sought after residential node due to a number of factors including its high level of safety and security, its well-maintained environment and the fact that there is every conceivable facilities right on the doorstep.

"As soon as resale properties come on the market they are snapped up and we are always looking for stock.

"Sales in new developments at Century City have also strongly outperformed the rest of the market," he said. ❏

On site of the Manhattan Quarter residential development at Century City which has now topped out are from left, Greg Jenkins and Miguel Rodrigues of Rabie Property Group and Louis Coetzee and Mogamat Abrahams of Big Ben Construction.



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Basil Read, in collaboration with GIBB Engineering and Architecture and the Government, has built an innovative water supply and distribution system that now services its Savanna City development. The aim of the new system is to **limit water losses by 10%, which equates to an approximate saving of R11 million per annum.**

The centrepiece of this ground-breaking initiative is a new, purpose-built **R37.3 million reservoir that holds 10 million litres of water.** Constructed using 'self-healing' concrete that automatically expands to fill in any cracks that may develop. This new water supply has a distribution system which is divided into manageable zones incorporating a series of pressure reducing valves, which make leak detection and repairs much more efficient. The material used for the pipes was also carefully chosen for its strength and durability.

All in all, the new Savanna City reservoir is an outstanding example of Basil Read's commitment to the sustainable use of our precious natural resources. By combining local insight with the best international technology available, Savanna City is leading the way in creating innovative urban planning solutions for the future.

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ONE MILLION ACCIDENT FREE

hours at Kumasi City Mall

WBHO Ghana, currently constructing the new Kumasi City Mall in Ghana, has recently achieved one million lost time injury free hours since the start of the project in March 2015. This safety milestone marks the third time in four years that WBHO has achieved one million LTI free hours for a building project in Ghana.

A commemorative event was held on the construction site in Kumasi and the WBHO safety representatives were awarded for this remarkable achievement.

The chief of Asokwa in Kumasi, Nana Fe-Baa-moah II, delivered a congratulatory message to all the workers.

Kumasi City Mall, strategically positioned on one of the major roads in Kumasi, Ghana, in the gold rich area of Ashanti, comprises over 400 m of frontage and include main anchor tenants such as Mr Price, Game and Shoprite. The mall has a GLA of 18 157 m² and a GBA of 47 187 m² which includes a 15 440 m² basement parking and will be the

first of its kind to be built in Kumasi and is scheduled to open for trade in April 2017.

The Kumasi City Mall development is owned by Delico Kumasi Limited, an affiliate of Delico Achimota Limited and Delico Property Developments Limited. It is also the developer of Accra's famous West Hills Mall, also built by WBHO. Projects of this size is critical for the Infrastructure development and progress of the Ghanaian economy and WBHO is honoured to be part of this development.

Three major safety awards

The WBHO team have had three major safety award presentations for Ghana projects to date. Projects include the new West Hills

Mall in Accra that achieved 2 000 000 LTI free hours, the Achimota Mall with 1 000 000 LTI free hours, as well as the Kumasi City Mall with 1 000 000 LTI free hours. Occupational health and safety on all projects are of the utmost importance and is taken seriously by all staff and have the full support of senior management. All site staff are given a comprehensive safety induction on site before any project starts as well as a daily safety talk where a different safety topic is discussed and a safety pledge is repeated.

For all projects, the necessary PPE (personal protective equipment) is always available on site for everyone in need. WBHO's labour team receives training and is certified on site for doing critical functions such as scaffolding. A WBHO safety auditor visits all WBHO Ghanaian projects throughout the year to audit and train and the culture is to support and not to criticise.


It is clear that WBHO Ghana receives the full support from WBHO Construction in terms of plant, equipment, finance, personnel and expertise. The Kumasi team has had the benefit of lessons learnt on the previous contracts with a core team made up of both Ghanaians and South Africans.

Three main photos: Kumasi City Mall during construction.





WBHO is also working successfully with local suppliers and subcontractors as well as trusted SA subcontractors who are all making a big contribution towards WBHO's efforts and successes in Ghana.

While working on the Achimota Mall project, WBHO engaged in some community responsibility work by helping the local police station with new female jail cells and is currently improving the school on the property adjoining the Kumasi Mall site which involves the construction of a toilet facility and landscaping. 

Ghana roads and earthworks statistics

- Ahafo Mine for Newmont: 4 495 691 LTI free hours on the project, valued at USD80-million and still in progress.
- Iduapriem Mine for Anglo Gold Ashanti: 1 980 120 LTI free hours on the project, valued at USD75-million and completed in July 2014.
- Golden Ridge Mine for Newmont: 2 918 729 LTI free hours on the project, valued at USD60-million and completed in May 2013.
- Asanko Plant Site for Adansi Gold Company: 764 098 LTI free hours on the project, valued at USD18-million and completed in December 2015.

Safety statistics of current completed projects by the WBHO building team in Ghana include:

- West Hills Mall: 2 171 695 LTI free hours, as well as a further 392 946 LTI free hours until completion. Valued at USD63-million and was opened for trading in October 2014.
- Junction Mall: 1 020 456 LTI free hours until project completion. Valued at USD19-million and was opened for trading in November 2014.
- Puma Energy Fit Out: 48 860 LTI free hours. Valued at USD1,7-million
- Achimota Mall: 1 829 549 LTI free hours. The project has been completed and we are also doing extra minor works on site. Valued at USD28-million and was opened for trading in November 2015
- Accra Mall : 355 595 LTI free hours. The awarded two phases have been completed and WBHO is still being given addition work. Valued at USD3-million.
- Kumasi City Mall: 1 000 450 LTI free hours on the to date the project is 50% complete. Valued at USD58-million and will be completed in March 2017.



The Kumasi Mall safety representatives proudly displaying their awards presented at the ceremony.

31

Kumasi Mall consulting team

- **Architect:** Boogertman and Partners in association with Multicad
- **Project manager:** GHC Africa in association with Diagonal Projects Africa
- **Civil:** Aurecon in association with ABP Consult
- **Electrical:** Nortelec in association with ABP Consult
- **Structural engineer:** BSM Baker in association with Rizzle Consult
- **Quantity surveyor:** DELQS in association with Antwi Baah Consult
- **Mechanical engineering:** Aurecon in association with ABP Consult
- **EHS:** MBA Consult



SUSTAINABLE WASTEWATER treatment in Gauteng

Following on the continued success of Royal HaskoningDHV's ground-breaking Nereda® Waste Water Treatment technology, in operation in the Western Cape as well as a number of countries worldwide, East Rand Water Care Company (ERWAT) has awarded a contract for the design and build of a Nereda® plant in Gauteng.



