

CAPE Business News

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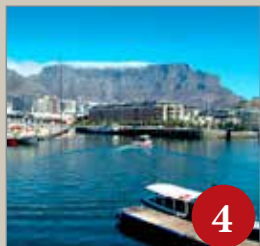


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APRIL 2017

Energy storage options for Cape Town



Submerged energy, compressed air and pumped storage discussed.

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Manitou open Cape Town Service Centre



Good news for customers!

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Recycled plastics used in Table Bay Mall



15t to be exact, in 20 000 Greenlite concrete blocks.

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Changing waste streams to profit streams

New study shows that rolling out waste as a green industry would affect a 0.5% increase in GDP

A recent study undertaken by the Energy Research Centre of the University of Cape Town investigates the economic impact of the introduction of resources back into the economy through waste stream management. The study highlights that the GDP could increase by up to 0.5% with 13 661 new fulltime equivalent jobs created. Commenting on the findings of the first phase of the study entitled, General equilibrium impacts of monetising all waste streams in South Africa, co-author, economist and head of research and development at REDISA, (Recycling and Economic Development Initiative of SA) Dr Reza Daniels says, "Our need to grow the economic pie in SA is now more important than ever before, and waste offers us the opportunity to take what is fundamentally dead capital and bring it back to life by monetising it. The results show that, given the massive change in technology, consumer behaviour and business models, the circular economy is both viable and attractive."

However, one of the biggest challenges in the country, is educating people about the opportunities that can be found and created in waste, all by creating a circular economy of which extended producer responsibility forms a part.

Daniels explains that the biggest hurdle faced in encouraging circularity, namely funding, has already been defeated. "If it were easy to recover and re-use materials profitably, then business would be doing so. At a macro level, it is not only a necessity but also profitable once you take into account all the externalities that effectively subsidise a linear economy," he says.

REDISA has seen the results of successfully implementing a circular economy approach in their organisation. In 2015 The McKinsey Report used REDISA as a case study to show how major economic and environmental benefits can be gained from turning 'Waste into worth'. The report showed that by 2020 the REDISA Plan



would deliver an annual net benefit to the economy of over R80 million before even considering the environmental benefits, estimated at an additional R380 million.

Using the SA General Equilibrium (SAGE) model to estimate the economy-wide impacts, and working with a scenario of 13 monetised waste streams, other key impacts of the study include:

- The potential to increase domestic supply and lower prices of commodities through the re-introduction of recycled commodities
- The increase in waste to electricity and plastics recycling adds the most value of the 13 waste streams, due to their sizable impacts on the supply and price of commodities
- There is a notable decrease in the level of coal mining activity due to the decrease in coal-fired power generation; however, this creates a significant upswing in gross value added (GVA)

for electricity-intensive users such as non-ferrous metals, and iron and steel

- Other key sectors such as agriculture and service experience an increase of more than 0.5% in GVA
- Households experience an increase in income of up to 0.6% which is driven by increased returns in production factors and increased levels of employment
- By reintroducing waste as an economic commodity there are a number of social and environmental benefits from removing waste from landfills, including impacts on health, greenhouse gas emissions, and reduced soil and water contamination, to name a few.

The research only scratches the surface of what is truly possible and shows that South Africa can significantly alter its current economic growth trajectory in the short-term to a lower-skilled and more employment-intensive path, using waste beneficiation as the strategy to achieve it.

Cape Town among the world's top 'Tech Cities'



Cape Town features among the world's top Tech Cities according to a recent report in Tech Cities 2017.

Ranked number 22 in the report, Cape Town, along with Santiago and Buenos Aires, is recognised as a major tech hub with potential as a rising global player.

The Savills Tech Cities report explains the many diverse factors that make places a good location for the tech sector and identifies the 22 global centres at the forefront of tech, all of which have thriving and growing tech industries, home grown start-ups and incubators and which are at the top of global shopping lists for tech companies looking for space in which to locate.

Among other factors, the cities highlighted in the report were assessed for factors such as 'buzz and wellness' which includes health of the urban environment, quality of parks, crime rates, healthcare, pay equality and commuting times, while 'city buzz' considers nightlife, entertainment and cultural offer. Notably Cape Town features 9th on the Savills 'buzz and wellness' index and second on the cost of living rank (excluding property costs).

Top rated in the Savills report was the USA's Austin as the world's foremost 'tech city', offering the infrastructure, business environment, talent pool and lifestyle to make it a strong base for tech companies.

Two other United States cities – San Francisco and New York – were ranked 2nd and 3rd respectively, followed by London in 4th position. Access to venture capital and talent give US cities a lead over other global centres, says Savills, but Austin beats San Francisco to the top of the table because it has lower real estate costs and is so successful in attracting tech talent.





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Bowler's Softbev investment goes flat

EPPING-based plastics packaging specialist Bowler Metcalf will need to show a lot of 'bottle' in the next few months in order to extract suitably fizzy returns from its soft drink associate SoftBev.

Over the last thirty years Bowler has proved a robust operator, never once failing to deliver profits or dividends to its shareholders. The company is certainly being stoic about investment of SoftBev. But there's no doubt Bowler will be sorely tested to eke refreshing returns from its soft-drinks investment in the short term – leading a number of observers to start pondering whether it might not be better to simply sell off the stake in SoftBev.

CBN readers will recall that recently Bowler merged its Quality Beverages soft-drink bottling operation (best known for its Jive brand in the Western Cape) into ShoreLine Beverages (well known for its Coo-ee brand in KwaZulu-Natal) to form SoftBev.

The idea was to secure critical mass across the enlarged operations,

reinforce geographic expansion plans in the competitive Gauteng market and extract efficiencies in marketing, distribution and production.

The merged business looked capable of generating revenues of around R1bn, and possibly R1.2bn with new bottling contracts for Pepsi (including Mountain Dew and 7-Up) and Capri-Sun also being secured. A shift into energy drinks was also seen as a positive move.

But SoftBev is not bringing much flavour to Bowler at the moment. Comments in the interim results to end December were rather telling. Bowler CEO Friedel Sass noted that then retail trading environment in SA – specifically the FMCG (fast moving consumer goods) element – could best be described as capricious and uncertain.

As regards SoftBev, he pointed out that this economic reality – together with new challenges such as the pending sugar tax – has impeded and slowed progress and delayed the targets that formed the basis of merger profitability projections.

Sass said SoftBev's business was especially hard hit in the "inland region" – ie Gauteng.

The bottom line is that these negative developments have prompted Bowler's directors to impair the company's 42.06% stake in SoftBev by a hefty R56.12 million (after tax).

SoftBev is now in its second year of national operation, and shareholders might have expected the business to have gained more operational traction. Sass stressed the merger objectives initially envisaged still showed potential of being achieved – but at a slower pace than anticipated.

"This needs to be understood in the context of national demographics, unrecoverable sugar price increases, the influence of sugar tax, disposable income driven market contraction and resulting aggressive competitor behaviour, all of which was not evident at the time of the merger."

The aggressive competitor behaviour might be the most worrying utterance – especially if that competitor is Coca-

Cola. History will show that Coca-Cola – or the 'The Big Red' – tends to win prolonged price wars...

Sass said that despite these unforeseen hitches, SoftBev had successfully focused on brand growth – achieving a 14% growth on the previous year.

But Sass conceded this had come with some margin loss as well as pressure on operational costs, which were aggravated by drought related water restrictions and capacity constraints.

He reassured that the SoftBev management team – which includes Bowler stalwart Mike Brain – continued in its "aggressive steps to address these business challenges head on".

In November a R90 million filling line was successfully added to the Gauteng operation, which will address certain of the operational issues.

Sass said a highlight in the SoftBev business had been the encouraging growth of the energy drink business, Reboost.

Happily, for Bowler, the core plastics packaging division – which

has recently been restructured – achieved encouraging earnings growth in a difficult market.

Sass said a good spread of niche business and a portfolio of strong customers proved to be invaluable.

He said growth was well spread amongst all Bowler operational plants, adding that the majority of key projects had reached their production phases. What's more, Sass pointed out that the packaging hub's operational costs had been well controlled in spite of some higher levels of new project industrialisation costs. He reiterated that controlling operational costs would remain a continued focus area.

The packaging segment's second half looks promising. Sass said raw material prices had been relatively stable, which augured well for the future.

Perhaps more tangible, in terms of assessing second half packaging prospects is Sass' admission that increased activity levels in all plants had necessitated a focus on the expansion of facilities.

Kaap Agri's bountiful harvest

AN old Swartland-based farmers' co-operative – which a dozen years ago barely churned R30m in profits – now looks set to list on the JSE with profits of more than R210m in the year to end September 2016.

Kaap Agri – which now has a distinct and dashing retail focus – is one of the great unsung success stories in the Western Cape platteland.

While most co-operatives made the change to commercial entities in the nineties, many continued to plough the same old furrows. Not the dynamic Kaap Agri – which can trace its corporate roots back to the merger between Boland Agri and WPK Beleggings.

The record will show that this former co-operative – which now generates annual

turnover in excess of R7.6 billion – has already been dubbed the 'Boere Massmart'... a moniker that recognises how the business has successfully diversified into new specialised retail channels.

Kaap Agri's big revenue spinner is retail outlet Agrimark, which currently comprises around 72 stores. But this core retail venture has been supplemented

by convenience stores, liquor stores, building supplies and – most importantly – a rather rapid roll out of fuel service stations (which now number 37). Aside from retail, there is a substantial fruit packaging materials business, 14 grain silos, three seed processing plants and irrigation services.

What is most impressive is that Kaap Agri's presence – while still largely Western Cape rooted – extends as far as Namaqualand, the Orange River, Sundays River Valley and Namibia as well as Limpopo, Mpumalanga, Gauteng and the North West province.

Basically Kaap Agri has a presence wherever there is irrigated agriculture.

A large share of Kaap Agri's sales is executed in cash – having risen from just R300 million in 2006 to R2.2bn in the last financial year. The company processes one million transactions a month.

The 15% increase in bottom line profits in financial 2016 came at a time when large agricultural areas were suffering the effects of a prolonged drought.

Kaap Agri MD Sean Walsh said retail growth had been strong off the back of improved offerings, tar-

geted range growth and improved logistics.

He pointed out that the past grain harvest delivered a yield per hectare below the long-term average – but at a good quality and higher price.

Despite the driest season in decades, Wesgraan, – which comprises Kaap Agri's grain handling, storage, marketing and trading as well as seed processing services – delivered only a marginally reduced profit contribution compared to the preceding year.

Walsh said this was done through effective cost management and the storage and handling of other grains and wheat from outside Kaap Agri's traditional areas.

Although much of the revenue gain in recent years has been generated through aggressive expansion, Walsh pointed out that real turnover growth in financial 2016 was a commendable 7.1% (with comparable stores growing turnover by 7.2%).

Fortunately for Kaap Agri agricultural conditions in the key Swartland grain production areas were favourable and an increased yield on prior year has realised for the 2016/2017 season.

The listing on the JSE is a critical growth step for Kaap Agri, and

it will be interesting to see how much fresh capital the company wants to raise from investors.

Walsh has indicated that capital expenditure into revenue-generating initiatives would continue in financial 2017. "The focus will be on improved retail and fuel offerings that will deliver increased results."

Anthony Clark, an agribusiness expert at Vunani Securities, estimated that around 80% of Kaap Agri's business could be classified as general retail with the fastest growing areas being its Agrimark stores, Fuel and Expressmark convenience stores.

He said planned capital expenditure to expand the company's retail footprint would top R300 million in the 2017 financial year.

Clark said Kaap Agri has a 2020 target of R500m in operating profit – which he believed the fast growing company could actually attain in 2019.

In a recent presentation to investors, Walsh said Kaap Agri had entered a '4M period' – "more places, more clients, more products, more growth."

There is clearly an emphasis on expanding the fuel outlets – so much so that Kaap Agri has

its own branding under 'The Fuel Company'. Walsh said the expansion into fuel has exceeded all of Kaap Agri's expectations – pointing out that the 146 million litres of fuel sold in 2014 had grown to 187.5 million litres in 2016.

"We've seen double digit growth in our fuel sales over the last three years, and we think it will continue to do so..."

Walsh said fuel sales expansion will come from converting existing sites, making acquisitions in clusters and pursuing some greenfield sites.

While Kaap Agri seemingly has plenty on its plate in terms of expansion opportunities, the question of why a listing is being pursued is pertinent. Is the company about to make a big acquisition?

Walsh confirms the listing is a way of preparing for some game changing transactions in the future.

But he stressed there was nothing to announce on possible deal flows just yet. "It will come in time. The listing will make it a lot easier for us to grow into new spaces. We don't need merger and acquisition activity to continue our growth... our medium term focus areas will certainly secure our medium term growth prospects."



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Abagold in the black - but sees red

ABAGOLD, the fast growing abalone farming venture based in Hermanus, has skipped its interim dividend in order to assess the impact of red tide on its operations.

The red tide, which can be harmful to sea life and often contaminates shellfish, appeared on the Hermanus coastline earlier this year. It was described as the largest red tide ever seen in the area and stretched 3km into the sea.

In the interim report Abagold chairman Hennie van der Merwe said that it was regrettable that the highly satisfactory and smooth ongoing performance of the company was "meaningfully disrupted" after the close of the interim period to end December 2016 by the abalone farm being hit by the worst red tide occurrence in recorded history on the Western Cape coastline.

Van der Merwe said the red tide was exceptionally high in volume and density. "It impacted severely on abalone and lasted for several weeks during the latter part of January and the first weeks of February 2017."

He said that despite massive efforts on the part of the Abagold team in battling this natural disaster, the company suffered substantial spat and abalone mortalities with the growth rate of surviving abalone also being negatively affected.

"This will have a significant negative impact on our ability

to satisfy demand over the next six months."

Whether other abalone farms – not affected by the red tide - will cash in on the skewed demand/supply equation remains to be seen. Premier Fishing, which listed on the JSE recently, has plans to extend its abalone farm at Gansbaai (seemingly not hit by the red tide) with some of the money it raised in an over-subscribed R565 million private placement.

Abagold said it would only consider dividends again at the end of the financial year (to end June), after assessing the impact of the red tide event on spat and abalone mortalities, growth loss and reduced future growth as well as lower sales.

Van der Merwe explained: "At the time of finalising the interim results, we were unable to accurately measure or estimate the full impact of this event. This may only become possible over the next few months, and we will advise shareholders further once we have a better idea of the extent and impact of this event."

The red tide, sadly, covered a strong top line performance by Abagold in the six months to end December when turnover increased 46% to R151,4 million.

Abagold MD Tim Hodges said the increase was supported by a significant sales volume increase (+31%). But he cautioned that the overall performance was negatively impacted

by the Rand strengthening markedly against the dollar.

The net result was a 10% increase in net profit to R22 million. If unrealised gains and losses were factored in, Abagold's net profit before tax decreased a whopping 86% to R9,1 million. This was due to a R70,8 million decrease in the fair value adjustment to biological assets caused by the negative impact of the strengthening Rand on the valuation of biological assets.

More reassuringly, though, cash generated from operations – the lifeblood of a company - increased by a healthy 81% to R36,7 million.

Despite the strong Rand and the red tide causing temporary stress, it seems that Abagold's operational progress is still well on track.

Hodges reported that total growth recorded was up 5% from 202 tons to 212 tons.

"Considering that we were simultaneously harvesting ahead of plan to satisfy market demand during our peak sales period, this is a very satisfactory performance."

Hodges noted that Abagold was able to sell excess spat produced from the hatchery to the value of R3,8 million - thanks to surplus production and local demand.

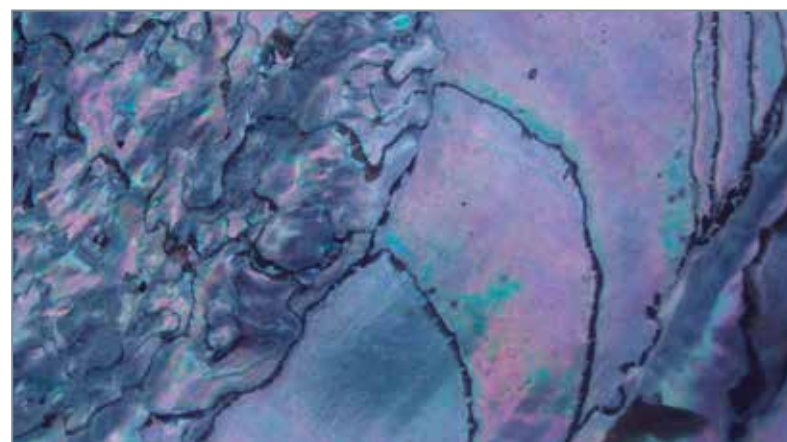
The sales and marketing function looked slightly trickier. Hodges said tougher trading conditions were caused by new demand for smaller, cheaper abalone products – which was linked to Chinese austerity

measures, and weaker economic growth and outlook in the company's export markets.

But Abagold still managed to increase the sales volume by 72 tonnes.

Hodges said that although the market remained under pressure with the low-growth Chinese economy and political environment, the progress that the Abagold brand and quality had made during the past few years should continue to allow the company to demand a premium price for its products.

There was also significant progress on the feeds side of the business – which trades



as Specialised Aquatic Feeds (SAF).

Hodges said the development of Abagold's own aquaculture feeds continued to gather momentum with significant expansion in the capacity of

the facility and in the development of feeds for other species. He disclosed that 347 tons of abalone feed and 829 tons of trout feed sales were recorded in the six month period.

"Increasing the total tonnes sold is a critical focus area in order to make the feed factory efficient and more profitable."

Hodges believed SAF was poised to increase the current trout feed sales significantly.

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Future options to store energy near Cape Town's City Centre

Harry Valentine discusses innovative technologies

ELECTRIC power arrived at Cape Town around 1900 with the construction of a coal-fired, steam-driven power station located near the Victoria and Alfred dockyard area. The location offered two advantages in that the power station was close to the unloading area of coal ships that could sail from Durban.

The second advantage was that close proximity to the sea allowed for seawater cooling of the exhaust-steam condensers. For several years, City of Cape Town owned that power station

that closed in 1965 and ended electric trolleybus operation in the city.

Table Mountain Pumped Storage:

Very recently, City of Cape Town officials have expressed interest in once again operating a power station. At the present time, the topography of Cape Town offers an option to introduce pumped hydraulic energy storage using existing reservoirs located on top of and at the side of Table Mountain. Molteno Reservoir is Cape Town's oldest storage dam while Hely Hutchison and Woodhead dams were built at higher elevation during a later pe-

riod. The difference in height elevation between Molteno Reservoir and Hely Hutchison allows for pumped hydraulic energy storage.

At the present time and to the southeast of Cape Town near Grabouw, Eskom operates the 400MW Palmiet pumped storage installation that involves using Steenbras Dam as the Upper Reservoir and a lower reservoir located some 60m below ground level, where pumping turbines are installed.

While installing pumped hydraulic storage using a pipeline between Molteno and Hely Hutchison reservoirs would only offer a small fraction of the output of Palmiet, that

storage capacity could provide some benefit to City of Cape Town. During the overnight hours, it could be re-charge on low-cost electric power.

Offshore Coastal Submerged Energy Storage:

The City of Toronto, Canada is located on the north shore of Lake Ontario where a joint project between the city power company, Toronto Hydro and an energy storage developer known as 'Hydrostor' has installed an underwater compressed air energy storage technology. Like Toronto, Cape Town is a coastal city with potential to borrow the underwater

compressed-air energy storage technology. While Toronto is surrounded by flat terrain, Cape Town's mountains offer a means by which to enhance the compressed air energy storage system. During the overnight hours, compressed air is pumped into underwater 'balloons' secured to the lakebed.

During peak hours, compressed air mixed with natural gas enters combustion chambers that activate gas turbines that drive electrical generators. Toronto has access to a natural gas delivery pipeline while Cape Town has no such access. It may be many years before a trans-Africa natural gas pipeline is built,

to transport natural gas from underground wells off the coast of Tanzania and Mozambique. Cape Town will depend on ships to deliver LNG (liquefied natural gas) and use floating storage. Cape Town could modify underwater compressed air energy storage using inflatable high-pressure 'balloons' and eliminate need for natural gas.

Cape Town Compressed Air Storage Option:

An alternative concept can connect the submerged 'balloons' to high-pressure above-ground water tanks that will feed a high-pressure stream of water through hydraulic turbines. At Cape Town, it may be possible to excavate a suitable cavern in the coastal mountains or enlarge a suitable cave and apply sealant to allow it hold high-pressure air as well as high-pressure water. Underwater 'balloons' will store compressed air that will be linked via high-pressure pipes to a cavern with sealant applied to its roof and walls. The cavern will store water or even seawater.

If potable water were to be used, then a second cavern of equivalent size and at lower elevation would be required. During operation, compressed air would be applied to the water in the cave with impermeable walls and roof. Compressed air would force a stream of water through hydraulic turbines that would drive electric generators. During recharging, the hydraulic turbines would function as pumps and push water under pressure into the upper cavern, forcing compressed air into the submerged 'balloons'. An air-compressor could undertake final 'topping-off' compressor duties to assure maximum available air-pressure.

Cavern Requirements:

A cavern with sealant applied to its walls, roof and floor would be required to withstand considerable internal pressure resulting from its connection to underwater 'balloons' filled with compressed air. For seawater, a vertical elevation of 500m would translate to a pressure of over 5 MPa.

The weight of earth above the cavern and the 'friction' of earth to the sides of the cavern would need to be sufficient to prevent a 'blowout'. The

seafloor some 160km to the west of Cape Town drops off to below 2 000m, allowing for a peak pressure of around 20MPa.

A cavern excavated deep under Table Mountain, perhaps below sea-level, would require sealant applied to its surface to become impermeable so as to prevent seepage of seawater and possible 'piping' through weak areas.

A high-pressure pipeline would link the underwater 'balloons' to the cavern. Siemens offers hydraulic pumping turbines capable of operating over a vertical elevation or 'head' of 600m (6MPa), meaning that the underwater 'balloons' would have to be located closer to Cape Town. A sufficiently large number of caverns could offer a storage capability of 1 000MW that could be available during peak demand periods.

Environmental Factors:

Cape Town area's Cape Peninsula has a geological base of porous or permeable rock. Across the Cape Flats region, that porous permeable subsoil serves as an aquifer with potable water storage capability. The geology of Table Mountain includes permeable, porous subsoil structure that functions as an aquifer that stores large volumes of potable water. Any cave under Table Mountain that is enlarged for high-pressure seawater storage or especially excavated for the purpose of high-pressure seawater storage, would require that a long-lasting and robust sealant be applied to the cavern interior surface so as to prevent leakage or seepage.

The sealant would serve the dual purpose of preventing leakage of air-pressure as well as leakage of water. Cape Town's recent drought greatly reduced water levels in some of Cape Town's dams to near 20% capacity.

Given that future occurrences of drought are unpredictable, an energy storage system that uses compressed air over seawater could assure continued operation of a future such system during future periods of drought. Cape Town area environmentalists would naturally wish to have input into any proposal that involves future energy storage for the region that involves storing seawater under high pressure.

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Toyota Forklifts lifts toiletries and cosmetics



Handover of 15 Toyota machines at Le-Sel Research.

TOYOTA Forklift, part of the EIE Group, handed over 15 machines with ancillary equipment to Le-Sel Research (Pty) Ltd in January 2017. Based in Midrand, Le-Sel Research, the largest contract manufacturer of toiletries and cosmetics in Southern Africa and regarded by the industry as the leading contract manufacturer in Africa, is a first-time client for Toyota Forklift.

The machines were supplied on a long-term rental and maintenance basis, with full FMX forklift fleet management monitoring and corporate logos painted on the reach trucks.

The order included five combustion Toyota Forklift (8FG1.8), seven Toyota Forklift battery electrical reach trucks (8FBRE1.4S), two gas units (1 X 8FG2.5G and 1 X 8FG3T) and one Orion LPE 200 pallet truck.

The powerful, durable and environmentally-friendly Toyota Forklift combustion and battery electrical reach trucks are characterized by simple operation, and high levels of efficiency and safety.

Toyota's original safety technology, the SAS (System of Active Stability), for outstanding load handling control, and the OPS operator presence sensing system, provide stable and smooth operation and assist in optimising work efficiency.

The outstanding visibility provides a clear view of the fork tips and areas around the forklift to support safe and accurate operation, as does the advanced ergonomics, such as a compact but roomy body and a small-diameter steering wheel.

The Toyota battery-electrical reach trucks feature an advanced AC Power System, while the combustion reach trucks offer improved fuel efficiency, with 20% lighter gas use than previous models and IPX5 water proof rating on all electrical connectors.

The Orion LPE 200 pallet truck provides safe high speed operation and maximum efficiency from the integrated spring loaded, foldable platform together with stable and comfortable gates.

"We welcome the opportunity to introduce our best-in-class brands to new clients,

particularly ones as innovative as Le-Sel, a commitment we share, and look forward to building a partnership for life with them," says Gary Neubert,

EIE Group's CEO.

"We worked with the client for six months prior to award of the contract, carrying out in depth site surveys and utilizing our spe-

cialized equipment for warehousing, to ensure that we could offer them a total material handling solution tailored to their specific needs."

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Increase your knowledge base at the Securex seminar

STAFF who undertake learning activities are more able to adapt to the changing requirements of an organisation. "If we choose not to learn continuously, we end up falling behind on what could be considered industry best practice. Since the security and fire industry changes so quickly, it is likely that your current skills and knowledge will be outdated in five to ten years. Therefore, it is advisable to constantly update one's knowledge base to be successful," says Joshua Low, Securex Event Director at Specialised Exhibitions.

Securex 2017, being held from 30 May to 1 June at Gallagher Convention Centre in Midrand, provides an abundance of opportunities for security and risk professionals to increase their knowledge base and gain a better understanding of industry trends. The Securex Seminar Theatre, powered by Hi-Tech Security Solutions, runs over the three days of the exhibi-

tion and is jam packed with topical issues, presented by industry thought leaders.

Scheduled for 9:30 on 30 May and 1 June are the SAIDSA Installer Workshop sessions, covering PSiRA legislation and electronic security training. On 30 May at 13:15 André Immelman from eyeThenticate brochures the issue of whether your computer will be able to think like you. This glimpse into what may seem like sci-fi highlights the amazing research that has been invested into issues such as Convolutional Neural Networks (CNN).

Another technology session not to be missed is the move towards artificial intelligence (AI) presented by Tharina van Wyk from Bosch at 14:15 on 30 May. Similarly, the evolution of building management systems is tackled in Peet Goldenhuys' talk on 31 May at 12:15.

Still topical and an issue that will continue to remain foremost in people's minds for the

foreseeable future is the subject of the 'Fees must fall' campaign. Manubela Chauke, CEO of PSiRA will present a case study on the domino effect of this protracted event which resulted in massive disruption and fear mongering.

In addition to these and other riveting seminar topics, popular visitor attractions at Securex 2017 will include the New Products Display, the FPASA InFIREs Seminar, the ESDA breakfast and the SAIDSA Techman Competition. For the first time, Genesis K9 Group (GK9) is hosting a stand with live demonstrations of highly trained security and detection dogs.

For a full seminar schedule, please visit www.securex.co.za

Also new to Securex 2017 is the launch of a technical training component. Two morning and two afternoon sessions covering various topics such as Surveil-

lance for the entrepreneur (targeting end users and installers), IP surveillance and remote deployment (targeting entrepreneurs), Storage know-how (targeting installers), and IP convergence possibilities and solutions in industry (targeting installers and end users), have been scheduled. Full details of each training session will be available at www.trainingtech.co.za.

Underlining the exhibition's credibility is the endorsement by several recognised industry associations and institutions that include ESDA, FFETA, FPASA, PSiRA, SAIDSA, SANSEA, SASA and SIA.

To reserve a stand, interested companies should contact Zeld Jordaan or Grant Bydell on: zeldaj@specialised.com or grantb@specialised.com or visit www.securex.co.za

To visit the show please register at www.securex.co.za or contact Leigh Miller on leighm@specialised.com

With a focus on improving visitor experience at Securex, show organisers Specialised Exhibitions have partnered with TrainingTech to provide four half-day technical training sessions.

According to TrainingTech marketing director, Riandi Appelgryn, the courses are part of a strategic plan to increase value-add for Securex visitors. Presented by a National ICT trainer, the programme will focus on IP surveillance and convergence.

The comprehensive training sessions are aimed at various target audiences and entail:

- Day 1 (30 May) – Morning session (9:00 to 12:30) – IP Surveillance Basics (An introduction to IP CCTV)
 - Difference between CCTV and IP surveillance
 - Advantages of IP surveillance
 - How to setup a

basic IP surveillance system.

Target audience: End users and installers

- Day 1 (30 May) – Afternoon session (13:00 to 16:30) – Surveillance for the entrepreneur
 - What can be done.
 - IP convergence.
 - Case studies.
 - Costs.

Target audience: Entrepreneurs

- Day 2 (31 May) – Morning session (9:00 to 12:30) – IP surveillance and remote deployment
 - Wireless infrastructure.
 - Internet infrastructure.
 - Solar power.

Target audience: Installers

- Day 2 (31 May) – Afternoon session (13:00 to 16:30) – Storage know-how
 - How to plan your storage

requirements.

- Raid levels and what to choose.
- Disaster recovery.
- Offsite recording/backup.

Target audience: Installers and end users

- Day 3 (1 June) – Morning session (9:00 to 12:30) – IP convergence possibilities and solution in industry

Target audience – entrepreneurs, students and other end users

The training sessions will be held alongside at Gallagher Convention Centre. All attendees will receive a certificate of attendance and a training manual that contains the training slides and other useful information relating to the topic.

Full course details are available from Riandi Appelgryn by emailing marketing@buildingbrands.co.za or by visiting www.trainingtech.co.za

African Utility Week in Cape Town to showcase home-grown solutions as well as business opportunities in continent's energy market

THE award-winning African Utility Week, taking place from 16-18 May in Cape Town, will showcase how the continent is coming up with innovative, home-grown solutions to its energy and water challenges and how these are creating exciting and lucrative opportunities for utilities and industry suppliers alike. Experts from respected partners in the industry such as the World Bank, KPMG, Power Africa, Huawei, GE, Shell, SAP and leading African utilities will head up the more than 7 000 power and water professionals from more than 80 countries, including 30 African nations, who will gather for African Utility Week. But this year also kick-starts a specific focus on a new trend in the industry:

namely smaller, community scale off-grid projects that are starting to make a real difference in the development of the continent.

Cleaner, more affordable energy generation options

"The power and energy landscape in Africa is undergoing significant change" says Evan Schiff, African Utility Week event director, adding that current trends include "the availability of private investment for power and energy projects, the fast development of energy storage, renewable energy is becoming cheaper, gas that is an increasingly attractive mode of power generation in Africa, and that in the next 10 years, nuclear will become an increasingly important mode of

base-load power generation."

The investment, trade and development opportunities in the sub-Saharan African electricity sector are estimated at \$835 billion of capital investment, \$490 billion for generation capacity and \$345 billion for infrastructure. Community scale projects are another important emerging trend in the sector. "Utility-scale developments are decreasing," says Ahmed Jaffer, Chairman of KPMG in South Africa and the Head of Power and Utilities, "while we see a lot more of community-sized generation projects. Businesses and communities are also showing interest in becoming less dependent on the national grids. In rural Africa, especially, the

economics of expanding the national grids do not make sense; hence there is a significant trend towards mini-grids and other off-grid solutions." Alongside the long-running African Utility Week, a new platform for community scale projects, Energy Revolution Africa, will be launched in May this year.

Speaker highlights at African Utility Week include:

- Lionel Zinsou, Former Prime Minister of the Republic of Benin, member of the West African Energy Leaders Group and investment banker.
- Matshela Koko, Acting CEO, Eskom, South Africa.
- Lazarus Angbazo, President and CEO of GE Energy Connections SSA.
- James Stewart, Global Head of Major Projects (Power and Utilities), KPMG.
- Bob Lockhart, Vice President of Cyber Security of the Utilities Technology Council.
- Subha Nagarajan, Managing Director for Africa, Overseas Private Investment Corporation (OPIC), USA.
- Ambassador Tebogo Seokolo, Chairperson of the Board of Governors of the International Atomic Energy Agency (IAEA)
- Lucio Monari, Sector Manager for Africa Energy Group, World Bank.

Real world doers share their expertise

The 17th annual African Utility Week is the leading conference and trade exhibition for African power, energy and water professionals who will have the opportunity to meet over 300 suppliers of services and technology to the industry. The expo includes a record number of country pavilions, including from Belgium, Denmark, France, Germany, South Africa, China, Czech Republic, Taiwan and India. Along with multiple side events and numerous networking functions the event also boasts a five track conference with over 300 expert speakers.