The contract awarded to WEC Projects, with Royal HaskoningDHV the technology supplier, is at the Hartebeesfontein Wastewater

Treatment plant. The project aims to improve the capacity of the plant by 5 Mℓ/day using existing infrastructure. Nereda® technology is ideally suited to areas where there are budget constraints, space is at a premium, energy saving is critical and there are strict effluent and environmental sustainability requirements.

In a paper presented at the Water Institute of South Africa (WISA) Conference held at the ICC in Durban during May, Struan Robertson from Royal HaskoningDHV stated that a shift away from 'activated sludge approach' towards 'aerobic granular approach' would assist in addressing the challenges facing the wastewater treatment industry in South Africa. The South African wastewater treatment industry is facing numerous challenges ranging from energy

constraints, to stricter effluent requirements and these challenges are exacerbated by budgetary constraints.

Robertson argued that sustainability requirements are driving technological advancement and innovation and that the advantage of Nereda® in comparison to activated sludge systems ultimately translates into more sustainable and cost effective wastewater treatment.

There are a number of fully operational Nereda® wastewater treatment plants across the world with two fully operational sites in the Western Cape – Gansbaai, operational since 2009 and Wemmershoek, operational since 2015 Both plants operate in a footprint much smaller than conventional activated sludge systems.

Nereda® plants typically achieve a footprint reduction of 50 to 75% when compared to similarly loaded activated sludge plants. In addition to this Nereda plants are much more energy efficient and can save up to 50% on

energy consumption. Bert Bakker, Water Advisory Director at Royal HaskoningDHV states, "Not only is the capital outlay for Nereda® plants much cheaper but one has to take into account life cycle costs which for a wastewater treatment plant is typically 30 years.

These savings are substantial if one considers the energy saving, operational cost savings and reduced maintenance costs while providing better effluent quality."

Royal HaskoningDHV provides technical support with experts on hand who can log in remotely to support the on-site maintenance team. Nereda® is run via Royal HaskoningDHV's Aquasuite® Control Software range based on real time data and predictive algorithms that can predict 48 hours in advance and adjust systems accordingly to maximise system efficiency.

Aquasuite® brings intelligent solutions for the entire water chain, solid model-based forecasting and controlling software to enhance the operational performance of water systems and maximise the potential of assets.

"A key feature of the Nereda® Controller software is its predictive ability. This software is constantly gathering data from the operations in order to be able to think ahead and tell the operator when to adjust the system for various changes in flow etc. What this means is that your plant will always be running at its most efficient because you always know what to expect so you can prepare well in advance," explains Bakker. <



About Nereda®

Nereda is the biological wastewater treatment technology that purifies water based on bacteria growing into compact granules. The technology was invented by the Delft University of Technology in the Netherlands and developed in a unique public-private partnership between the University, the Dutch Foundation for Applied Water Research (STOWA), the Dutch Water Authorities and Royal HaskoningDHV. Currently there are 15 plants in operation and another 15 under construction or design worldwide.

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NEW DISTRIBUTORSHIP

Integrated Pump Rental has secured the distributorship for the Sykes range of pumps, complementing the company's existing rental offering by adding this line-up of reliable, proven diesel driven units.

> Sykes pumps are purpose designed and built for the mining, construction, municipal and rental markets. Integrated Pump Rental will also be marketing and selling the range to its customers.

"By becoming the official distributor of the Sykes range of pumps in April, we have significantly boosted our abilities as a pump project rental specialist. By having quality diesel mobile units in our range, we can now offer our customers mobile units that can be used in areas where there is no available electrical power," Lee Vine, Integrated Pump Rental's managing director, says.

The company decided to partner with Sykes because of the original equipment manufacturer's (OEM) more than 40 years of experience manufacturing quality high performance pumps.

"Sykes is a well-known and respected player in the international pumping industry, while Integrated Pump Rental has built up a solid reputation for being able to supply quality pumping solutions for a range of projects. These synergies mean that both companies will benefit significantly from this partnership," says Vine.

The Sykes pumps feature cleverly designed automatic priming capabilities based on a Venturi system that can deliver suction lifts of up to 9 metres. The pumps offer market leading efficiency, are extremely robust and built with a 316SS impeller and wear plates as standard construction, ensuring reliability coupled with versatility.

Vine also notes that the dry running, oil lubricated mechanical seals fitted to the Sykes range allows the pumps to operate under snore conditions and reprime automatically without incurring damage.

Integrated Pump Rental will be offering the OEM's full range of pumps, including the Low Head (LH), Medium Head (MH), High Head (HH) & Extra High Head (XH) series for handling solids.



The robust heavy duty Sykes Contractor range is designed to meet the demands of the construction, mining and rental industries.

Vine says Integrated Pump Rental will focus on growing the Sykes pump range in the South African market which is still fairly new to the offering, compared to other countries on the continent where the pump range has been operating successfully for many years. These pumps are used in a host of applications ranging from water transfer and pit dewatering through to site cleaning.

Vine reports that the response to the Sykes launch by South African pump users has been phenomenal with many Integrated Pump Rental customers expressing a keen interest in the technology.

Significantly, in order to increase the local content value Integrated Pump Rental will be packaging some of the Sykes range in Johannesburg, Gauteng. This will include local fuel pods, skids and trailers, and Vine says the final package will be very competitive and also ensure excellent flexibility in meeting customer specific requests and lead times. The combination of quality pumps and a revered name in the local pump rental market can only mean success for both companies in South Africa. <

The Sykes Xtra High Head pump range caters to the arduous demands of the mining industry and all models have the ability to operate unattended at high discharge heads.



The Sykes Contractor pump is a true self-priming pump, and does not require manual priming of a suction line or filling of a priming tank to begin its normal operation.



GREEN FILTER PLANT

The Wildlands Green Filter Plant is the result of collaborative efforts to address the serious pollution problems of the Plankenbrug River in Stellenbosch and Sika is proud to be one of the main sponsors of this great green initiative.

> The Plankenbrug River receives greywater, polluted stormwater and effluent overflow from Kayamandi and Enkanini Informal Settlement of Stellenbosch. The recently formed Stellenbosch River Collaborative was looking to improve the water quality in the town's rivers, and, through funding raised by Wildlands, is supporting the piloting of Eco-Machine Technology to divert and treat water from the Plankenbrug River.

"This approach is ground breaking and could, if piloted successfully and monitored carefully to ensure success, revolutionise the wastewater treatment facilities in Langrug and similar areas of the Western Cape (and the rest of South Africa and Africa)," said Jonny Harris of Isidima, one of the developers of the Eco-Machine Technology. "What is most relevant is that these

systems not only solve ecological challenges, but provide significant opportunities for job creation, therefore addressing the principles of the Green Economy.

This is the first initiative of its kind to take place in South Africa. The concept of Eco-Machine technology consists of 14 white water tanks with connecting pipes and river plants in it, where the roots of these plants will act as filters to the river water, thus purifying it. As the water flows from one tank to another, the plants will also differ, because some plants can grow in very polluted water and others need clean water to grow; an innovative way to use nature to cleanse itself.

The Inauguration of the Wildlands Green Filter Plant Plankenbrug in Stellenbosch took place on 16 March 2016 and included a full



programme leading up to the official opening, carried out by the Mayor of Stellenbosch Municipality, Conrad Sidego, followed by a tour of the eco plant.

"Wildlands would like to highlight that none of this groundbreaking work would have been possible without the support of its partners," said Andrew Whitley, deputy director of the Greening your Future initiative at Wildlands. ❏

ECONOMICAL SUBMERSIBLE WASTE WATER PUMP

KSB Pumps and Valves has released its highly efficient range of Amarex KRT submersible motor pumps for handling municipal and industrial waste water in an effective and cost effective manner.

> Taking their cue from previous models, KSB engineers have further improved the operating reliability and hydraulic efficiency to squeeze more out of the pump. By focusing on the typical operating ranges of waste water pumping stations, the developers have adjusted the impellers' free passages to not only comply with the applicable standard, but also to allow the pumps to offer as broad a range of applications as possible.

Available with four different improved impeller types, the submersible motor pumps can achieve a maximum flow rate of 10 080 m³ per hour and a head of 120 m. With 850 kW of power on tap, it offers the highest standard motor power available on the market today.

Despite this, KSB electric drives for these modern submersible motor pumps are ultra-efficient. Depending on a system's load profile, users can choose a highly efficient motor variant which corresponds to the IE3 efficiency level for standardised motors in accordance with the IEC-60034-30 standard. Such motors are particularly interesting for powerful pumps with a high start-up frequency. Two bi-directional mechanical seals reliably protect the motor space against ingress of water.

A chamber filled with environmentally friendly oil ensures cooling and lubrication of the mechanical seals even when gas-laden fluids have to be pumped. Generously dimensioned ball bearings sealed for life support the stainless steel shaft with a special focus also being placed

on the design of the cable gland. Individual conductors stripped, tinned and sealed in resin ensure that the cable gland is absolutely watertight even in the event of damage to the cable sheath or the insulation. This also effectively protects the pump from short circuits.

To ensure that the pumps can be easily dismantled even after years of operation under tough conditions, all wetted screwed connections are made of stainless steel. For transporting acid waste water, KSB also supplies pumps made from high-grade stainless and acid-resistant duplex steel. ❏



35

Amarex KRT submersible motor pump.

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- Epoxy Adhesives
- Epoxy Grout
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- Joint Sealants
- Non Shrink Grouts
- Pre Cast Repairs
- Shutter Release Oils
- Wall Coatings
- Water Proofing

- Bonding Agents
- Chemical Anchors
- Concrete Bonding
- Concrete Crack Repairs
- Concrete Floor Hardeners
- Concrete Floor Repairs

CONTEMPORARY BUILDING

for historic port precinct

One of Durban's first settled areas, the historic Point Precinct, is now home to a contemporary new building: the iconic headquarters of The Lion Match Company.

First blue chip company

The first new building in Mahatma Gandhi Road (Point Rd) in decades, this R80-million new Lion Match Company head office includes a five storey, 5 000 m² mixed use development made up of a 2 000 m² distribution warehouse, corporate offices, retail space and covered parking.

Originally located in landmark premises in Umgeni Rd, when its proximity to residential areas was no longer appropriate for health and safety reasons, The Fasic Investment Company who bought The Lion Match Company from South African Breweries in 2001, relocated the match manufacturing plant to Rosslyn, Pretoria. However, there was still a need for state-of-the-art offices in Durban and The Lion Match Company became the first blue chip company to put down roots in the Point Waterfront.

Sustainable architectural solution

Chairman, Gora Abdoola had a strong idea of what he wanted and design of the new premises was awarded to Durban-based architectural firm, Emmett: Emmett Architects cc who were charged with creating a new iconic home for The Lion Match Company. The practice which is renowned for providing sustainable architectural solutions has worked on a number of restoration projects in the area as well as contemporary designs and was the ideal partner on this project.

"Working on a conservation project is always interesting as most buildings have small elements of infill," said Trish Emmett. "Our challenge on this project was different, though: the entire Point area is a historic precinct and the new building was positioned opposite the old Station Masters Offices. We responded by setting the entrance courtyard back so that the view of the listed building was not impaired."

Design of this multifunctional building started in 2013 and took nine months to complete with traffic studies determining the early planning decisions. Explained Trish Emmett, "The distribution centre is serviced by extremely large vehicles which need a wide turning circle. The largest of these are 22 m long interlink double trailers with a height of 4,3 m and a turning radius of 12 m. This had an impact on the massing of the building." The entrance to the distribution centre is

13 metres wide with an eight metre interior height for racking.

Design considerations

"Although the building is essentially a distribution centre, it was important that it didn't look like one. The offices were designed to wrap around it the centre creating an elegant façade," Emmett said. "The client also wanted the parking for the offices to be on top of the distribution centre so the entrance to the offices is really from the parking level on the second storey at the rear of the building."

Fronted by the company's iconic golden lion, the building was designed to blend with its portside location with decks and sails and floor to ceiling glass that provides magnificent views over South Africa's largest and busiest harbour.

"The simplicity of the façade is a foil for the richness of the surrounding heritage buildings," said Emmett, going on to explain that, "if you pare down the plan and extract the main elements, it is simplified to a profile of a lion (with the sun screens making up the mane). Our plan was to create another significant building. To this end we have included

in the design three golden lions which are a critical part of The Lion Match Company's identity: the lion on the ground floor in the forecourt roars on the hour and the other two are at the entrance to the offices on the second floor and on the roof, said Abdoola.