The conference programme will once again address the latest challenges, developments and opportunities in the power and water sectors: ranging from generation, T&D, metering, technology and water.

The African Utility Week expo offers an extensive technical workshop programme that are CPD accredited, free to attend, hands-on presentations that take place in defined spaces on the exhibition floor. They discuss practical, day-to-day technical topics, best practices and product solutions that businesses, large power users and utilities can implement in their daily operations.

More side events as part of the African Utility Week platform include:

- African Utility Week Power Industry Awards
- African Power Finance & Investment Forum
- The Gas-to-Power World Congress
- The Utility CEO Forum
- The African Power Elite
- The Nuclear Power Africa Conference
- Africa Utilities Technology Council conference
- Site visits
- Power Africa - Women in Power Lunch
- West African Investment Breakfast Briefing
- The 5th Huawei Power Summit: the main theme for Huawei's showcase this year is "Leading New ICT, The Road To Smart Grid"

Industry support

Apart from KPMG's diamond sponsorship, industry stalwarts EPG, GE, Huawei, Landis+Gyr, Lucy Electric, Ontec and Shell are platinum sponsors while Aberdare Cables, Conlog, Oracle Utilities, SAP, SBS Tanks and Vodacom have already confirmed their gold sponsorships.



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Endress+Hauser's instruments are ready for IIoT, are your processes ready?

THE concept of IIoT (Industrial Internet of Things) is electrifying the mining industry, but what is really behind it? What is the benefit for you?

First came flint, followed by bronze, iron, gold, coal and during the last decades it was oil. The title of "most important" resource has been held by many different materials over the course of our history. And now, at the beginning of the 21st century there is another contender. A player, that in reality is not even a substance at all: Big Data.

You may now think of companies like Facebook, which has become one of the most valuable enterprises in the world and that within the span of only a decade. However, social media is not the only beneficiary. Industrial companies believe they can benefit from this evolution or rather revolution, that some call IIoT, others call it Digitalisation, some call it Big Data or even Industrie 4.0. The manufacturing industry has already embraced IIoT. Digitalisation of the work place has already begun in this sector and now the process industries are getting more and more interested and mining is no exception.

Integration as a first step

But how can Big Data help mining companies to master these challenges? If you think about it, data is already produced in abundance within a mining operation: process information from the field, inventory values, plant status and market prices to name just a few. The problem they face is a lot of this data is stored and visible in different systems and platforms. So the first step towards IIoT has to be the integration of this data to open up its real potential. Integration has to be aligned along three axes: Horizontally along the value creation in the supply chain, vertically from the field to the control level and from planning to maintenance to ensure consistent engineering. With the help of Endress+Hauser, you can now feel assured to take this step.

Let's look at the first axis. An exact forecast of consumption based on current inventory values and planned material movements is the key to reducing warehouse stocks and at the same time, improving the delivery service. Reliable measurement technology is the fundamental

basis for this supply chain management.

Endress+Hauser can provide you with a complete range of measurement technology. For data communication, Endress+Hauser can plug most available fieldbus technologies directly into their smart measurement sensors: in addition to the local data transmission unit, Fieldgate, with integrated web server, allows for global data acquisition via private and public communication networks. A standard internet browser is sufficient for querying inventory data.

Fieldgates from Endress+Hauser not only provide current measured values, but also offer the possibility of monitoring device stations, requesting information and sending data directly to a superordinate inventory management software system such as SupplyCare from Endress+Hauser. SupplyCare offers convenient access to the current fill levels in tanks and silos from the comfort of your desk, and offers extensive functions for inventory management. Amongst many functions you can use the option with an integrated e-mail function, you can easily request supplies quickly. With the analysis module, you can also calculate and evaluate Key Performance Indicators (KPIs).

Full control of your basic processes

When it comes to vertical integration, intelligent networking between sub-systems of mine process, from the ERP system to operating and control level and on to field level, is essential for optimised functionality and best efficiency of the digital mine. The reality today is often less than streamlined or smooth operation. It is characterised by closed system silos, missing interfaces and many manual data transfers and thus causing potential errors. These decoupled system silos can be connected to form an elegant overall system with a continuous data flow, thanks to Endress+Hauser's BPI concept (Business Process Integration). BPI acts as middleware beneath the sub-systems and thus forms a shared platform for data exchange between these systems. This is not just limited to the IT world however, by using Industrial Ethernet at field and control level, automation components can also be integrated in the overall system.

Digital communication enables advanced measurement sensor diagnostics which can form the basis of effective process condition monitoring and preventative maintenance measures or calibration requests which can be triggered in the ERP system. Many

of Endress+Hauser's smart measurement sensors can be used to monitor process conditions and verify measurement integrity.

Several examples of HEARTBEAT Technology's benefits are already used in the concentration processes in many copper and gold mines, one example in froth flotation tanks: A Promass 100 Coriolis flow meter will schedule a flocculant batch remix by measuring changes in the medium chemistry. The aim is to produce process optimisation and stability using a combination of smart sensors which monitors their own performance, indicate process anomalies and tell maintenance when things need cleaning or recalibrating.

Big Data made easy

In order to get close to this goal of maximum process efficiency at the lowest possible cost, intuitive and reliable process asset management is crucial. Endress+Hauser offers Big Data asset management software which is manufacturer-neutral: the cloud-based asset management toolbox, called W@M (Web enabled Asset Management) has proven beneficial to management, maintenance, process engineers and metallurgists in generating plant wide process improvements and providing relevant and reliable data.

Wide range of sensors and control devices

IFM Electronic offers a wide range of control devices and sensor equipment, suitable for virtually industrial application.



ifm valve feedback systems for quarter-turn actuators.

Their mobile machine cameras display up to four camera images on one screen, providing a complete view at a glance.

The multi-view box has been designed for use in mobile machines in harsh environments and features four camera inputs. Depending on the requirements, 1, 2 or 4 camera images can be selected simultaneously in different arrangements via one control input. For example: Cam1 when moving forwards and Cam2 and 3 when moving backwards. In the "bird's eye view" four camera images can even be combined to become one 360° view. A total of nine different display modes are available for the user.

Analogue video output

The IFM PDM360 dialogue module with analogue video input is also suitable for mobile use or any other video display with PAL video input can be used as display.

IFM's range of robust MFH series position sensors for hydraulic cylinders is suitable for flush mounting in various steels. With its 1.8 mm sensing range it shows

reliable switching characteristics. The new operating principle of this unit is based on a magnetic-inductive technology that detects only ferromagnetic metals (e.g. steel). It is sealed by means of an O-ring and a supporting ring towards the pressure area.

Besides use in hydraulic cylinders, the sensor is also ideal for other hydraulic components such as valves or pumps and operates reliably for the lifetime of the cylinder. Furthermore, it is used in mechanical engineering processes, e.g. in plastic injection-moulding or process industry applications. Its attractive price means the sensor can also be considered for simple components where this option used to be too expensive.

Kplus sensors – one sensing range for all metals

Kplus sensors have the same sensing range for all types of metals.

They are perfectly suited for the detection of aluminium, where conventional sensors show a considerably reduced sensing range. The high switching frequencies enable the monitoring of fast changing switching states.

The resistant stainless steel sleeve allows reliable use in oil and coolant applications and a wide temperature range as well as the high protection ratings enable them to be used universally.

Quarter turn valve feedback sensor

A valve feedback sensor with easy wiring for quarter-turn actuators contains two inductive sensors in a potted and sturdy housing with protection rating IP 67. It signals two end positions. It is equipped with a solenoid connection replacing the additional cable to the solenoid valve.

Fast and easy wiring

The actuator interface is optionally equipped with a standardised M20 x 1 gland. The spacious terminal chamber allows quick and easy wiring. Since the terminal block can be removed, no new wiring is required if the sensor is replaced. A UL approval for this product is currently in progress.



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- 10 Motor Protective LV Switchgear
- 11 Push Buttons and Pilot Lights

Cost competitiveness and absolute reliability are the hallmarks of WEG Variable Speeds Drives and WEG electric motors. These state-of-the-art products offer functionalities that meet all HVAC requirements. And this is underpinned by Zest WEG Group's responsiveness when it comes to technical and after sales support.

The Zest WEG Group, a subsidiary of leading Brazilian motor and controls manufacturer WEG, started out as a South African company and maintains its strong commitment to contributing to the development of the African region. By leveraging best practice

engineering and manufacturing capabilities, the group is able to offer a range of standard off-the-shelf products as well as end-to-end energy solutions.

An in-depth understanding of the requirements for HVAC applications, access to quality product solutions and years of experience have ensured that the Zest WEG Group service offering is fit-for purpose. From single product installations to individually customised solutions, which are application specific, the latest technology is used to ensure optimum performance and reliability without

compromising on energy efficiency. WEG products are engineered to facilitate a safe and reliable plant environment with operational stability and the highest possible production levels as an objective.

Reduced maintenance and ease of serviceability assist in lowering the total cost of ownership for operations. Supporting customers is key and the Zest WEG Group operates a strategically situated network of branches and distributors across the continent. This ensures the highest levels of technical support as well as easy access to product and parts.



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Cape Town International Airport scoops Best Airport in Africa

AIRPORTS Company South Africa, Cape Town International Airport is proud to announce that it won the Skytrax Award for Best Airport in Africa, at a ceremony held in Amsterdam. Congratulations to our sister airports that were also awarded as follows: In 2nd place King Shaka International, in 3rd place O.R. Tambo International, East London Airport 6th and Port Elizabeth Airport in 10th place.

The World Airport Awards are a global benchmark of airport excellence, and widely known as the Passengers Choice Awards.



The 2017 Awards are based on 13.82 million airport survey questionnaires that were completed by 105 different nationalities of air travellers during the survey period. According to Skytrax, the

survey operated from July 2016 to February 2017, covering 550 airports worldwide and evaluating traveller experiences across different airport service and product key performance indicators.

“We are delighted with this achievement. Winning this award year on year is no small feat. The survey evaluates various processes such as check-in, shopping, immigration and so forth. Together with

the airport community we constantly strive to ensure a positive airport experience. This is a significant achievement and it is indicative of all the hard work that goes into ensuring that Cape Town International Airport remains on top with the best in the world”, says Deidre Davids Senior Manager, Corporate Affairs Airports Company South Africa: Cape Town International Airport.

The airport is growing significantly with it reaching the 10 million mark in 2016. With this influx comes the responsibility of ensuring that the airport

meets the standard to accommodate airport users. “Winning the Best Airport in Africa award is all the more gratifying given how much our airport has

grown. We are well aware that we need to keep on improving. Thank you Cape Town for your feedback and ongoing support,” adds Davids.

The top 10 airports for the Best Airport in Africa for 2017

- Cape Town
- Durban King Shaka
- Johannesburg
- Mauritius
- Marrakech
- East London
- Addis Ababa
- Cairo
- Seychelles
- Port Elizabeth



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“It’s the best feeling in the world to be employed for the first time,” says John Valentine, Director at Real Telematics. “Your heart beats faster and you want to dash out and spend money you don’t have yet.”

The experiences differ though. You can know that you’ve had a quality education, and can virtually walk in anywhere un-challenged. Then there are experiences where you are definitely not sure whether you will be let in the front door. Quality education is everything.

It’s no different for forklift operators/drivers. That little plastic laminated card opens up their lives to the wonders of employment. Ironically however, it appears to be far easier and cheaper to obtain a Forklift Licence than a normal car licence. Generally it takes about 3 to 5 days at an approximate cost of R1 000, whereas a normal car licence can take months and could cost a lot more in some cases. Most forklifts are in fact much more expensive than a car and many forklift operators/drivers do not have their own car licence. Yet we happily give them access to a Forklift to operate worth hundreds of thousands of Dollars, not to mention the stock values.

Luckily, much of this associated risk can be countered through the simple introduction of Access Control to the forklift which only allows authorised use to Drivers with Tags, to machines as specified and on condition of appropriate licensing. Real FMX already does this and also includes a Driver

Licence Reminder Alert, configurable to set dates. Real FMX also offers a built-in Driver incentive Program which measures set KPI’s for drivers and then generates a Driver of the Month certificate. Believe it or not that small bit of recognition goes a long way to introducing the correct driver behaviour.

Unfortunately, cheap and nasty licensing ruins the great work done by ethical and effective Driver Training companies. This could mean that drivers are castigated for wrong doings they might not even be aware of. For example, we received a complaint from a customer to investigate why a specific machine was showing so many rev alerts. Surely our software must be at fault? We found this rather unusual since the software had just been tested, the machine was brand new, and the application did not justify that behaviour. On further investigation with the driver, we found that he had been trained on a really old machine which he had to rev a lot to get it to do anything. Naturally, this same behaviour repeated itself onsite, as he was trained to do.

Real FMX, delivers a powerful intervention tool, that can control machine access, apportion accountability, and be the backbone of credible analysis. With such information at your fingertips why is it even a question?

Get Real FMX now and get your operation the transparency it needs to have real meaningful dialogue with drivers/operators.

Manitou Centre now in the Western Cape

MANITOU South Africa (MSA) has opened a Manitou Centre in Cape Town. The centre officially opened on the 3rd January 2017 and is headed up by Andrew Maynard, the National Sales Manager for MSA. Manitou servicing and distribution was previously conducted through dealerships in the area; however Manitou made the decision in the last quarter of 2016 to establish a Manitou Centre presence in the Western Cape to focus on this region.

Lindsay Shankland, Managing Director of MSA is optimistic and says the new Manitou Centre has sold over 10 machines already. It has also started a short term rental fleet comprising of four machines which will grow as demand increases. One of the many advantages of having the Manitou Centre based in the Western Cape is the ability to showcase already prepared new machines at the centre. A Manitou Centre also has the capability to offer our customers the backup and after-market service levels set by Manitou themselves and its customers.

The Manitou Centre has a fully equipped workshop and a highly skilled team, able to repair and rebuild any Manitou or Gehl machinery that needs attention. A full after-market experience is provided to all customers for breakdown assistance, faulty equipment and services both on and off site. The Manitou Centre also holds stock of all original parts for machines.

“We have seen a tremendous amount of growth in just the three months of operation, where Manitou Cape Town supply the greater part of the Western Cape, but are also slowly infiltrating the West Coast up to Namibia, where our Ex-

pert Mining Solutions Dealer takes over” says Shankland.

In addition to the new Manitou Centre in the Western Cape, Manitou has an extensive network of 11 dealers through South Africa and neighbour-

ing countries who distribute and service the Manitou and Gehl brands.

Manitou, in partnerships with their dealers, offer a versatile and comprehensive range of telescopic handlers, convention-

al and rough terrain masted forklifts, access platforms as well as the Gehl brand of skid steer, track and articulated compact loaders.

Manitou Centre is located at UnitB4, The Bridge, 18 William Street, Maitland.



The Manitou Centre in Cape Town has a fully equipped workshop.

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Africa representation includes: Mozambique, Zambia, Namibia, Zimbabwe and Botswana

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Only through your input can we continue to improve.

- Comments
- Suggestions
- What would you like to hear about

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Pebble Beach

THE BIM Institute proudly hosted its first BIM BAM BOOM event in Durban last month, which gave the team the opportunity to scout the local construction scene. Several major private developments are breaking ground in North of Durban, which continue to change the Umdloti and Umhlanga shorelines. The Pebble Beach Resort stood out to the team, who followed up with Will Flint from project architects Craft of Architecture (COA) to investigate where the company currently is with adopting Building Information Modelling (BIM) processes.

The Pebble Beach project

The team at COA is using ArchiCAD BIM for numerous exciting new projects in KZN, particularly the Pebble Beach project.

"This is the first project that

we have truly taken beyond the awesome 3D presentation capability of ArchiCAD – we are pushing for truly holistic BIM model between all the design team."

He goes on to explain that they are in the early stages of coordinating the SiVest Structural team's Revit model and importing it into our ArchiCAD via IFC as a single coordinated BIM model.

"We are also running a data exchange process using the IFC format to provide our model to the QS team to take off accurate quantities using their programme, Dimension-X. This process is a daunting challenge for us, especially due to the fact that we are trying to implement this during the course of a real project, which is rapidly moving forward to construction."

However, Flint feels that this

is "the future of collaboration" and an important aspect of the company's development, which it is keen to invest in.

"It is very exciting to be putting this process to the test for a very real life project."

The vision

According to Flint, COA is working towards the ultimate BIM goal of seamlessly connecting the stages of a project, together with glitch-free integration with its QS teams Structural, Mechanical, Civil and Electrical Engineers and the rest of the consultant team.