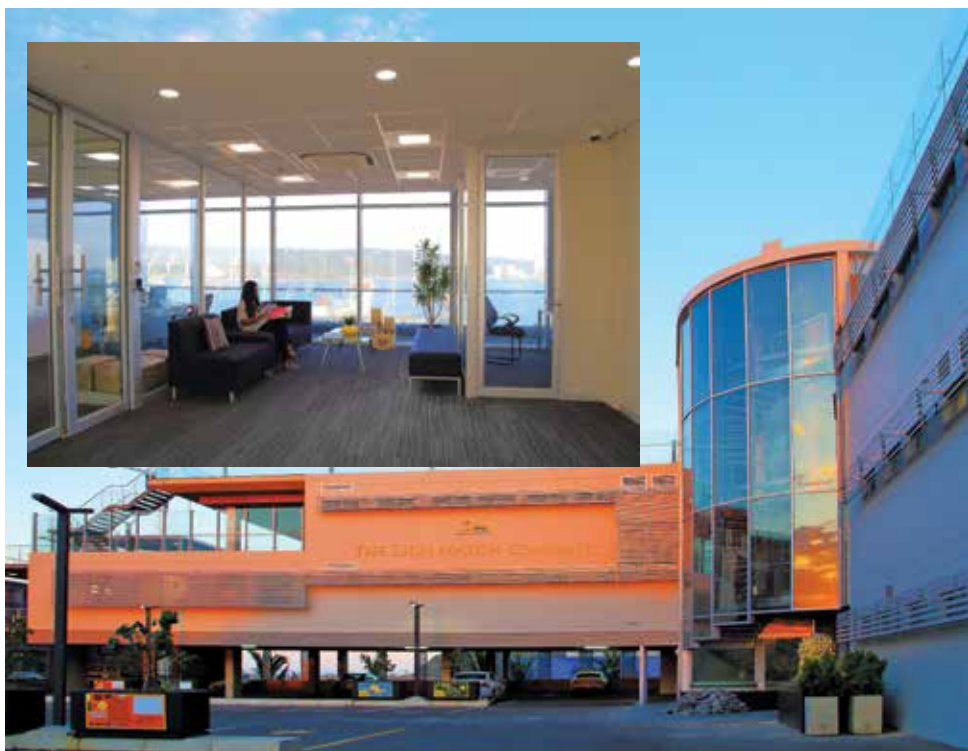
Other elements from the original building in Umgeni Road were also incorporated into the new design. The main staircase linking the ground floor to the offices is semi-circular as a memory of the original staircase, however, in a nod to the new modern design a 12-metre water walls runs down the centre of the stairs.

Located in an abrasive and corrosive coastal environment, the project faced a number of site challenges. The most critical of these was the prevailing wind which at times made the manoeuvring of the large panels of glazed glass for the façade almost impossible.

"Some of the sheets were as large as 1,6 m x 3 m each and weighed hundreds of kilos," said Emmett. "However, they were essential for the design as they maximised the incredible views."

Chosen materials

Because of the harsh environment, materials were chosen specifically for their low maintenance qualities. The structure is concrete with brick infill, the curtain walls are glass and highest quality stainless steel as well as galvanised steel has been used in the construction. Because of its hardwearing qualities, matt grey granite was used on the floors.





Erected in two phases, first the piling then the actual construction of the building, certain requirements presented a number of challenges. For example, the distribution centre needed to be operational long before the offices were completed which meant ensuring that people working in the distribution centre were safe while it was still a construction site. And, fire prevention requirements were onerous. Large underground water storage tanks were required and fire escape routes had to run from the roof to the ground floor, serving the offices and the distribution centre.

Sustainable elements


It has a number of noteworthy green elements which were incorporated into the design according to Emmett. “The building faces south which is the correct orientation to ensure that the sun does not shine directly into the front façade. On the east-side decorative fins have been designed to deflect the morning sun which has a significantly beneficial effect on the air conditioning running costs.”

The twelve 7 650 mm x 1 250 mm aluminium fins were a collaborative effort between Emmett Architects and Bernice Rumble from Land Art Studio. Rumble developed the design of an ocean wave which was used and briefed the aluminium manufacturer using the perforation options which they’d provided. Emmett Architects detailed all the technical fixings.

Other green elements include a rear north facing wall which has been designed as a green wall with mesh panels on which creepers will be encouraged to grow. And, the decking is recycled plastic with a maintenance free lifespan of more than 15 years.

And, with the building being Universal Access compliant, The Lion Match Company’s new headquarters are designed to be aesthetically pleasing as well as usable to the greatest extent possible by everyone, regardless of their age or ability.

With decks that wrap around each floor and clear view fencing around the north east fire escape stairwell the spectacular harbour views have been well accommodated and maximised. And, the roof garden which is seen as a definite usable area has been designed to be a well-considered space to look over the neighbouring buildings and 360 degree view. Astro turf, glass balustrades and attractive paving all contribute to making the roof a desirable space.

Facilities include: nine paraplegic toilets, one on the ground floor and two on the other four levels; two prayer rooms (one each for men and women); a kitchens and toilets on each floor; three boardrooms, half a dozen meeting rooms, conference and a private gym for staff. “We have created a home for The Lion Match Company for a long time to come, which adequately takes care of its long term vision for growth,” said Abdoola. 

Crane expert calls for INFRASTRUCTURE SPENDING

While South Africa has enjoyed a period of sound private investment into large building projects, focus also needs to be placed on the civil infrastructure that is needed to support them.



This is the view of SA French's managing director, Quentin van Breda, who is concerned that spending on important services has struck worrying lows in the country, and that this will eventually thwart existing and future building projects in the country.

SA French, a division of Torre Lifting Solutions, is the sub-Saharan African agent for



Potain tower cranes have moved material on many important civil engineering projects in South Africa.

Potain tower cranes are used on infrastructure projects all over the globe.



the reputable Potain range of tower cranes, which are operating on a number of building projects in South Africa.

"We have supplied cranes and turnkey support services to a host of private sector property development projects over the years. This includes the rapidly growing Sandton district, which is home to some of the most impressive international trends in building designs and methods. However, we are not seeing adequate investment into the water, sewage and energy infrastructure that is needed to support them, or any new projects in the pipeline," says Van Breda.

SA French is also no stranger to public-sector driven infrastructure projects and over the years, the company has supplied many cranes for important civil construction activities. More recently, the company supplied Potain units to the Clanwilliam Dam expansion programme, complementing its involvement in other such flagship projects, such as the De Hoop Dam and Eskom's power station fleet expansion programme.

He praises the South African government's National Development Plan (NDP), which has placed infrastructure development firmly on the agenda, but warns that the execution

of these very important projects needs to be accelerated as soon as possible.

"The NDP has enjoyed much international acclaim, including from our international principal, Potain and the larger Manitowoc group in France. It highlights the importance of upgrading essential infrastructure, and it is imperative that these projects start gaining momentum," says Van Breda.

While the NDP focuses on an array of important infrastructure segments, he says that water systems are in urgent need of upgrading and expansion to avoid a crisis. These range from large augmentation projects to essential water and sewage treatment plants at national, provincial and local levels.

Van Breda says a positive signal from central government that it will commence spending on these projects very soon will also see an increased appetite from the private sector to bolster its spending in property development.

He also supports the South African government's focus on boosting beneficiation in South Africa, and encourages a similar plan for the local 'brick and mortar' sector as the much acclaimed Motor Industry Development Plan (MIDP), the forerunner of the Automotive Production and Development Programme.

The MIDP was critical to the success of the South African motor vehicle manufacturing industry, a major exporter of its output and a significant employer.

Van Breda is optimistic about the future of the South African construction sector – an outlook that is needed to help resolve the challenges the industry is facing, at present. <



From left: Philip Herselman (general manager Atlas Copco Construction Technique); Danie Gerber (CEO MB Plant SA); Neville Marthinussen (business line manager Construction Technique); and Frank Reid (CEO MB Plant SA).

NEW EQUIPMENT and aftermarket dealer

Dynapac Road Construction Equipment (RCE), a division of Atlas Copco Construction Technique, brings its product and service solutions offering closer to customers around the country through the appointment of MB Plant SA as its official equipment and aftermarket dealer.

➤ Quality products and rapid service from OEMs are the mainstay for customers to maintain profitability and competitive edge. “We are therefore relentless in our pursuit to ensure that our world-class products, service and after-sales support are easily and conveniently accessible to our customers, and the MB Plant SA dealer appointment is certainly a positive step in that direction,” states Neville Marthinussen, road construction equipment business line manager – Construction Technique. “Furthermore, this move is perfectly aligned with the Construction Technique’s service enhancement strategy to expand our presence in the provinces, grow our customer base and to further strengthen existing customer relationships.”

According to Marthinussen the decision to appoint MB Plant SA was an easy one as

“We are therefore relentless in our pursuit to ensure that our world-class products.”

the company shares the RCE service ethos and focus. With well-established resource and trading representation in most of the provinces, MB Plant SA has the necessary expertise and infrastructure to further improve presence in the market and provide total package equipment offers to customers. “The synergy of Dynapac compaction and paving equipment with MB Plant SA civil engineering construction equipment and their mining dump truck portfolio now affords us the ability to offer total equipment package requirements to big six construction companies on their product package enquiries, as well as to the mining industry which normally request basket/package offerings.

MB Plant SA’s responsibilities will include improving current channels to market and increasing the product and service footprint in the territories, thereby expediently providing customers with the shortest route to equipment products, as well as parts and service support in the areas of their business, at their branches and close to awarded work projects.

Further unpacking the objectives of the

dealer agreement which was formalised mid-November 2015, Marthinussen assures customers that their requirements for optimum product availability and fast, efficient and professional service will continue to be met. “We will ensure that the customer’s purchase and after-sales service experiences are seamless,” concludes Marthinussen.

MB Plant SA, strategically located throughout the country, is a joint venture with a majority share held by MB Holding Company LLC based in Oman. MB Holding Company LLC is a multinational corporation with operations and subsidiaries spread across the globe in the Middle East, Europe, North Africa, Asia, Asia-Pacific, Australia and New Zealand.

Danie Gerber CEO for MB Plant SA says, “We are committed to extending our network of branches and sub-dealers to provide an efficient service to our customer base throughout the country, and work hard at maintaining an effective stock of machines and parts.”

MB Plant SA will be responsible for the full Dynapac Road Construction Equipment product range in KwaZulu-Natal while their product range in Gauteng, Free State, Mpumalanga, Limpopo, and North West Provinces will comprise of Soil Drum Rollers and Small Double Drum Rollers.

Because asphalt equipment is a specialised product range with highly specialised applications and therefore Pavers, Asphalt Rollers, Milling Machines, and asphalt Material Feeder units will continue to be marketed by the experienced Atlas Copco Road Construction Equipment sales team, together with dedicated MB Plant sales engineers.

Customers are assured of Dynapac RCE’s ongoing technical support knowledge of the highest standard across all products in all the regions. Product knowledge training forms an important part of the dealership agreement and RCE will provide all necessary training to MB Plant SA. ◀

Taking environmental LEADERSHIP

Developing countries and environmental efficiencies are not arch enemies – the perception of ‘going green’ being expensive, is slowly changing. In addition to green building that is rapidly gaining support in the rest of Africa, the equipment used to build and operate this infrastructure is quickly following the same route. Scania South Africa can play a leading role in this.

The wheels are turning in Africa

The Green Building Council South Africa (GBCSA) leads the transformation of the South African property industry to ensure that buildings are designed, built and operated in an environmentally sustainable way.

Founded in 2007, the GBCSA certified just one green building project in its first year of operation. In April 2014, it celebrated a milestone of 50 certified projects and, only one year later, that figure had doubled. Today, it has awarded 161 Green Star SA certifications, and the *World Green Building Trends 2016: Developing Markets Accelerate Global Green Growth – SmartMarket Report* predicts that South Africa could become a leader in the green building sector in the next three years.

Green building is also gaining rapid momentum in Africa with office buildings in Rwanda and Namibia both receiving 6-Star Green Star ratings, certified by the GBCSA.

Biodiesel vehicles, such as the one below, can be used in various environments. They reduce the carbon footprint; improving the health of city residents.



It is not just about the structure with these certifications. The aim of the Green Star certification is the establishment of a common language and standard of measurement, providing integrated and whole building designs, to raise awareness of benefits, reducing environmental impact of developments and recognising environmental leadership.

A time for change

In terms of transport and construction equipment, Anthony King, key account manager alternative fuels at Scania South Africa, has a dream for a ‘greener’ South Africa but also for Africa. For this dream to be achieved, says King, plenty needs to happen.

“We need smarter green thinking; we need to start rolling out vehicles that run on bioethanol, biodiesel and biogas to reduce greenhouse gases and running costs. There is lots of opportunity for positive change within sub-Saharan Africa,” he says.