"We use BIM as a vital tool that connects our initial concept models and presentations to our construction detailing and site monitoring work, right through to the snagging process and close-out of the project post construction."

In the swim with BIM

The beginning

COA has made the move from 2D CAD to 3D BIM using ArchiCAD, which has been adopted over the last three years. It initially implemented it on a large-scale renovation and expansion of the American International School in Mozambique and since 2014 / 2015 the team has rolled it out on all its new developments – from large-scale master-planning through to its interiors work.

And now?

"We use BIM for all aspects of a project right from the initial design concept through to detailed design, construction and post-construction as-built information and providing the client with accurate and detailed information for their Operating and Maintenance manuals," asserts Flint.

"Our use of BIM is very much an ongoing 'work in process', but where we have already achieved significant improvements to our company productivity is in the development of an automated drawing revision and change register, using layout books combined into a single master file, which has saved us a huge amount of time in documenting larger projects," details Flint.

And the BIM engagement doesn't end there.

"We have also started to work in 3D on site using tablet based programs (such as BIMX), which has been an extremely successful communication tool between consultants, client and contractors on site.

COA's particular strength comes from its background with high quality

presentation imagery.

"Where before we adopted BIM we would take a 2D cad plan, work up the 3D model in Sketch-up, export to 3DS Max for presentation images, we are now excited to be able to connect all these processes using a single ArchiCAD BIM model, in conjunction with other software to produce photographic quality renderings at key concept stages for client presentations, and take this exact same design and model through to construction."

Flint goes on to say that they have developed their own internal 3D detail and graphic library, which assists them with seamless productivity, so that they can turn around large volumes of work in very short timeframes to meet client's expectations.

Looking forward, COA is investing considerable time to develop its design coordination processes with consultants at stage 3.

"We believe this will benefit the whole team as well as the client when projects move onto site, and provide a valuable long-term resource for the client after handover for their future maintenance of the buildings."

Collaboration

The conversation ended with Flint expanding on the who is walking the BIM path with them.

"We have fostered a great working relationships with Graphisoft SA, who have recently provided sponsorship for our company's soccer team strip. We have also been in regular contact with

other ArchiCAD BIM users in South Africa, particularly Shawn Hopkins from LARGE Architecture in Durban, with whom we are joining forces to pool our knowledge and resources to push the development of our BIM capabilities. We are very excited to develop these partnerships in the coming year."

Pebble Beach Sibaya

Developer:
New Cruise Investments
Product use:
Residential and mixed use
Building contractor:
Construction ID
Project architect:
COA

Total site area:
14,000m2 of bulk

Total number of units
There are a 160 units comprising of luxury studios, 1,2 and 3-bedroom apartments and penthouses.

Residential facilities

- Rooftop putting green
- Rock climbing walls
- Jungle gym and play area
- Waterslide
- Three swimming pools
- Rooftop clubhouse
- 24-hour state-of-the-art security
- Beach access
- Forest walkways

Precinct facilities

- Mixed use and residential space
- 6.5km beach
- 75km walking trails, paths and boardwalks

Eye on the Maine chance

Menlyn Maine Central Square

Contract duration:

Jan 2014 - Sept 2016

Contract value:

R1.8bn

Engineers:

WSP Consulting Engineers

Project architect:

Boogertman and Partners

Client:

Menlyn Maine Investment Holdings (Pty) Ltd

Location:

Menlyn, Pretoria

Total site area:

315,000m2

Precinct facilities

Menlyn Maine is a groundbreaking decentralised green city mega-development, the 65,000m2 R1.8bn Central Square mixed-use space at its vibrant hub.

- 30,000m2 boutique shopping mall
- A piazza as its focal point
- Top-end restaurants
- Health and beauty and pampering experiences
- An apartment and conferencing hotel
- An office tower
- A lush public park
- Virgin Classic gym
- Bounce trampoline park

BIM has great benefits for early stage designs. Visualising a project in 3D is not a new concept in architecture, but software allows us to analyse our buildings during design stages to give clients the most effective buildings. BIM allows clients to get involved in the project's decision making and communicates the design intent, not only the pretty pictures, this according to Marelise Dann, BIM Manager for Boogertman and Partners (B+P). The BIM Institute was privileged to discuss B+P's R1.8bn Menlyn Maine Central Square project, and all things BIM with Dann.

The Menlyn Maine Central Square project

The Menlyn Maine Central Square (MMCS) is a mixed-use development that forms part of the greater Menlyn Maine in Pretoria. The project consisted of a boutique shopping centre, commercial office building and hotel. Being such a large, fast-paced project, it served as a great development to make the case for BIM.

"MMCS has been a great case study for us in terms of internal operations and collaborating with our consultants and contractor. Because of the size and complexity of the project, our team had to push the limit of processes and protocols to deliver a highly coordinated outcome in a short period of time," states Dann.

Internally, MMCS was a great

example of how teams should be put together to stay productive and innovative. The workflows on Revit and Navisworks and the BIM Execution Plan was optimised to achieve specific project goals.

"The team's structure in terms of expertise was planned to perfection. Every team member had a specific role and responsibility. Our MMCS team became an inspiration with their comradery towards each other and the rest of the project teams."

Externally, the MMCS team's dedication spilled over to the rest of the stakeholders in the project. MMCS had been earmarked as a BIM project from the get go.

"Due to the time constraints, getting to zero clashes onsite seemed impossible, which only served to inspire the team further."

The bi-weekly project meetings evolved to bi-weekly workshops that included all project stakeholders, with Navisworks clash detection at the forefront – to reduce issues onsite before drawings were issued.

"The project was of course not without its usual hiccups, but I have never seen a project team come together with one goal in mind: excellence, like in this one."

The vision

"B+P is focused on human centric design. Human centricity entails having a connection with all stakeholders inside and outside of our



Menlyn Maine Central Square

business. BIM plays a big role in bringing our staff, consultants and clients together as a team, to deliver excellence," explains Dann.

B+P mainly use Autodesk software, leading with Revit and Navisworks. Dann and the team also integrate with other BIM software like Rhino, "to keep up with the latest innovations in architecture, and to ensure our workflows run as efficiently as possible."

B+P's modelling standards have been created according to the AEC (UK) BIM Protocol for Revit. Its BIM standards and processes are aligned with the UK PAS:1192, where South African methodology permits.

The beginning

"I think all companies go

through the same challenges during any kind of transformation. BIM is not unique to that. One of the biggest challenges usually is dealing with change," says Dann when recalling the early days of the company's BIM execution.

"When I started at B+P in 2014 our biggest challenge was to make the time between projects to implement our BIM strategy. What made our transformation successful was the determination of a leader and an amped team, to drive B+P into the future with BIM by changing our culture to a culture of learning. It's our culture of learning that is still driving our passion for BIM today," Dann continues.

The solution? B+P has taken it upon themselves to edu-

cate project stakeholders on processes during projects, to ensure the BIM workflows do not falter.

"The only thing that can be done is to educate. We need keep educating our staff, project stakeholders and clients on how beneficial BIM is to every participant on a project."

Collaboration

She goes on to say that every project forms a team. And each project team has one goal: "to deliver excellence and value to our client."

"It is up to us – as a team – to ensure we use the best possible methodology to deliver our product. BIM allows teams to come together. We just need to start enforcing it," she concludes.

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Powering up Robben Island

Installation of new generators poses challenges at iconic Heritage Site

Jurgen Steen, Sales Engineer for Cummins South Africa recounts a story of good cheer at Christmas time 2016.

"I am not sure of how many people in South Africa know that Robben Island's electrical supply depends solely on diesel generation. I was one of the many until tasked with the installation of replacement generators on the site during December 2016. Cummins secured the order to replace the original 20 year old units from the Robben Island Museum via Coega, who are the island's facility managers.

There are about 120 permanent residents on the island and all electrical operations such as lighting, telecommunications, the lighthouse, water supplies and wastewater processing, need a dependable power source to support this popular tourist destination.

There were six diesel generators on the island and their output was 300kVA of prime power. We have replaced five units with Cummins units – two x 500kVA, two x 450kVA and one x 1000kVA. The island was short of power but there are planned infrastructure upgrades and because of bad weather often you cannot get to the island and the extra sets are for back up should the need arise.

The units have a service interval every 250h and the service contract is held with one of our channel partners who currently have the contract for the servicing of the generators on the island. The generators run on a rotational cycle so they switch off the units in operation for servicing and the next unit takes over the load.

All water supplies on the island emanate from a seawater desalination plant which without electricity would mean supplies would have to come

from the mainland – not really feasible not least that the crossing to the island is often delayed for days due to bad weather. Containerising thousands of litres of water and the logistics of materials handling would also present severe challenges!

Treating effluent in the island's wastewater treatment plant is also reliant on a dependable electrical supply and interruptions could lead to serious health problems for staff and tourists alike and result in the attraction being closed.

So the need for consistent and reliable power supplies and quality after-sales support is critical for the health and safety of the residents of the island and for the tourist operations to run smoothly.

Cummins Southern Africa Power Generation Director Kenny Gaynor says that the successful conclusion of this project once again highlights Cummins capabilities to execute on challenging and demanding projects.

These factors are the very cornerstone of Cummins worldwide operations and a major contributor to the selection of our gensets for this important National Heritage site.

Tricky installation – just getting there! The installation of the generators was not without its challenges, yet one would think being a stone's throw from Cape Town harbour, it would be easy. Our installation started in the month of December 2016.

Besides contending with the traditional December holidays and shut-downs of many building operations over this time, we had to work between the tourist arrivals and departures, making the off-loading and moving of such heavy and large machines rather difficult. The KTA38



weighs 8,5 tons and the QSX15G8 tips the scales at 4,5 tons. The 1000 kVA machine was heavier than the lifting capacity of the cranes on the island necessitating stripping the generator down, shipping in parts in relays and rebuilding the unit on site.

We had booked the Blouberg ferry to transport our equipment over to the island on the 13th December but somehow the ferry was double booked and the next booking date was a week and a half later. Cummins Southern Africa Power Generation Director Kenny Gaynor says that the successful conclusion of this project once again highlights Cummins capabilities to execute on challenging and demanding projects.

Luckily the facilities managers had some influence with the powers that be and Ulrich Pearce was able to twist some arms and got us on the next ferry the 15th of December which was the day before the long weekend. On arrival on the island, we found that the staff were leaving early and we could not off load the cargo vessel until the following Monday, so the gensets remained as cargo over a leisurely weekend.

Installation and logistical challenges

The Cummins replacement units were physically larger than the originals and extensive work was needed to modify the generating plant room to accommodate the new sets, louvers and exhaust systems.

A condition of our contract was that the installation was to have as little impact and interruption to the power supply for both inhabitants and tourists, which meant that we had to work very carefully around live bus-bars, which as one can imagine was rather hair raising!

Working on the island was challenging as the ferry for staff and contractors leaves the harbour at 0730 and we needed to be at the Robben island museum at 0830. This made for an early morning start and as the ferry back to the mainland left at 1600, working days were rather short."

The project was successfully handed over early in the new year ensuring that this iconic site has complete security of power supply, ends Kenny Gaynor.

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Getting better but still no cigar

WITH approximately 98% of Southern Africa's trade moved by sea, through the eight commercial ports (Saldanha Bay, Cape Town, Mossel Bay, Port Elizabeth, East London, Ngqura, Durban, and Richards Bay) of the country. The performance of ports regarding prices, reliability and speed of cargo handling are crucial to the competitiveness of the country's (and by extension regional) international trade.

The South African port system comprises of both multi-purpose ports (Durban, Cape Town, Port Elizabeth and East London) and specialised bulk port (Saldanha, Richards Bay and Mossel Bay) as well as a port developed predominantly for trans-shipment cargo – Ngqura. The former handle both unitised cargo in containers as well as break bulk and in some instances bulk cargoes at specialised terminals. There are universal similarities in the SA port system – due to the monopoly



of state-owned entity, Transnet National Ports Authority. It controls and manages the country's eight major ports being the dominant provider of port services, with limited private sector competition. Where private sector involvement is allowed under lease agreements, is primarily focused on repairs to the vessels in this sub-sector

As the Port Authority is the sole provider of marine services within South African ports,

port services is characterised by monopolistic practices typically high transaction costs and inefficiencies. For example, total marine and infrastructure costs (including cargo dues) for an average container vessel offloading or loading at Durban on 1 April 2010 were between 80% and 170% higher than costs at major European ports and ten times more than those charged by Taiwan's Kaohsiung port 1. Part of the reason for

these high port services costs is the funding model used by the National Ports Authority: that is the end-user pay system in order to fund infrastructure improvements. Unsurprisingly these high costs are not accompanied by high efficiencies – SA's ports have low container handling speeds and high container vessel turnaround time when compared to other international ports. For example, in 2008 the Durban container terminal achieved an average of 23 units of crane moves per hour, compared to 94 and 60 units of crane moves per hour at Antwerp and Brazil's Santos port, respectively. Durban also achieved an average vessel turnaround time of 72 hours as compared to 12 hours of Thailand's Laem Chabang port and 24 hours of the US's Long Beach port 2.

Perceived inefficiencies and high logistics costs coupled with South Africa not being on the busiest trading

Indicator	Sample	SA Ports above sample average	SA Ports at or close to the sample average	SA Ports below sample average
Container Throughput 2014 (TEU)	global			Durban, Cape Town, Ngqura, PE
TEU/terminal square metre	global		Durban	Cape Town, Ngqura, PE
TEU/metre quay	global		Durban, Ngqura	Cape Town, PE
TEU/crane/year	global	Durban, Cape Town		PE, Ngqura
Crane/berth length	global		Cape Town, PE & Durban	Ngqura
Utilization of container ports	compared to North Western European terminals 2012	Durban, Cape Town, Ngqura, PE		
Port Productivity - Container Moves per Ship Working Hour	global		Durban, Cape Town, Ngqura, PE	
Berth Productivity - Container Moves per Ship Working Hour	global			Durban, Cape Town, Ngqura, PE
Ship Turnaround time	global		Cape Town, PE	Durban
Gross Crane Moves Per Hour	global			Durban, Cape Town, Ngqura, PE
Cargo Dwell Times	Sub-Saharan Ports	Durban, Cape Town, Ngqura, PE		
Merk & Dang Efficiency score- container terminal	global			Cape Town
Merk & Dang Efficiency score- crude oil terminal	global			Durban
Merk & Dang Efficiency score - coal terminal	global			Richards Bay
Merk & Dang Efficiency score - iron ore terminal	global			Saldanha
Merk & Dang Efficiency score - grain terminal	global			East London

Information extracted from Ports Services – Industry Profile - SAMSA Centre for Policy and Regulation, and Ports Regulator - Port Benchmarking Report: SA Terminals 2015/16.

routes of the world ultimately make South Africa's goods uncompetitive in world markets and imported goods unnecessarily expensive.

The Port Benchmarking Report: SA Terminals 2015/16, looked at the performance of SA terminals against what is achieved by terminals in other parts of the world that can be considered as benchmarks as summarised as snapshot in the table:

On operational efficiency measures, South African terminals have made significant strides in reducing cargo dwell time and to a lesser extent ship

turnaround times. It is imperative that more be done to ensure that as larger vessels are cascading into South Africa's trading route, the ports and terminals are able to address the resultant challenges e.g. bottlenecks in the road and rail interface, even when performance on these improves. Targets set to measure port performance must gradu-

ally reflect both what the infrastructure is capable of as designed but they must be consistent and improved on, rather than reflect previous performance.

Information extracted from Ports Services – Industry Profile - SAMSA Centre for Policy and Regulation, and Ports Regulator - Port Benchmarking Report: SA Terminals 2015/16.

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SA Agulhas I berths in PE after three-month voyage

SOUTH Africa's first dedicated training vessel, the SA Agulhas I, docked in Port Elizabeth in early March after a three-month voyage which took 30 sea-farer cadets to Antarctica and back.

The Agulhas I was acquired by the South African Maritime Safety Authority (SAMSA) for training in support of the National Cadet Programme, which is being managed by the Port Elizabeth-based South African International Maritime Institute (SAIMI).

The training is being funded by the National Skills Fund.

The vessel sailed on 14 December 2016 from Cape Town with 30 cadets from the South African Maritime Training Academy (SAMTRA) and Marine Crew Services (MCS).

The group of seven engineering cadets, 23 deck cadets and two training officers joined the South African crew on a research voyage chartered by India's National Centre for Antarctic Research.

Her first port of call was Port Louis in Mauritius on Christmas Eve where she took on board the team of Indian scientists and five container loads of equipment.