Why ‘green’ will work

In South Africa, despite the rapid increase in especially green building projects, the perception exists that to ‘go green’ is expensive. “That’s nonsense,” King insists. “Other developing countries have implemented green programmes with massive success. Brazil had success with ethanol – the country is also producing biomethane from chicken manure – cheaper than diesel.

“Of the world’s 20 most polluted cities, 13 are found in India. We are therefore building a biogas plant in Nagpur. The biogas will be produced from digested sludge from one of the city’s wastewater treatment plants. Biogas and bioethanol have now been classified and approved as vehicle fuels in India – and a large pilot facility for 100 bioethanol and biogas buses will be built in Nagpur.”

Not arch enemies

King emphasises that developing countries and environmental efficiencies are not arch enemies. “To the contrary. Because of urbanisation, developing countries such as those in Africa require green technology like never before.”

He says that half of the world’s seven billion people live in cities. Urban mobility is expected to triple between 2010 and 2050 – and much of the growth in population and urbanisation will take place in Africa. “In 1950 only one African country appeared on the list of the top 20 most populated countries. But by 2020 that number will rise to six,” he says.

Of course, more people equals more transport. Which – if the current status quo is left unchanged – means more emissions.

What needs to change?

“We need to start with driver training. A well-trained driver can cut a fuel bill by at least

15% in South Africa. That means a reduction in emissions too,” says King.

A fresh approach to public transport is vital. “Even with clean and energy-efficient vehicles, our streets will still be congested in the future.

“We need to move people away from cars and into efficient public transport – such as bus rapid transport (BRT) systems. Ideally those buses should be powered by ethanol or other biofuels, so that we can dramatically improve sustainability, mobility, lower the carbon footprint and improve the health of people in cities,” he says.

Scania: environmental leadership

King indicates that Scania South Africa intends to convert the bulk of their fleet on the road to vehicles powered by alternative fuels.

“We already have three alternative-fuel engines in South Africa: a nine-litre, 201 kW (270 hp) bioethanol engine that uses a five percent ignition improver (ED95); a 201 or 231 kW (270 or 310 hp) biogas engine, which is also able to run on compressed natural gas (CNG); and all Scania’s Euro 5 engines, which are approved to run on 100 percent biodiesel with slight modifications,” he says.

The bioethanol and biogas engines are best suited to regional or inner-city operations such as buses, waste collectors and distribution vehicles. Biodiesel, the quality of which is very important, is suited for long-haulage or coaches.

Socio-economic impact: much needed jobs

King maintains that the adoption of sustainable energy sources isn’t just good for the environment. “The employment potential of the global biofuel industry is significant. Africa needs jobs: this will have a positive effect on poverty and crime.

“On average, biofuels require about 100 times more workers per joule of energy content produced than the highly capital intensive fossil fuel industry,” he points out.

Wastewater, organic waste and food waste could commercially be turned into clean biogas and ethanol right here in South Africa. “Scania and our partners can supply the whole turnkey solution. We’re doing it in India; there is no reason why we cannot do it here,” he says.

People. Planet. Profit

More industry players need to step up and embrace a green future. “After all, will going green benefit our country? Yes. Does our industry need it? Yes. Does our continent need this? Yes. Does our planet need it? Absolutely. So let’s all contribute positively and leave behind a green legacy,” he concludes. ◀

DOUBLING UP

Brick-It, which manufactures cement stock and Maxi (RDP) bricks using two VB4X machines from PMSA, aims to double its production output by purchasing a fourth machine.



Expansion plans at Brick-It include installing a RE1400 machine from PMSA.



Established in November 2005 by Sean Cameron and Steven Carr to service the Gauteng region, the manufacturer has transformed itself into a major competitor in the production and supply of quality, cost-competitive concrete bricks.

The latest development at the company is to enter the highly competitive and potentially lucrative paver market as part of an overall diversification strategy. Civil works for the site establishment of the new RE1400 machine from PMSA commenced this month.

“Our goals for the next three years are to meet the current demand and supply of bricks in a fast-developing region, to double brick production within our ninth year of operation by the acquisition of a new RE1400 machine from PMSA, and to improve customer satisfaction by providing excellent service and lower prices,” Cameron comments.

He remains confident of Brick-It’s ongoing success, pointing to the manufacturer’s diversification into pavers and also its involvement in the low-cost housing segment for RBA Homes and Karibu Group.

Brick-It operates from a site in Marsala Road in Chloorkop, Johannesburg. Cameron points out that the manufacturing plant is ideally situated in close proximity to both customers and suppliers. The site is well-equipped to stockpile aggregates (partitions), and includes a large production and stacking area.

“We are located close to the Tembisa informal settlement, and hence we are able to use this as a labour pool to assist with the upliftment of the local community,”

Cameron highlights. Trojan Cement also has an on-site presence.

Brick-It runs a modern fleet of 18 Mercedes Benz trucks, which it uses to supply its products to major customers such as large property developers. “We also supply a large number of Cashbuild, Build It and Builders Warehouse stores,” Cameron reveals, adding that the company produces 11 million to 12 million bricks a month at present.

The RE1400 is one of the largest machines available from PMSA for the production of concrete bricks, blocks and paving. It is built to heavy-duty standards to ensure long life, high performance and consistent quality.

“PMSA has provided technical assistance to us in increasing production on both the wet and dry side of the operation. On the dry side, they have suggested quite a few changes in order for us to get more pallets out. In addition, we had an issue with the strapping of the bricks, which PMSA also resolved for us,” Cameron reveals.

“The availability of the PMSA technicians to come out to site is excellent, reflecting a high focus on customer service and after-market support.”

Walter Ebeling, MD of PMSA, highlights that, with the building and construction sector facing pressure from reduced margins and a lack of new projects, the company is well-positioned to help its customers fine-tune their existing assets in order to boost productivity and end quality.

“We are unique in the industry in being a specialist manufacturer that is able to cover the entire business spectrum, from establishing a business to boosting the bottom

Brick-It produces 11 to 12 million bricks a month.



line through the application of appropriate technology,” Ebeling explains.

“We have been building on our technology, leadership, expertise and experience in the concrete products sector for the past 40 years, and have an array of options to suit all client needs,” Quintin Booyesen, sales and marketing manager at PMSA, stresses. “Brick-It is an excellent example of the kind of long-standing relationships we forge with our customers.”

Brick-It director, Sean Cameron.





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20 years of **GROWTH** in **VOLATILE** building industry

July 2016 marks the 20th anniversary of construction chemicals supplier, the Chryso Southern Africa Group's operations in South Africa. Here Norman Seymore, CEO of the Group and vice-president of Chryso globally, looks back on two decades of growth in South Africa's volatile building industry.