The ship sailed south from Mauritius before heading West of Kerguelen Island and on to Antarctica and back to Mauritius carrying out operations at various scientific stations along the way.

"The fact that the Indian government was willing to entrust leading scientists and important multi-disciplinary scientific research to a South African training vessel crewed by South Africans is a tribute to the quality of our mariners and the training offered in South Africa," says Prof Malek Pourzanjani, SAIMI chief executive officer.

"The three-month cruise took the vessel and the cadets all the way down to 68 degrees south where they encountered severe weather. Both the vessel and the cadets passed with flying colours," said Sobantu Tilayi, acting chief executive officer of SAMSA.

According to Tilayi the SA Agulhas I had been chartered for three years by the Indian government for an annual scientific expedition to Antarctica.

"South Africa needs more world class maritime expertise at all levels," said Phyllis Difeo, chief operations officer of the Transnet National Ports Author-

ity (TNPA).

Ongoing collaboration between TNPA, SAMSA, SAIMI and the private sector is needed to ensure that South African mariners receive world class training, and are sought after around the globe, she added.

"The cadets have

had the opportunity to observe some of the experiments and see what the equipment looks like and how it is deployed," said senior training officer Merwyn Pieters.

One of the experiments required the laying of a 4 700 metre mooring cable at a depth of five kilometres on the

40 degrees south latitude. The main buoy is fitted with a current metre and lies 300 metres below the surface.

More than 350 cadets have been trained aboard the SA Agulhas I since 2012 when SAMSA acquired the vessel from the Department of Environmental Affairs.



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TPT's DCT implements container appointment system

A stakeholder engagement session that took place at Transnet Port

Terminal's (TPT) Durban Container Terminal (DCT) in March

2017 saw to educate and engage with the transport and mari-

time industry over the re-introduction of the container appointment

system in an effort to tackle congestion issues and improve operational performance.

The container appointment system is due to address current challenges over truck and container transactions that are currently not spread evenly over a seven day week, resulting in some days of the week being highly pressurised when compared to others. The consequence of the pressurised days is longer truck turnaround times and ultimately congestion in the surrounding roads leading to the port.

According to TPT's General Manager Operations: KZN Containers, Julani Dube, the proposed goal once having implemented the container appointment system will be to achieve a 35 minute truck turnaround time (gate-in to gate-out), with zero percent staging time. "We have done the necessary research and tracked all movements and transactions over the past year to know where the problems are and what is realistically achievable if we get the necessary buy-in from stakeholders to implement the container appointment system. Our engagement session held at DCT was to identify any additional concerns raised by transporters about the implementation of this system so we could factor these in and ensure a smooth



TPT's General Manager Operations: KZN Containers, Julani Dube.

roll-out. We intend to go live with a pilot of the system on 1 April 2017 at DCT Pier 1," explained Dube.

The benefits to introducing the container appointment system include, a more structured operation, fluidity of the terminal/staging area, better utilisation of terminal resources for the benefit of all users, volume smoothing, improvement of safety and minimising fatigue, a stop to the ongoing allegation of bribery, minimising of industry frustration, reduction of Bayhead road congestion and saving of costs for all parties.

Stakeholders were animated in their engagement and a number of attendees voiced their concerns around lack of resources and equipment being available that would impact on the success of the container appointment system. Management from TPT reassured stakeholders that the engagement sessions were vital to ensuring

that all issues raised were taken into consideration so that all parties could create a workable and viable solution going forward. A further follow-up session was to be scheduled with TPT management and stakeholders ahead of the pilot being launched.

Ten years ago Transnet Port Terminals' Durban Container Terminal (DCT) Pier 1, a combination multipurpose terminal previously known as "New Pier", began operations. Over the past 10 years, DCT Pier 1 has built up a reputation of being an industry leader with significant improvements seen in both gross crane moves per hour (GCH), grown from 20 to 28, ship working hour (SWH) (increased from 10 to 53) as well as the caliber of clients serviced, which in previous years has included China Shipping, CMA-CGM, Maruba Shipping, MSC, MOL, NYK, K-Line, Zim line and Safmarine.

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Maputo Port Channel Dredge complete

THE dredging of the access channel to the port of Maputo from 11 to up 14.4 metres (Chart da-

tum) has been completed. The official completion was highlighted at a ceremony held earlier this year at the Port of Maputo with the presence of the Minister of Transport and Communications, Eng. Carlos Alberto Mesquita.

"Those three additional metres allow us today to affirm, with pride, that we are a port prepared to receive capesize ships", said Osório Lucas, CEO at Maputo Port Development Company (MPDC). "Until very recently, these same ships had to make double stops, one in our port and another in another port of the region, or even be diverted to neighbouring ports.", he added.

Osório Lucas, Executive Director of the MPDC, said during the ceremony that marked the completion of the channel dredging that the idea behind the investments was to transform the port of Maputo "not into an alternative port but into a port of choice."

"The additional three-metre depth of the ac-

cess channel allows us to say that Maputo now has a port prepared to receive larger ships," said Lucas, who added that a ship with a draft of 12.9 metres left the port last week without having to wait for the tide, which could not happen before.

The deepening dredging of the Maputo Port channel, awarded to international company Jan de Nul Dredging Middle East FZE, started in May and was completed in late December 2016, almost three months before the deadline. With three dredgers in operation, and a series of other equipment, it removed about 14.5 million cubic metres of sediment and rock material. The total cost of the work was US\$84.1 million, obtained through loans from Banco Comercial e de Investimentos (BCI) and Standard Bank and the MPDC's own funds.

Rehabilitation of quays 6, 7 and 8 - a project developed alongside dredging to provide deep water berths - is currently under evaluation and is due to happen in 2017.

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Russia to be world's largest LNG producer

RUSSIAN President Vladimir Putin says the country is set to become the world's largest producer of LNG as the world's first ice-breaking LNG carrier calls at Sabetta port in Yamal.

The PAO Sovcomflot (SCF Group) vessel Christophe de Margerie successfully berthed at the gas terminal in Sabetta Port in the Russian Arctic on Thursday.

"If we continue working this way and at the same pace, which is even somewhat surprising for me, frankly speaking, then Russia

will be, not just capable, but will undoubtedly become the world's largest producer of liquefied natural gas," President Putin said in an address via a video conference link.

"We have all grounds to believe so, to think so, and to deliver such a result."

The ceremony was attended by Maxim Sokolov, Russia's Minister of Transport, Alexey Texler, First deputy Minister of Energy, Li Fanzhun, Deputy Head State Energy Administration People's Re-



public of China, Leonid Mikhelson, chairman & ceo of Novatek, Patrick Pouyanné, chairman & ceo of Total, and Sergey Frank, president & ceo of SCF Group.

Setting out the po-

tential of Yamal LNG Novatek's Mikhelson stated: "This region is the richest location in terms of its reserves. It is possible to produce more than 70m tonnes of LNG and create a

hub with a more than a 15% share in the world market in terms of its cost here. The new infrastructure will help implement this goal in the shortest possible time."

President Putin added: "The arrival of this new tanker, designed for Arctic conditions, is a big event in Arctic development, as is the construction of the port of Sabetta, where the tanker docked today. The port was built entirely from scratch.

"I should like to draw your attention to the

fact that in developing the Arctic's enormous wealth, our basic principle is not to cause any harm. We realise that this region's ecosystem is very sensitive to any human interference. But I know your work in detail and I know for certain that the port, the ships that will use it, the production methods used, and the transportation system all use the most advanced technology and meet the highest environmental standards."

The Christophe de Margerie is the first of

a series of 15 Arc7 ice-class LNG carriers being built to service the Yamal LNG project.

The vessel can sail westwards on the Northern Sea Route and eastwards to Asia for six months from July to December.

During her maiden call at Sabetta Port, the vessel successfully carried out a trial passage through the purpose-built seaway canal, the most difficult part of the Ob Bay in terms of navigation.

Source: Sea Trade Maritime News

K Line faces penalty for price-fixing in South Africa



JAPANESE shipping company Kawasaki Kisen Kaisha Ltd (K Line) is facing a fine for its alleged involvement in a price-fixing cartel, according to South Africa's competition commission.

The commission said it had recommended a fine equivalent to 10 percent of K Line's local turnover.

The authority's investigation unveiled that from at least 2002 to 2013 K Line, along with Mitsui O.S.K Lines Ltd (MOL), Nippon Yusen Kabushiki Kaisha Ltd (NYK) and Wallenius Wilhelmsen Logistics AS, was involved in price fixing, market division and collusive tendering for shipping Toyota vehicles.

The vehicles were shipped from South Africa to Europe, North Africa (Mediterranean Coast) and the Caribbean Islands via Europe, West Africa, East Africa and Red Sea (Latin America).

Additionally, the commission found that K-Line, MOL, NYK and WWL agreed on the number of vessels that they were to operate on the South Africa to Europe routes at agreed intervals or frequencies.

The parties also agreed on the freight rates that they were

to charge Toyota South Africa Motors (TSAM) for the shipment of Toyota cars.

In 2015, NYK and WWL admitted to colluding on this tender and settled with the

commission. Japan's MOL was not fined as it was first to approach the commission and cooperated, according to the authority.

Source: World Maritime News

China fines foreign flagged ship for violating sulphur cap regulation

MARITIME Safety Administrations (MSAs) in Chinese Hebei Province and Tianjin Municipality have fined a foreign vessel for use of fuel with sulphur content over 0.5%, American Steamship Owners Mutual Protection and Indemnity Association (American Club) revealed.

While conducting the supervision and inspection survey of the foreign vessel that arrived at Tianjin Port, an MSA officer reportedly suspected that the vessel was using noncompliant fuel. It was not disclosed how the vessel was penalized, according to the American Club.

Sampling results showed that the sulphur content of the ship's fuel

was 0.866%, which exceeded the maximum content of 0.5% m/m.

According to the association, this is the first reported case of the usage of non-compliant fuel in China since the second and more stringent stage of control measures was implemented within the three designated emission control areas (ECAs) on January 1, 2017.

The latest control measure requires ships to use fuel with a sulphur content of no more than 0.5% during berthing at eleven key ports – excluding one hour after anchorage and one hour before departure. The ports in question are Tianjin, Qinhuangdao, Tangshan, Huanghua, Shenzhen, Guang-



zhou, Zhuhai, Shanghai, Ningbo-Zhoushan, Suzhou and Nantong.

The eleven key ports in the applicable ECAs have started to implement the latest low sulphur content control measure and local MSAs will strengthen inspections of ships berthing in port waters, the American Club said.

"Given these recently reported developments, it seems clear that the

MSAs will continue to enforce the PRC ECA regulations and requirements vigorously," the American Club pointed out.

Following the above-mentioned case, there have been at least two other foreign flagged vessels that have been penalized by MSAs for allegedly using non-compliant fuel.

Source: World Maritime News

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New lab instruments generate faster sample results



Senior laboratory technician at WearCheck, Lizzy Chabangu, operates the condition monitoring company's brand new PMA5 Pensky Martens closed cup flashpoint tester in Johannesburg recently.

LEADING condition monitoring specialists WearCheck recently invested in excess of R1.7 million in new high-tech equipment in both the transformer and fuel sections

of their Joburg-based Speciality laboratory. The Kruss K11 tensiometer, an ADU 5 distillation unit, a SVM3001 stabinger viscometer as well as the PMA 5 Pensky-Martens

closed-cup flash point tester are among the new pieces gracing the countertops in WearCheck's laboratory.

These highly accurate, sophisticated instruments - which have boosted the lab productivity by offering new tests and saving time on existing ones - have also reduced the turnaround time to generate customers' sample results.

The ADU 5, a fully-automated distillation unit which is operated by a touch screen interface, performs distillation tests according to ASTM D86. This is recognised as one of the most reliable methods to determine the boiling range

characteristics of petroleum products, and is a critical measurement of the overall performance and safety of fuels.

A given volume of sample is placed in a distillation flask and distilled according to strict guidelines as specified in the standard. The sample is heated and vapourised. This vapour is then cooled in the condenser line and the condensate is collected in a graduated cylinder. The temperature of the recovered volume of condensate is recorded precisely during the test.

The SVM3001 is a Stabinger viscometer which is capable of multiple parameter measure-

ments in a single analysis, eliminating the need for many separate tests.

The instrument can simultaneously measure kinematic viscosity according to ASTM D7042, dynamic viscosity, as well as the density according to ASTM D4052 in lubricating oils, base oils, additives and fuel oils. The sample is simply injected using a syringe and measurement is started via a touch screen panel.

The automatic PMA 5 Pensky-Martens closed-cup tester measures the flash point at the lowest temperature at which the application of an ignition source causes the vapours of a sample to ignite. This instrument is suitable for flammability applications on fuels like diesel, heating oil, kerosene as well as both biodiesel and biodiesel blended fuels. The ADU 5, SVM3001 and PMA 5 are upgrades to existing equipment operated by WearCheck. The acquisition of these instruments has boosted our service delivery by yielding highly accurate results and reducing our turnaround time which is of benefit to our customers.

Using the Kruss K11 tensiometer, the analysis of the decomposition product content of transformer oil is done in accordance with ASTM D971.

This data is key in the maintenance of transformers and in making informed decisions on whether to extend the life of the oil - a useful way to save customers money.

PetroSA paid bonuses despite 'losing' R14.5bn

THE Portfolio Committee on Energy have been briefed by PetroSA and the Board on the forensic report on the PetroSA impairment and its turnaround strategy.

The impairment by the state oil company resulted in a R14.5bn loss in the 2014/15 financial year, pertaining to Project Ikhwezi.

Committee Chairperson, Mr Fikile Majola, said in his opening remarks what is important is the development of a turnaround strategy and if there is a future in the state oil and gas company following the impairment that happened in 2014/2015.

The Committee was of the view that the matter of the R14.5bn impairment has been an agenda item for the Committee for three years and wanted the matter to be resolved.

The Committee expressed concern about the Sizwe Ntsaluba Gobodo report as to how the Board handled its findings and recommendations. Members of the Committee were of the view that poor management decisions by executives and the Board should not affect employees in a negative manner.

Some members of the Committee felt that the informa-

tion being presented before the Committee was insufficient. The Committee said it is not possible for the company to lose R14.5bn and no one is held accountable.

Briefing the Committee, the Board informed the Committee that the Group CEO and Group CFO contracts have been terminated with a settlement offer. The Vice-President of New Ventures Upstream is still within the employ of the company but in a junior position. The Committee said it failed to understand how someone who had been found guilty is still within the organisation.

The Committee raised concern about the number of people at an executive level who are acting. Members said this weakens the governance structures of the organisation.

The Committee reiterated that Board members with the requisite skills need to be appointed so as to provide proper oversight to the executive.

The Committee raised a concern about the payment of bonuses to executives as reported in the Sunday newspapers. Members of the Committee said the company continues to make losses and people are being paid performance bonuses in a company that has indicated a further R1.1bn impairment.

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Energas design and supply fuel gas receiving package for Kpone in Ghana

A new power plant, Kpone Independent Power Plant (KIPP) in Tema, Ghana, will be independently owned by Cenpower Generation Company Limited (Cenpower) to provide safe, secure and reliable electricity supply to Ghana.

The power plant will comprise a multi-shaft combined cycle configuration comprising two gas turbines, two heat recovery steam generators and a single steam turbine, and it will have a nominal installed capacity of approximately 350 MW. Power generated by the plant will be supplied directly to the Electricity Company of Ghana (ECG), the main distribution utility through the Ghanaian grid.

Energas' scope in design and supply of fuel gas receiving package

HP van Huyssteen, Energas Technologies Project Engineer comments, "Energas'



The plant has been designed to be fuelled by any one of three fuel sources, that is, natural gas, distillate fuel or light crude oil.

scope was to provide temperature and pressure controlled gas to the power plant. The incoming gas will be filtered to remove any droplets and particles larger than one micron before the gas is passed through a sophisticated gas meter. The gas is thereafter heated in a waterbath heater that uses a fraction of the piped gas as a fuel source before

the pressure is reduced to within the limits as required by the power plant's gas turbines. Pressure control is achieved by using fast acting precise dual regulators. It is imperative that the gas is maintained above its dew point to avoid serious damage to the gas turbines. A unique aspect of the entire fuel gas receiving package, is that it is built on skids

(including the waterbath heaters) to facilitate and shorten installation time on site and a dual run layout provides the required redundancy."

One of the challenges Energas experienced was to fit the entire fuel gas station into a tight area and to design the station in such a manner that site installation can proceed as smooth as

possible. Dimensions had to be tightly controlled, as skids made in South Africa and Germany has to fit precisely after installation. Energas' fuel gas receiving package was delivered at the port of export at the end of November 2016. The work involved piping, structural, mechanical, process, electrical and software engineers and was successfully delivered by the required contractual delivery date, and within budget.

Energas has been supplying equipment for metering and pressure reduction stations since 2001.

"With experienced

consultants and reputable suppliers, Energas had the capability to deliver the entire project scope. It is imperative that the Energas portion of the plant operates very reliably, without much operator intervention due to the large distance that the plant is situated from South Africa. It is critical that these types of stations operate safely and successfully due to the potential hazards involved in the handling of high pressure flammable gas," Huyssteen concludes.

Factors including rapid economic growth, the expansion of the electricity supply network and the

initiative and encouragement of the Ghanaian Government to develop industries and services, contributed towards opening the door for the private sector to participate in the building of new power plants, such as the KIPP in Tema. The power plant is due for completion in 2017 and will provide permanent employment to the operating personnel.

Energas Technologies has been a leading supplier of high-end and specialised equipment to the oil and gas industries in Southern Africa since 2001 and is the distributor for Mokveld in South Africa.

Transfer pumps for hazardous and viscous chemicals

FILTRATION and Dosing are the importers and distributors of the ScopeNEXT Ltd (UK) range of manually operated liquid transfer pumps. These pumps are ideal for the safe handling and transfer of hazardous and viscous chemicals from IBC (flow bin), 200 litre and 25 litre containers. They are manufactured from food grade polypropylene and polyethylene and therefore are suitable for a wide range of liquid chemicals.

They are especially useful in the decanting of small measured volumes of chemicals which normally is dif-



ficult to manage.

As an example, it is quite easy to measure off a 200ml volume of (say) hydrochloric acid or caustic lye using the pump without spillage or wastage. This cannot be accomplished with

the typical electrically driven transfer pumps and therefore should not be considered to be a substitute either way.

Filtration and Dosing was established in 1991 as a supplier, designer, manufac-

turer and installer of a wide range of chemical dosing processes especially for those relating to water.

Typical applications and projects include:

- Effluent treatment
- De-ionisation and water softening
- Cooling tower and boiler water treatment equipment
- Conductivity and pH control and dosing
- Chemical dilution and dispensing
- Liquid chemical transfer and batching

Oil & Gas Africa

OIL & Gas Africa is the continent's sole engineering supply chain exhibition, dedicated to midstream and downstream activities. It takes place from 11-13 July 2017 in Cape Town, South Africa at

the city's international conference centre. Oil & Gas Africa offers access to key decision makers in the oil and gas sectors and is an ideal way to tap into this growing African market, expand business

and meet clients who are on the lookout for new products, technologies and information.

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Oil and gas discoveries dry up



COMPANIES are putting a brake on exploration and large fields are harder to find. Discoveries of new oil and gas fields have dropped to a fresh 60-year low, as companies put a brake on exploration and large fields have become harder to find.

There were only 174 oil and gas discoveries worldwide last year, compared with an average of 400-500 a year up until 2013, according to IHS Markit, the research group. The slowdown in exploration success shows that the world is likely to become increasingly

reliant on "unconventional" resources such as US shale oil and gas to meet demand for energy in future decades.

The typical time from discovery to production is five to seven years, so a shortfall in oil and gas discoveries now implies tighter supplies in the next decade. However, there are signs of a tentative upturn in conventional exploration this year, with some companies including Statoil of Norway planning to step up drilling activity.

Discoveries hit a six-decade low in 2015, and then dropped

again last year to about 8.2bn barrels equivalent of oil and gas. The slowdown reflects both the cyclical cuts in exploration made by companies struggling to stay afloat after the drop in oil and gas prices since 2014, and the structural shift in the industry towards onshore shale and similar reserves, especially in North America.

Most frontier exploration is now offshore, where a single well can cost \$150m, and the success rate for "wildcat" wells has been about one in five. Spending on exploration fell from \$100bn in

2014 to \$40bn last year, according to Wood Mackenzie, a research company. Chevron of the US cut its exploration budget from \$3bn in 2015 to \$1bn a year in 2016-17, and ConocoPhillips is pulling out of deep water exploration altogether.

The discoveries of new fields compare to 190bn barrels equivalent of oil and gas that have been added to the estimated resource base of North America over the past 10 years, thanks to advances in technology that have made production possible from shale and other similarly challenging "tight" rocks. A shale well onshore can cost \$4m-\$10m and be brought into production in weeks, as opposed to five or more years for deepwater discoveries, Bob Fryklund of IHS Markit said: "We're solving the problem through tight rocks." However, Wood Mackenzie expects a modest upturn in exploration activity this year, forecasting that more than 500 wells will be drilled globally in 2017, compared with 430 in 2016.

Source: *Financial Times*

New CNG plant opens

NOVO Energy, a leading Compressed Natural Gas (CNG) Company in South Africa has recently commissioned a new Natural Gas Compression Station in Kew, Johannesburg. The new CNG facility uses pipeline gas from Egoli Gas's network, compresses, and fills purpose built vessels (CNG gas packs) at high pressure. The CNG gas packs are then transported to various customers as an alternative fuel. This provides gas to areas usually outside the normal pipeline infrastructure. CNG is also a cheaper alternative to petrol. The local taxi industry and other modes of public transport including buses, have successfully converted a number of their fleet to CNG. NOVO Energy's Kew facility also serves as a filling station and is well positioned to meet this demand.

Customer requirements

A gas fired power generation plant was required to supplement a limited mains power supply. Being a CNG production plant, a majority of the load at NOVO Energy's Kew facility are large high

pressure gas compressors with Thyristor controlled soft starters. NOVO Energy's requirements were therefore a purpose designed internal combustion engine driven generator plant sized and configured to start and continuously run the compressor station in Island mode. The power generation plant was also required to synchronise, run parallel to and supplement normal grid power for additional compressor units.

Solution

After lengthy consultations, G.A.Solutions obtained a full understanding of each of the compressor drive's start up characteristics and profiles. It was established that even with the thyristor controlled soft starts, the power generation plant output requirement was significantly higher than the static load demand.


This together with the requirement for continuous power, challenged best practice of running an internal combustion engine as close to rated power output as possible.

In order to overcome running an oversized power genera-

tion plant at reduced capacity, two different size generator sets were provided. The larger of which was a Perkins 4006 unit. Both generator sets run in parallel during start-up of NOVO Energy's compressor plant after which load is gradually transferred to the larger unit before shutting down the smaller set. This allows the larger Perkins powered generator to absorb more load and run as close to rated power output as possible.

Outcome


This unique, dual power generation system has provided NOVO Energy with an efficient and cost effective solution, incorporating proven Perkins gas fired engine technology, locally engineered, built and supported by G.A.Solutions. G.A.Solutions, based in Johannesburg, is fully supported by Mayphil (UK), an authorised Perkins Gas Partner. Service and support (24/7) are afforded to NOVO on all gas projects being undertaken. New projects on Biogas and Syngas are being discussed with major clients in Southern Africa and West Africa.



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New optimax™ injector offers superior mixing - increases yield

NOW there is a better option for torch oil, slurry backflush, quench, and other similar injection operations – the OptiMax injector from Spraying Systems Co. The OptiMax injector is specially designed to produce a uniform spray pattern for quick vaporization. The OptiMax injector mixes steam with the oil using a unique, patented atomization process. This process ensures thorough mix-

ing of the steam and oil prior to injection. The mixed fluid that exits the injector consists of small drops in a uniform spray pattern.

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Spraying Systems Co. is global leader in spray technology. It has the broadest product range in the industry, ten manufacturing facilities and sales offices in more than 85 countries. Spray Nozzles, turnkey Spray Systems, custom fabrication and research/testing services comprise the 76-year-old company's offering.



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John Thompson awarded CE quality marking for steam generator for EU customer

TOWARDS the end of 2016 John Thompson was contracted by a European-based company to supply a 12 t/h 14 bar(g) steam generator – complete with CE marking, the European Union (EU) quality approval stamp – to their processing plant in Ghana.

CE (European Conformity) marking is a mandatory conformity marking for some products sold within the EU. Jacques Matolla Engineering Manager - Package Boilers at John Thompson explains the procedures.

The European Pressure Equipment Directive (PED) 2014/68/EU is a set of jurisdictional rules and regulations which aim to eliminate or mitigate the potential dangers and risks associated with pressure equipment with a maximum allowable pressure greater than 0,5 bar(g). This is achieved by mandating that manufacturers, suppliers and importers of pressure equipment for use in the EU adhere to the regulations, essential safety requirements (ESR's), hazard categorisation and conformity assessment modules set forth in the PED.

Compliance with all applicable requirements bestows on the manufacturer the right to affix the CE marking to the pressure equipment.

The following steps were taken to meet the customer's requirements.

Step 1: Perform a risk assessment

The first step a manufacturer has to perform to meet the requirements of PED 2014/68/EU is to conduct a risk assessment of the pressure equipment in question. This process aims to identify and analyse potential hazards as a result of the equipment pressure, design and build. A typical risk assessment for a John Thompson steam generator includes consideration of the potential loadings, the mode of operation, the possible failure modes and any foreseeable misuse.

Step 2: Demonstrate solutions adopted to comply with the ESR's

In addition to identifying and analysing the risks, John Thompson had to illustrate that design solutions had been adopted in order to eliminate or reduce the hazards, show that appropriate protection measures had been implemented against the hazards and that users were informed of all residual hazards.

This was achieved by tabulating the adopted solutions against the ESR's as listed in the PED. The ESR's John Thompson had to comply with included design, manufacturing, materials, pressure equipment requirements for fired equipment, piping and quantitative require-

ments for certain pressure equipment.

In order to adhere to the ESR's, John Thompson made use of harmonised European health and safety standards EN 12953, EN 13445 and EN 13480.

Step 3: Determine the product hazard/risk category

The next step was to determine the risk category of the steam generator in accordance with the PED. To achieve this, the following parameters needed to be known or determined:

- The nature of the fluid i.e. gas or liquid.
- The hazard group of the fluid, which could be either Group 1 or Group 2. Group 1 is used for fluids which are classified as dangerous, whilst Group 2 is used for all others. In terms of PED 2014/68/EU steam is classified under Group 2.
- Steam generator design pressure and volume.

The steam generator hazard/risk category was found to be Category IV pressure equipment.

Step 4: Select the appropriate conformity assessment module

The knowledge gained in Step 3 was used in Step 4, which was to determine the applicable conformity assessment

module in order to establish the scope of the Notified Body involvement and the level of technical documentation required.

John Thompson selected conformity assessment Module G for its steam generator from among the Category IV conformity assessment modules listed in the PED.

Module G tasks the Notified Body with the following responsibilities:

- Examine design and construction of each item of the pressure equipment,
- Examine technical documentation with respect to design and manufacturing procedures,
- Assess materials,
- Verify material manufacturers certificates,
- Approve procedures for permanent joining of parts,
- Verify joining and NDE personnel are qualified or approved,
- Perform appropriate

tests during manufacture,

- Perform final inspection and proof tests as per ESR's,
- Examine safety devices
- Ensure identification number is affixed to pressure equipment,
- Draw up a certificate of compliance for tests carried out.

In accordance with the requirements of Module G, the following technical documentation was supplied by John Thompson to the Notified Body for approval and verification:

- Record/results of the analysis and assessment of risks (manufacturer).
- General description of the product.
- Product general assembly drawings, component drawings, equipment lists and P&ID's
- Details of design codes or standards applied.
- Evidence of compli-

ance with materials specifications of the PED.

- EC or EU Declarations of Conformity for all purchased items of pressure equipment.
- Results of tests and inspections during manufacture.
- Evidence of qualification of permanent joining personnel.
- Evidence of qualification of permanent joining procedures.
- Evidence of qualification of NDE personnel.
- NDE test reports.
- Inspection documentation for base materials, consumables and bolting.
- Procedures for assuring material traceability.
- Reports of defects/deviations arising from manufacture, including concessions.
- Details of manufacturer's quality management system certification.
- Information on items

sub-contracted and what controls are in place.

- Any other additional supporting documentation.
- Operating and maintenance instructions, including relevant safety information.

Step 5: CE marking and EU declaration of conformity

Upon completion of all design, manufacturing, inspection and testing procedures, and after verification of conformity, John Thompson could issue an EU declaration of conformity with PED 2014/68/EU and affix the CE marking to the steam generator.

The CE marking ensures that the steam generator has freedom of movement within the EU. The EU declaration of conformity must comply with the PED and be approved by the Notified Body.

The award of the CE marking opens up a wide range of opportunities for John Thompson in the export market.

Pico Technology launches updated PICOSCOPE 9300

PICO Technologies, represented locally by Comtest, has completed the update on the PicoScope 9300 Series. The PicoScope 9301 and PicoScope 9341 have received a bandwidth upgrade from 20 GHz to 25 GHz – highly significant because 25GHz bandwidth allows five harmonic capture of data rates up to 10Gbit/s. With serial data streams up to 10Gbits/s now commonplace, standards such as HDMI 2.0, PCIe Gen2 and Gen3, GBit Ethernet and USB 3.1 Gen1 and Gen2, to name but a few, all have transmission lines, cables, components, transmitters and receivers which all need pre-compliance testing and characterisation.

Is 25 GHz bandwidth is expensive?

Engineers need to constantly test and validate their designs before compliance testing. For most companies, owning a real-time



scope with 25GHz bandwidth is unrealistic (upwards of R2 600 000) so long-term renting is often the only way forward but that could be +R195 000, per month. Users can now own the 25 GHz scope on the bench and have it in use every day, for the equivalent of one month's rent of a 25 GHz real time scope. This represents the best bandwidth vs price performance currently available to market.

Intuitive touch-optimised software

All PicoScope 9300 and 9300-25 sampling oscilloscopes use PicoSample 3 software. The latest

releases, PicoSample 3.25, includes masks for USB 2.0 and USB 3.1 Gen1 and Gen2, and the user interface has been optimised (use with a mouse or a touch screen PC or laptop).

High performance microwave and Gigabit probes

No oscilloscope measurement system is complete without a set of high performance probes, and Pico Technology now offer a full range of highly cost effective microwave and gigabit probes, ideally suited to low-invasive in system probing of analogue, pulse, impulse and high speed serial data streams.

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Bosch innovation at ISH Energy 2017 in Frankfurt

RECENTLY at ISH Energy, the world's leading trade fair for sanitary, building, energy, air conditioning technology and renewable energies, Bosch Industrial presented the largest product of its portfolio: The double-flame tube boiler has an impressive height of six metres. It reaches an output of up to 55,000 kilograms of steam per hour, and weighs up to 120 tons. Due to its constant efficiency in all operating points, this steam boiler is especially used by energy suppliers and large industrial companies.

For smaller output ranges, Bosch presented several innovations at the ISH Energy including the compressed air and heat system (CA).

While conventional compressors are driven by electric motors and need expensive electric power, the CA generates the compressed air with a biogas or natural gas motor in a more cost-effective and environmentally friendly way. In addition, the free waste heat of the motor and the compressor can be used in the heating circuit.

Controls and connectivity

Another major topic at the Bosch trade fair stand was the new high-tech controls for professional solutions, used in industrial boilers and combined heat and power plants (CHP). Here, Bosch presented the Control 8000, an innovative



Largest boiler from Bosch is a highlight at the trade fair - Energy efficiency and connectivity for all output ranges.

control device for heating boilers with intuitive touch control and large colour display. With this control device, advanced technology from the industrial sector enters the market of heat technology at an appealing price-performance ratio. A

wide variety of components can easily be integrated in a modular way. At the same time the latest standards of connectivity are used. The remote maintenance system MEC Remote is available for the new device Control 8000 and also for

all other Bosch boiler and CHP controls. Whether state-of-the-art control technology protocols, local networks, internet-based, wired or wireless – MEC Remote from Bosch provides a safe and comfortable access via internet

connected devices.

In the past, this service offered access for the Bosch service experts only. But now with MEC Remote also operators can conveniently access their boiler or CHP controls from a distance. Furthermore, operators are informed automatically about important status reports via email or text message. A certified safety concept protects against unauthorised access.

Energy efficiency in focus

With the slogan "Our efficiency is your profit", Bosch highlighted the topic of saving energy costs with interactive multimedia simulators. At different points on the stand, operators could con-

figure their individual plant. By using their specific load profile and energy prices, they could precisely calculate which technical measures are profitable and which are not. Operators of older plants received individual information: Would it make sense to switch from oil to gas or to retrofit heat recovery measures? And if so, how soon will this pay off?