What does it take to survive the extreme slumps that the South African building industry has experienced since 1996?

Not so simple to answer. We have implemented many different approaches to our business in South Africa over the past two decades. Our growth has been driven organically through innovation and technology allowing us to gain market share as well as geographical expansion within South Africa with local production as well as technical support in all the major centres. External growth came through acquisitions (Fosroc's admixture business in 1999, and a.b.e. Construction Chemicals in 2010). Of course, our staff have played a major role and having experienced technical experts to assist and partner with our customers have also contributed significantly.

How important was the coming of democracy in 1994 to a

Chryso products were widely used in various facets of the expansion of Durban harbour, including the undersea tunnel that linked the harbour's Point area with The Bluff (pictured). INSERT: Norman Seymore, CEO of the Group and vice-president of Chryso globally.

company such as Chryso, bearing in mind its foreign ownership?

This had a major impact on Chryso's growth and led to the Chryso Group being willing to invest in South Africa with the acquisition of my personal previous business, Contech, which had acted as a distributor to Chryso before 1996.

The subsequent investment in manufacturing plants and technology transfers as part of a wholly-owned foreign subsidiary of the Chryso Group would never have taken place without the democratic changes of 1994.

What were the most influential moments in Chryso Southern Africa's growth? And what did you bring to SA that was not available before?

I can't identify just one or two events. It really was a collection of many different things. For example, Chryso's geographical expansion



into the other provinces after initially being present only in the Western Cape, was a big factor. The acquisition of the Fosroc admixture business in 1999 saw us doubling our market share.

The investment in plant and infrastructure for bulk liquid production and distribution gave us advantages in the market.

The expansion into the mining and cement market have also contributed positively to our development. Our customers and the many long term relationships and partnerships that we have with the industry leaders and their support is, of course, the primary reason for our success.

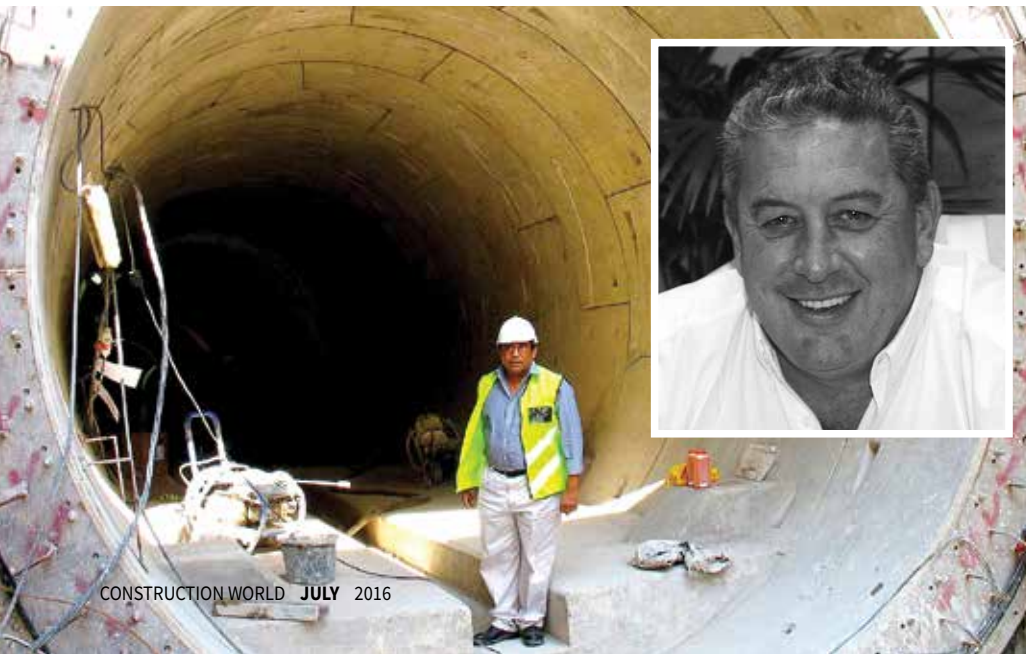
In terms of what we brought to SA that was not available before? Well, we have been the first to introduce many different technologies in the concrete and cement additive market over the past 20 years, and were also the pioneers with regards to the introduction of synthetic fibre reinforcing and cement/fly ash/slagment activation within the cement industry.

How important has your supply of grinding aids and activators to the SA cement industry been to your business?

The products that Chryso supplies to the cement industry for fly ash/slagment/ and limestone extension have assisted the cement producers greatly in allowing them to increase their extender contents while maintaining their cement performance. This has contributed significantly in reducing CO₂ emissions – something we are very proud of.

When did the construction industry catch on to the role admixtures can play to enhance performance and durability?

Admixtures have been used for many years and we were not the first to introduce them to SA. But I would say that it was during the 1980s that admixtures really started to be seen as an essential part of concrete mix design. In the early years there was skepticism from some people but as the industry has advanced – and has been able to really





Johannesburg's Nelson Mandela Bridge, Soccer City stadium, and the Gautrain are just three of the major infrastructural projects for which the Chryso SA Group has provided admixtures and ancillary products for in the past decade.

measure the benefits of admixtures – there are very few people who do not make use of admixtures in the concrete mix design today.

What exactly was 'new' in Chryso's New Generation range of admixtures?

The new generation admixtures are based on specific raw materials or polymers. These raw materials and formulations radically improve the performance of the admixture in terms of water reduction/workability retention and strength development compared to traditional or old generation products. A key benefit for Chryso is that we now produce our own raw materials for the formulation of our new generation products.

Looking back, you have consistently managed to grow your business despite declining markets. How was this achieved?

Our growth has come from different factors – product range development is one important growth lever but other developments linked to geographical development as well as entering new markets and applications have contributed to the growth. We believe we are the market leaders and have consistently for a number of years been the first to introduce new technologies to the African market.

Was the expansion of your footprint in Africa, which started some seven years ago, crucial also to sustain growth?

Yes, and we expect that it will remain that way. We are always looking for new territories to explore. Doing business in Africa comes with its own challenges which can differ from country to country so we always need local input and finding the right partners and advisors is critical.

Did the acquisition of a.b.e. Construction Chemicals in 2010 give you the edge in becoming an 'African company'?

The a.b.e. deal definitely enhanced our position and product range offer to the market. This is a major advantage in developing our export markets. If we had not made a.b.e. acquisition, the Chryso Southern Africa Group would have been in different position today.

Can you foresee more 'green pressure' on producers in your industry as the quest for sustainability grows?

The requirement for sustainable construction systems and products designed to enhance this will continue to grow. Chryso always considers the environment in our product development.

Is foreign-ownership a burden in the new South Africa?

Within the Chryso Group we have a saying 'think global and act local'. Being part of an international group is an advantage and adds to the experience that we bring to our company and the market.

How does the SA construction sector compare with other parts of the world where Chryso operates?

South Africa is very advanced when it comes to concrete technology and construction

methods. Yes, sometimes we don't have massive state projects but we definitely have the skills and capabilities locally.

How important is Research & Development to Chryso?

R&D is vital for our Group and we continue to invest at least 4% of our sales revenues into R&D each year.

What do you see as the biggest challenges facing the local building industry?

The challenge for the industry is always the amount of work available. Government can definitely support this through the projects that can be released.

I do not support the importation of cement when we have companies who have invested heavily in South Africa and produce high quality products.

Finally, what lies ahead: where do you see Chryso SA in, say, five years' time?

The Chryso tag line is 'innovation is our chemistry'. Chryso is an innovative company that will continue to develop products and systems to enhance our product offer and market position. We will diversify and I am confident of continued growth for Chryso Southern Africa. <

TECHNICAL APPOINTMENT

Ivor Boddington has been appointed technical manager of a.b.e. Construction Chemicals, part of the Chryso Southern Africa Group.

> Boddington, who served on the board of Embecon, started his involvement with a.b.e. in 1978 when the company was taken over by a.b.e.. For Embecon, he had handled a variety of technical and allied responsibilities, including plant and laboratory operations, as well as product development.

In 1991, he was transferred to a.b.e.'s Isipingo plant where he continued to perform technical duties, coupled with overseeing research and development, as well as drawing up national specifications for a.b.e.'s wide range of products. He also handled major client liaison for the company, dealing with KZN's biggest construction corporates.

In 2012, Boddington's extensive knowledge of the a.b.e. product range led to him being transferred back to a.b.e.'s operations in Boksburg, as product manager, general construction and concrete repairs.

In his new capacity as technical manager, Boddington is now nationally in charge of all technical aspects of a.b.e.'s operations, including product specifications and liaison with departmental heads to provide technical input for product launches and related matters. <



PROBLEMATIC INDUSTRIAL FLOORS

The Concrete Institute (TCI) has to deal with more appeals for advice and assistance regarding concrete floors than any other concrete structure, says John Roxburgh, lecturer at the TCI's School of Concrete Technology.

➤ Roxburgh says industrial floors on the ground typically appear simple in design and construction. "But don't be deceived by this perceived simplicity. The Concrete Institute can testify that when it comes to the various concrete elements in a building, the industrial floor is by far the most problematic in meeting specifications and performance requirements.

In many ways, the standard of the concrete floor on the ground can make or break a warehouse or factory.

Without a well-designed, fit for purpose and low maintenance concrete industrial floor, any factory, warehouse, storage facility, retail area or hard-standing area will never operate at optimum efficiency. Like a house needs a strong foundation, these facilities also need a floor that will perform according to requirements.

"Although a concrete floor is constructed on the ground with minimal reinforcement, it still has to have the correct thickness; to be level, flat and at the right height; have a hard-wearing dust

free surface; and has to carry large imposed loads over its entire surface, including across joints, corners and sides.

"It must also be aesthetically pleasing with minimal surface defects and cracking. The concrete used for the floor needs both plastic and hardened properties to perform and so the mix designs for these concretes are more constrained and require greater attention to detail. Concrete floors and industrial hardstandings are also often constructed under adverse conditions. The large surface-to-volume ratio of a floor makes the floor very vulnerable to hot, windy and dry conditions during construction.

"When problems occur with floors, it typically happens because of incorrect or lack of design specifications, wrong construction practice, as well as the incorrect implementation or lack of maintenance. These problems often manifest themselves in cracking, joint failure, curling, dusting, scaling, surface wear, sealant failure and excessive lateral movement of pallet jacks."

Roxburgh warns that an underperforming floor will slow down fork lift trucks, pallet jacks and reach trucks.

Maintenance costs on all packing, stacking and lifting machinery could also be drastically increased along with more frequent and costly maintenance on the floor.

Increased maintenance on the floor and machinery will mean more downtime – all resulting in a less efficient operation.

"To assist the concrete industry, the School of Concrete Technology offers a one-day course, 'Industrial Floors on the Ground', presented by TCI MD, Bryan Perrie, an internationally recognised authority on concrete floors, in which all the design principles and concrete practice needed to produce a good floor are covered. All engineers, contractors and clients involved with industrial floor would greatly benefit from attending this course," Roxburgh advises. ■



John Roxburgh, lecturer at the TCI's School of Concrete Technology.



44

The 'Industrial Floors on the Ground' course will be presented on 28 June in Cape Town, 19 July in Durban and 19 September in Midrand. For further information, contact Rennisha Sewnarain on tel 011 315 0300 or email: rennishas@theconcreteinstitute.org.za

POWERFUL DRILLING AND CHISELLING

Achieving precise and fast drilling in hard surfaces such as concrete, ceramic, metal and masonry now requires minimum effort, thanks to the Bosch GBH 2000 Professional drill. The compact tool's short length head provides steadiness, accuracy and convenience to contractors working on site.



➤ The Bosch Power Tools SA senior brand manager Juergen Lauer notes that the tool is ideal for anchoring, chiselling and drilling into any type of material.

"The superior tool has three drill functions for drilling, hammer drilling and chiselling. Its three jaw chuck adapter is perfect for drilling straight shank drill bits in wood and steel, while

The GBH 2000 boasts a 600 W motor for heightened performance.

the rotation stop provides enhanced versatility for common chiselling tasks."

The GBH 2000 Professional drill boasts a 600 W motor for heightened performance, and has a drilling capacity of 20 mm in concrete. The auxiliary handle, with a soft grip, has a depth gauge designed for comfortable handling and prevents fatigue. The overload clutch guarantees better protection in cases of jammed drill bits, while the forward/reverse operation allows for easier loosening of jammed drill bits and screw driving.

With the GBH 2000 Professional drill, adjusting the speed according to need is easy, owing to the variable speed control feature. The user can also turn the chisel without taking it out and lock it into position.

The robust tool's multi-position side handle enables overhead applications, while ensuring stability when drilling into concrete. Furthermore, the mechanical safety clutch prevents the drill from burning out or wrenching the arm. ■

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