Experience virtual boiler houses

An innovative highlight at the stand was the 360-degree virtual reality station. Visitors virtually experienced in detail, real boiler houses with their individual modules and components – just as if you were really on site!

New Selas SuperFlame™ Low NOx High Velocity Burner introduced

SELAS Heat Technology has introduced the a new SuperFlame High Velocity Burner range with seven available models in capacities ranging from 150,000 BTU/h to 2 MM BTU/h, cater for process temperatures up to 1371°C.

The burner's outer tube is made of advanced silicon carbide and the inner firing tube is made of stainless steel alloy for long life in extremely hot conditions. The burner incorporates two-stage combustion for low NOx efficiency. Specifically designed nozzles provide cool NOx-inhibiting first stage combustion. Final combustion occurs in the second stage area where combustion products exit at veloci-



ties of over 122m/s.

Selas high velocity burners produce heat in dense loads that circulate the furnace atmosphere for thorough heat distribution enabling faster production throughput. Superflame burners function well with

ambient or preheated combustion air up to 371°C. Durable, light weight SiC firing tubes are self-supporting, eliminating the need for costly and difficult to maintain in-furnace support systems.

The burners are ideal for installation in either brick or fibre wall furnaces, and are easily mounted to the furnace with only four bolts. Common applications include annealing furnaces, sintering furnaces, rotary forge furnaces, tundish preheaters, nonferrous melting furnaces and kilns.

Selas is known as a pioneer and leader among heat technology manufacturers with a combustion heritage of 120 years. It serves the industrial thermal processing industry with a comprehensive range of innovative and reliable gas burners, combustion systems and thermal components to support many different industries.

New IMO sulphur emission guidelines adopted – fines for non-compliance

SAACKE assists shipping companies and owners in the future-proof conversion of their ships

At the end of October 2016, the International Maritime Organization (IMO) agreed on new global regulations for sulphur emissions from 2020. What appears at first sight to be a long way off becomes on closer examination a race against time. Because with conversion projects taking around 18 months, as well as the limited capacity of the few providers in the market, it quickly becomes clear that action is required! If companies wait too long, they run the risk of high fines.

The permissible figure for SOX content in fuel emissions is falling worldwide from the current 3.5 percent to 0.5 percent, according to the latest IMO resolution. At the same time, guidelines were passed for construction of new ships operating in the Emission Control Areas (ECAs) in the North Sea and the Baltic. From 1 January 2021, these will have to reduce their nitrogen oxide emissions (NOX) by 75 percent compared with the current figure. "For new-builds and existing ships there are in principle 3 possible ways to meet the new IMO guidelines: By means of exhaust gas scrubbing, by using marine gas oil or by converting to LNG," says Andreas von Minden, Sales Director Exhaust Gas Cleaning Systems at SAACKE.



Exhaust gas scrubbing is the economical alternative. In the case of new-builds, LNG power or dual fuel are playing an ever-larger role. SAACKE also offers combustion solutions for these processes. However, the basic principle applies that gas-based propulsion systems are expensive, and the fuel is subject to significant price fluctuations. In addition, many ports around the world lack the necessary infrastructure to bunker fuel gas. As a result of the price difference from heavy fuel oil, the use of marine gas oil (MGO) leads to higher operating costs and conversion to dual fuel is a complex challenge. In many cases the SAACKE EGCS-HM scrubber is a more efficient as well as sustainable alternative for the maritime industry. This exhaust gas cleaning system guarantees the continued use of heavy fuel oil while reliably complying

with the required emissions values and offering a cost-saving mode of operation.

Certified complete system with short amortization times Up to 99 percent of the sulphur particles in the exhaust gas are filtered by using a water cascade. The EGCS scrubber is available in various capacities and as an open or hybrid water cycle. Its short amortization time makes it attractive for new-builds and retrofits alike. The scrubber system was officially certified by the classification society DNV-GL. For two years now the Carl Büttner GmbH & Co. KG shipping line has been operating a SAACKE scrubber on the tanker MT Levana (PDF). "With a current price difference of around \$150 per ton between heavy fuel oil and MGO, the investment in a scrubber is amortized in a short time. Shipping companies can make a profit within two years," stresses von Minden.

Efficient project management by SAACKE "Whether LNG, MGO or scrubber, whichever method ship owners and operators choose, we support them right from the start with our know-how and our years of experience," says Andreas von Minden. An initial estimate of the cost savings can be produced at the first meeting, thanks to the SAACKE EGCS configurator. The tool uses the input ship and operating data to calculate details concerning the system design, such as the dimensions and number of components or the size of the pump system. SAACKE also undertakes all further stages in close collaboration with the customer – from design through project management to commissioning, maintenance and training. "The entire project period usually amounts to 18 months. For that reason shipping companies should act now to secure a slot for conversion by 2020," says von Minden.

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First aid and OHSAct training to be presented at A-Osh Expo 2017

WITH a focus on improving visitor experience at A-OSH EXPO – Africa’s largest occupational health and safety (OHS) exhibition – show organisers Specialised Exhibitions have partnered with TrainingTech to provide a one-and-a-half day First Aid training session and a half-day OHSAct familiarisation training session.

Presented by a certified national trainer, the programmes have been designed to provide condensed and relevant information in easy-to-digest content.

The First Aid training course runs from 08:00 to 16:00 on 30 May and from 08:00 to 12:00 on 31 May at Gallagher Convention Centre. Targeted at all occupational health and safety OHS employees, this course provides comprehensive coverage of the following elements:

- Emergency scene management

- Primary survey
- Secondary survey
- SAMPLE history
- Anatomy & physiology
- First aid procedures
- CPR
- Abdominal Thrust
- Recovery Position.

From 13:00 to 17:00 on 31 May, Training-Tech will present a course entitled ‘What is the function of the Occupational Health and Safety Act?’ This course centres on the requirements of adequate health and safety provision for employees in terms of the use of plant and machinery; the protection of visitors and other third parties at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for related matters.

The course content provides risk and OHS managers with a solid grounding in the application of the Act and covers:

- What are health and safety representatives?
- Functions of health and safety representatives
- What may & should a health and safety representative do?
- What is a health and safety committee?
- What are the functions of a health and safety committee?
- What are the employer and employee duties?

All attendees will receive a certificate of accreditation and a training manual that contains the training slides and other useful information relating to the topics.

TDS Projects Construction sets a new benchmark for on-site safety

TDS Projects Construction has reached another major milestone in its health and safety record, building on previous benchmarks to have now reached a total 16 808 injury free shifts (and counting). This impressive figure was achieved through a combination of cultivating a risk competent culture and total commitment to safety by staff at every level within the company.

The achievement of ‘excellence in safety’ is a goal for most organizations working within or closely to the mining industry and it is translated in a variety of ways into mission statements, programs or internal policies. Often though, deployment of these is done without full integration or a long term vision. If not properly implemented, this effort mostly results in short bursts of success, and unpredictable failures.

According to TDS Operations Director and person in charge of safety procedures, Willie Pieters, the firm has made achieving excellence in safety part of their sustainable business processes, manifested in a culture that has been fully embraced by all TDS staff. This was achieved, he says, by recognising and understanding the risk factors that arise from the nature of the industry in which TDS operates. “We do this by understanding our environment and industry. Our team consists of engineers with extensive experience in the mining and construction sectors. We value the health and safety of our people and their families. Being a medium size company, it is imperative that management and staff work together towards the same goal and have the same objectives.”

Pieters explains that TDS has been working on the cultivation of a risk competent culture since its inception. TDS was founded in early 2011 and its first



project was the installation of bulkheads, transfer chutes, and conveyor belts at Cullinan Mine. Its second contract was at Eland Mine where the TDS team installed bulkheads, conveyor belts, a transfer chute, side tips, and pipes in the underground sections and on the surface while the mine was at full production.

“The conveyors and bulkheads had to be installed under a very tight schedule to keep up with the production profile. Some of the areas were over excavated and, at times, flooded. Transporting material to the underground areas was a massive challenge and the installation and rigging constituted a high risk for our staff. With a safety conscious mind-set and positive attitude, the TDS team performed well and over two and half years achieved a total of 82 806 Lost Time Injury (LTI) free shifts before the first incident in June 2013 occurred,” Pieters recalls. During this period, TDS installed 570 tons and casted 525m³ of concrete and installed 3.5 km of various sizes of piping and all the mechanical items associated with the conveyors, bulkheads and tips.

After reaching this first remarkable safety milestone, TDS was awarded a contract at Finsch Diamond Mine for the construction of conveyor belts,

bulkheads, an Osborn crusher, apron feeders, and ore-pass tips with rock breakers in August 2014. The bulkhead and Osborn crusher with apron feeders were installed at a 12 metre high excavation, with the bulkhead weighing a total of 122 tons. “The safe and timely installation of this magnitude was a challenge with the size of bulkhead underneath a 5.1 metre diameter ore-pass which in itself posed a very high risk task. The completed project represents a business milestone for TDS but also a safety milestone as well. We experienced two minor Lost Time Injuries since this project at Finsch and since then we have achieved a total of 16 808 injury free shifts,” Pieters says.

Fully entrenching a risk competent culture is a process that takes time, says Corrie Coetzee, TDS Commercial Director. “For a company to achieve a significant safety record there must be recognition and understanding of the risks, a motivation to take action and rigorous systems that control the variable and unique risks that differ from project to project.” TDS has developed a competency in managing risks from project to project by putting measures in place to ensure worker safety and risk mitigation.

“By knowing, understanding and apply-

ing the Mines Health and Safety act and the Occupational Health and Safety act in our work environment we ensure the safety of our employees. With our solutions driven management style and by applying our experience we also able go the extra mile to implement additional preventative measures,” Coetzee explains.

TDS’s management team monitors compliance on a regular basis and works with the company’s trained and experienced Safety Officers to implement sound safety practices, inspections and follow ups, recording keeping and reporting. These practices extend to TDS’s clients as well. All clients have to adhere to the Mines Health and Safety act, and/or the Occupational Health and Safety act. “Employing a contractor working with unsafe habits is a risk to them whereas employing a firm with a sound safety record provides peace of mind,” Pieters says.

“We have built a competent team over the years and value their health and the health of their family members. We know that we can only achieve good safety and production results with a healthy team at work every day. For this reason, the TDS team is totally committed to safety at all times, on every site,” Pieters concludes.

Nice place to work

THEY’VE been hiding their light under a bushel but just recently, and somewhat quietly, Sparks & Ellis let it slip that their staff stay with the company for an average of 18 years. This must put Sparks & Ellis high on the charts of long service and loyalty, particularly in today’s world when everything moves so fast. While the company may be the oldest uniform supplier in the country, Sparks is also right up there with the latest

fabric technology, innovative systems, and contemporary management style.

Not only a nice place to work but an empowering one too because Spark & Ellis has invested over R225 000 in its people training in the last financial year and given 18 of its staff the chance to broaden their learning and develop their skills through two courses: Admin/Management Course (NQF Level 4 Learnership); and the Warehouse Course (Skills Course). Through its training programmes, many staff have been given a leg up to middle management. Sparks & Ellis is a Level 2 BBEEE company owned by The Cape Union Mart Group.

Attitude seems to be the common denominator here. Colleagues with a disgruntled attitude in the work place affect the people around them and this, in turn, makes for an unhappy “home”. Sparks & Ellis CEO, Sue de Wet says “And,

as we spend at least 40 hours per week at work, we believe it’s important to make those hours as enjoyable and fulfilling as possible. All our employees are treated with respect and are also given opportunities to upskill themselves at the company’s expense. We also help them with travel assistance if they cannot get to their classes or arrange for the classes to be given in the office. We do what we can to help.” Sue de Wet herself has been with the company in excess of 40 years, so perhaps it could be said that she’s setting a good example in every way.

Sparks & Ellis is one of South Africa’s leading uniform suppliers and manufacturers. It specialises in complete uniform solutions and offers clients a head-to-toe service. Developing technologically advanced products, Sparks & Ellis offers uniforms and equipment for security, traffic, fire and rescue, ambulance, law enforcement, and corporate clients.

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Phunga Holdings eyes infrastructure and LNG opportunities in the Western Cape

MULTI-disciplinary engineering consulting group Phunga Holdings is broadening its national footprint with the opening of an office in Century City, Cape Town to serve the public and private sector with a comprehensive range of engineering consulting and construction engineering services, with a focus on the fledgling

LNG to Power industry. Phunga Holdings is a 100% black owned and operated enterprise established in 2012 and managed by a young dynamic leadership team from its headquarters in Irene, Centurion.

Through strategic partnerships with international expert engineering firms principally from the USA, Europe,

Russia and the Philippines it brings state of the art technology to South Africa and is the local experts for the provision of consulting services on LNG and nuclear projects.

Heading up the new Western Cape operation is Phunga Holdings Business Development Executive Nico Bezuidenhout. Bezuiden-

hout is a certified IBM hardware Engineer with qualifications in electro-mechanical engineering and telecommunication obtained from the Tshwane University of Technology. He is an energy expert and member of the Altresco Institute for Water & Power with its headquarters in Denver Colorado.

Phunga Holding's main subsidiaries are Phunga Construction Engineers - a EME (Exempted Micro Enterprise), level 1 BEE company.

Phunga Consulting Engineers, which is a QSE (Qualifying Small Enterprise), having ISO 9001:2008 certification.

"Our focus up to now has been on the traditional engineering sectors but we have developed insight and expertise in the hydrocarbons oil and gas sectors and the LNG to Power sector" said Bezuidenhout.

"South Africa is at energy crossroads – the gov-



Sindiswa Ndungane and Nico Bezuidenhout at the new Phunga office in Century City.

ernment has mandated that 50% of our electricity production must be produced by alternatives to coal by 2050 and there is a demand for sustainable clean energy which cannot be supplied by renewable energy like wind and solar alone" explained Bezuidenhout. "The answer lies in micro grids which includes renewable energy sources together with a LNG to Power plant. The Gas to Power plant can be switched on and off to Balance the Plant load. The world has an abun-

dance of cheap Liquefied Natural Gas and South Africa should utilize these until we are in a position to explore and economically produce the indigenous gas recourses in our own back yard.

"It will still take years to produce indigenous gas in South Africa, so the answer to South Africa's energy crises lies in the import of LNG and converting it to power and clean fuels" he says.

Phunga Holdings is positioning itself to exploit the delivery of LNG by sea and developing

storage and regasification facilities on-shore. Through our partnerships with AG&P (Atlantic, Gulf and Pacific Company) from the Philippines and Altresco from the United States, it can provide the entire LNG supply chain and has the technology and manufacturing capability to built modular LNG to Power plants of any size within short delivery times.

"The agreement with AG&P enables us to execute all types of LNG and Hydrocarbons Oil/Gas projects: it further offers us Membrane Technology, which gives Phunga Holdings a massive advantage over any competitors chasing the same LNG small, mid and large scale projects. Any project that involves a FSU, FRU, FSRU, LNGC or inland storage depot, will require membrane technology, to ensure applicability to the evolving LNG technology trends" commented Bezuidenhout.

LNG to the Saldanha Bay will be by sea and it is envisaged to construct an on-shore storage and regasification facility. Natural Gas will be piped to the Ankerlig power station which is less than 100km away. A pipeline to the City of Cape Town is envisaged to enable the City to execute their Green Cape strategy.

Skills available in oil and gas sector, particularly related to LNG, is so far lacking in South Africa. "We have formed strategic partnerships with several international LNG specialists to bring that design and technical expertise – including artisan skills training – to South Africa. We aim to be in the forefront of the swing to LNG and the promotion and adoption of micro-grids" said Bezuidenhout.

"Our aim is to become the preferred engineering consulting firm to provide advisory services to the private sector and to government for executing bundled Gas to Power projects.

"With our eye on oil & gas, the Western Cape is the obvious place to commence this exciting development," he concluded.

Rand-Air docks at Saldanha Bay

LEADING compressor and generator hire company; Rand-Air recently opened a branch in Saldanha Bay as part of its strategy of making its products and services available throughout the country. The company has been in business for 44 years and has a strong presence across South Africa.

The move recognises

the opportunities presented by the steel industry and the related contractors around the sector such as marine contractors and surface finishers such as sandblasters.

"We service a niche market and we want to make our equipment more readily available where there is a need," explains Lou-

rens Erasmus, General Manager at Rand-Air.

Located in the expanding Saldanha Bay Industrial Development Zone (SBIDZ) Rand Air is ideally placed to service industries that associate with the promise of making the SBIDZ an internationally recognised and respected hub of marine engineering.



Phunga Holdings

Phunga Consulting Engineers (PCE) is a subsidiary of Phunga Holdings and an emerging consulting engineering company with 100% ownership and management by HDI. The company is headquartered in Pretoria, Centurion and also has branch offices in Eastern Cape (East London) and Western Cape (Cape Town).

Phunga Consulting Engineers is a multidisciplinary company with specialist focus in Consulting Engineering (Electrical, Mechanical, Civil and Structural Engineering); Architecture; Quantity Surveying; Immovable Asset Management and Programme/Project Management.

PCE is accredited and recognised by the professional industry associations and is in possession of the following certifications: Consulting Engineers South Africa (CESA), ISO 9001:2008 Certification, NOSA Four (4) Certification, South African Facilities Management Association (SAFMA), South African Black Technical and Allied Careers Organisation (SABTACO) and Green Building Council South Africa (GBCSA).

The company prides itself with experienced professionals whom together have over 100 years of experience in infrastructure delivery projects. Our team is a true reflection of a transformed South African society with 98% HDI participation and involvement in the day to day running of the business and 98% HDI employees.

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Voltex Expo attracts huge interest

VOLTEX hosted its inaugural Electrical Trade Expo on the 7th and 8th of March which says the firm, attracted the Western Cape's largest gathering of technical specialists, market leaders and suppliers to the electrical and energy related field. Over 50 top local and international brands were displayed and attendees had the opportunity to stroll through a world of electrifying excitement, take part in workshops and view the newest advancements and products in the energy efficiency and PV fields.

The objective of the expo was to create a one-stop-shop destination where suppliers' products could be displayed to installers and specifiers thereby creating product awareness and equipment knowledge of products and services available from Voltex.

Many new innovative products were on display such as the CBI Nanoview home electricity and water consumption management system, solar and standby energy products, as well as the brand new Le Grande switch socket range. According to

Hugh Ward, the Group Commercial Manager of Voltex SA, he was very pleased with the response from suppliers across the electrical supply field.

The solar products attracted a great amount of attention, especially the new Geysersworks solar system that integrates with current geysers that can be controlled via an app on any smartphone.

"The show was viewed as exceptional by many of our suppliers in that it was an affordable way to promote their products and services to

their target audiences. Word spread in the industry on the wide range of products that were displayed in one place, and that attracted a large audience" says Ward.

This was the first time in many years that an expo of this kind was held and with the turnout living up to expectations on the second day, the request has been made by several suppliers to replicate this type of event through other parts of South Africa.

Shawn Roets, Regional Manager of Voltex Western Cape, feels that the turnout

was extremely positive and underlined the need for such industry specific trade expos to bring together all the relevant players in the industry, from OEM's, manufacturers, distributors, engineers and installers. "Such has been the response that we are already planning the next expo" says Roets.

Voltex claims to be South Africa's largest electrical and lighting distributor and supplier of the widest range of electrical and energy efficient products, through its 17 specialist supply divisions and 58 distribu-



A representative of CABSTRUT, a specialist supply division of Voltex, explains its comprehensive range of dedicated power distribution and cable support systems.

tion outlets located throughout Southern Africa. Voltex has an inventory comprising

of more than 60 000 line items comprising well-known and international brands.

Commitment to Africa is not just about money

WHEN companies invest in Africa by setting up production facilities here, they contribute far more than just finances, buildings and equipment; they offer their host countries a shortcut into the global mainstream, opening the doors to trade and development on an unprecedented scale.

According to Louis Meiring, CEO of the Johannesburg-based Zest WEG Group, by far the most important aspects of foreign investment are the access to global operations, the transfer of technology, and the ongoing training and skills upliftment.

"WEG initiated a programme to uplift the Zest WEG Group facilities to become world class," says Meiring. "This puts our local manufacturing facilities onto an international platform so our products can be considered for international markets, including the existing WEG network of operations worldwide."

He says Zest WEG Group will also use the WEG world network as a source for enquiries, to create business opportunities and bring much-needed international business to South Africa.

"This is all perfectly feasible through technology transfer, as we have the resources to skill and train our people," he says. "Once again, however, there is more to technology transfer than just training."

While technology transfer does include the upliftment of people's ability to design or engineer products, it is also about the benefit of lessons learnt in the process of research and development (R&D).

"These lessons, which have been learnt

by the WEG Group through decades of experience, will have an immeasurable impact on our local operations, due to the high levels of R&D already conducted," says Meiring. "This technology is then transferred to the local operation without us having to incur the cost or the time to develop it."

This process includes the vital aspect of how to produce the product using best practice methodologies, such as lean manufacturing, so special skills must be transferred and developed in South African industrial facilities.

Zest WEG Group has long been an active player in skills upliftment, with a reputation for the quality of its training centre and



The genset manufacturing facility in Cape Town.

training programmes; all of which are accredited by the relevant authorities for the provision of continuous professional development (CPD) points.

"We conduct training not only for our own staff but for our customers too," Meiring says. "We see this as vital in addressing the skills void in various segments of the

electric motor sector; created during the late nineties and early 2000s when the role of artisan was not considered to be a career of choice."

He says that, as a committed partner and the leading manufacturer of electric motors worldwide, WEG has continued the training ethos long established by Zest WEG Group.

Its training interventions extend beyond South Africa to other African countries, with the training officer regularly travelling across the continent to ensure that the relevant technology is shared wherever necessary.

"As an African nation, we need to be able to access to the necessary skills sets locally, so that we become less dependent on foreign nationals to provide critical skills," says Meiring. "As a modern economy, we also need to maintain the costly capital equipment installed in many sectors of South African industry and the lack of these skills can play havoc."

He emphasised the importance of skilled and regular maintenance

to extend the life cycle of any equipment, arguing that industrial inefficiencies are, more often than not, the result of poor maintenance or no maintenance at all.

"Part of the investment in skills is to educate those who operate and oversee equipment about the critical nature of proper maintenance," says Meiring. "When this change in mindset occurs, we will know we are on the correct path to economic success."

The focus on skills is not only on the technical side of industry, but should also extend to management capacity; sound managerial skills are needed to ensure that high levels of technical ability are properly implemented

in the work process, and that productivity is maintained.

One of the most welcome benefits of economic investment is clearly the creation of jobs within the new manufacturing facilities created; it should be remembered, though, that jobs are also created indirectly.

"This is the peripheral knock-on effect of investment, which is equally as important as the direct investment in the facility and the plant and equipment," says Meiring. "To ensure that we harness the positive impact of indirect job creation, we also engage in supplier development activities to strengthen our downstream partners and provide access to the economy."

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The global market for rigid packaging adhesives set to grow

THE global market for rigid packaging adhesives was estimated to be worth \$14.7 billion in 2016. The market is expected to reach \$18.2 billion by 2021 driven by an overall compound annual growth rate (CAGR) of 4.3 per cent over the next five years, according to Smithers Apex.

Smithers Apex's new report – The Future of Adhesives for Packaging to 2021 [http://www.smithersapex.com/market-reports/the-future-of-adhesives-for-packaging-to-2021] – states that growth within the global packaging adhesives market is being fuelled by an increase in the consumption of packaged food and consumer goods, mostly in Asia, Africa and the Middle East as these markets transition to a more western-style of consuming food and other products. Expansion forecasts for Asia in the second half of the decade is less than 2011-2015 growth rates, although it is still stronger than the moderate growth that is forecast for the mature economies



of North America and Western Europe.

Although this modern way of purchasing and preparing food is well established in advanced economic regions – such as North America and Western Europe – the move towards packaged food and supermarket shopping is still evolving in many regions – such as Africa and the Middle East. This is driving the demand for packaging materials which in turn use packaging adhesives.

The largest market by

end-use applications is food, which continues to grow due to lifestyle and demographic changes. The largest segment within this category is frozen & chilled food that is estimated to be around \$749 million of this entire market for 2017 and is forecast to grow to \$1 billion by 2022. Rising demand for smaller single packs is also driven by lifestyle changes and the desire for convenience, with the trend of consuming drinks and food 'on the go'. This is beneficial for the adhesives segment

as smaller packs require proportionally more adhesive to deliver the same volume of product. These gains are being partially countered however by industry trends towards economy and new technologies that allow a smaller volume of adhesive to deliver the same strength of bond in key packaging formats.

The Future of Adhesives for Packaging to 2021 [http://www.smithersapex.com/market-reports/the-future-of-adhesives-for-packaging-to-2021] report is based on a combination of in-depth primary and secondary research. Primary research is founded on interviews with industry experts from across the supply chain, including leading adhesive and packaging suppliers, converters, brand owners and retailers. Secondary research is based on extensive desk research and literature reviews of market and company reports, magazine and journal abstracts, packaging trends and market information, and conference proceedings.

Coding guide available

LOCALLY represented by Pyrotec PackMark, global coding and marking specialist, Markem-Imaje, has produced a guide to help manufacturers meet the technical challenges commonly encountered on today's production lines. The guide specifically focuses on laser coding technology and considers how the use of more complex and longer codes, coupled with increasingly demanding regulatory standards, is affecting everyday operations.

Illustrating how new technology – including improved cooling systems, reduced maintenance requirements and improved reliability – is helping manufacturers cover the most difficult applications, the guide challenges out-dated perceptions and shows how laser coding solutions can offer financial savings and improve coding quality.

Delivering a coding capacity of up to 1 400 bottles or 600 packs per minute, and the ability to mark codes of up to 60 characters while operating 24 hours a day, seven days a week,

SmartLase coding solutions from Markem-Imaje have been engineered specifically to meet the challenges of advanced integration and the fastest production lines.

A unique cooling system, which features two central fans in addition to heat dissipaters at the front and rear of the coder, provides balanced cooling across the laser source and the scan head.

This enables SmartLase solutions to operate effectively within a wide ambient temperature range (5°C to 45°C) with application duty cycles as high as 80%, without any adverse effect on code quality, and with no downtime. In contrast, many conventional laser coders can only operate effectively at up to 40°C with application duty cycles limited to a maximum of 60%.

Ongoing reliability tests have been conducted with many SmartLase coders over a period of more than three years. 'Each unit has been subjected to extreme conditions, including temperatures up to 45°C (the

highest risk area), high print cycle rates for up to 23 hours per day, and inrush currents to stress the laser's components. These tests have accumulated over six billion prints to confirm a Mean Time Between Failure (MTBF) of 60 000 hours. This includes the laser source, print head and controller,' says Paul Herbert, manager, product reliability and regulatory compliance at Markem-Imaje.

To protect the laser from dust and liquid, SmartLase coding solutions are constructed using modular stainless steel units with an IP55 rating as standard (IP65 optional). Unlike conventional laser coders on the market, SmartLase solutions offer greater protection in wet and dusty environments, improving operational efficiency and cutting costs. Maintenance requirements are minimal and all electronic parts are housed within sealed compartments to protect them from the most rigorous cleaning procedures that might otherwise cause random faults.

15 tons of recycled polystyrene used in new Table Bay Mall construction

MORE than 15 tons of recycled, Expanded Polystyrene (EPS) have already gone into the production of 20 000 Greenlite Concrete blocks used in the new Table Bay Mall that is currently under construction.

Expected to open its doors at the end of September this year, this 65 000m² regional shopping centre is located on a 20ha site on the corner of the R27 (West Coast Road) and Berkshire Boulevard

in the heart of the rapidly growing West Coast area.

Vivid Architects / Group Five Construction contractors are at the helm of the project, and specified Greenlite Concrete blocks

for use primarily on the fire escape passages owing to the product's excellent fire rating.

'With climate change looming and the rising cost of energy, building contractors are looking at sustainable building

options. Over the past 18 years, we have been involved in the manufacturing and installing of Alternative Building Technologies. We were looking for a more environmentally friendly way of implementing

our insulated building systems, when we started experimenting with recycled polystyrene as the basis for our energy efficient walling systems,' explained Hilton Cowie, Technical Director of Greenlite.

Greenlite's Insulated Concrete is the culmination of more than 18 years' of experience and research, the blocks consist of recycled polystyrene which is used as a lightweight aggregate mixed with cement and additives to form insulated, soundproof, fireproof, water-resistant lightweight concrete blocks and screeds that have already been used in various large, commercial projects such as the Trumpet Towers in Johannesburg, the BMW Pavilion and Zeits Museum in the V&A Waterfront, Baywest Mall in Port Elizabeth and the Gautrain Station in Sandton.

'The developers were amazed at how quick and easy it was for them to build the walls using Greenlite blocks. Because these blocks are lightweight, they are easy to move around the site and the engineers saved weight loading onto the suspended concrete slabs,' Cowie said.

These blocks are proving invaluable to the construction industry where clients and contractors are able to reduce their structural concrete and steel re-

quirements due to the lightweight nature of the walls. The highly insulated walls also offer the added benefit of further energy savings to the client over the lifespan of the building. Greenlite Concrete accepts any form of polystyrene for recycling on their premises, and is willing to assist in arranging collection of large quantities of Polystyrene. 'We recycle and use the polystyrene faster than we can get our hands on it. Builders Warehouse are now also exclusive stockists of our various sized Jumbo blocks and screeds, creating an even greater demand for polystyrene that we can use,' Cowie explained.

'We are very excited about the growing popularity and rapid market acceptance of this new building technology. Not only does it have a direct and positive impact on our recycling rates by diverting large volumes of post-consumer polystyrene from our country's landfills, but it also helps to create more employment opportunities, reduce building costs and increases productivity. We are hoping to improve on our 2016 record of 2 036 tons of polystyrene that were successfully recycled through our Project Build,' concluded Adri Spangenberg, Director of the Polystyrene Packaging Council.

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PYROTEC PACKMARK BEYOND EXCELLENCE

Material specifiers are dropping the safety and performance ball

COST and price are two separate factors, and with increased pressure on the purchase price specifiers of floor grating are purchasing material at the expense of structural integrity and loading capacity.

Elaine van Rooyen, marketing manager at Andrew Mentis, has raised the important issue that when it comes to floor grating material, the quality of the product underpins both its safety and ultimate performance.

Andrew Mentis, the largest single producer of floor grating in southern Africa, has been manufacturing Rectagrid RS40 floor grating for more than 40 years. The company operates from its well-equipped facility in Elandsfontein and van Rooyen says its Rectagrid products have long been the benchmark in floor grating in South Africa.

“Industry should be concerned, however, that with increasing

pressure to cut costs specifiers are taking the short-sighted approach of opting for sub-standard products. These may be cheaper in the short term, but do not offer the same benefits in terms of quality and durability. Health and safety is also compromised by the use of inferior products,” van Rooyen says.

Rectagrid floor grating is manufactured using a pressure locking system pioneered by Andrew Mentis. Quality control during the manufacturing process ensures that close tolerances are maintained, and that the round transversal bar fits tightly through the pierced bearer bar. This not only guarantees the superior structural integrity of the product, but also eliminates its vulnerability to corrosion, which, in turn, ensures the superior locking characteristics. Rectagrid RS40 is formed through a process of compres-



Andrew Mentis has been manufacturing Rectagrid RS40 floor grating for more than 40 years.

sive locking of bearer bars and transversals to form an exact pitch with openings of 35.5 mm by 32.4 mm.

“In an effort to cut

costs even further, specifiers are even reducing the number of bearer bars and round bar transversals on each section of grat-

ing. This reduces the loading capacity of the grating, as well as weakening it and, in some cases, even rendering it unsafe,” van Rooyen cautions.

“An added problem of such short-sighted cost cutting measures is that the safety implication is only apparent after installation, when it is clear that the compromised floor grating is unable to perform according to the original specifications.”

Rectagrid RS40 is a highly engineered product that has been tested extensively in the field. Van Rooyen says the company’s main challenge is to continue to produce world class products without sacrificing on either materials or quality.

“It is also critical to educate the end-user market, as well as ensuring that specifiers make informed purchase decisions that take into account the full ramifications of cost versus price,” she concludes.

Global Construction industry opportunities and its aluminium usage

By Lasell Swart

China’s aluminium usage in the construction industry

THE global construction industry is expected to reach an estimated value of \$10,388.6 billion by 2019.

Opportunities in the global construction industry include:

- Strong economic growth in developing nations, such as China, India, and the Middle East countries, is expected to further drive infrastructure development
- Growth due to the positive impact of new green/environmental standards in first world countries
- Global population growth means an increase in the urbanization rate

Appearances of modern cities and towns have greatly been influenced by the use of aluminium in construction. Aluminium is light and strong and can be given virtually any desired shape. Looking at the global end use of aluminium in 2014 the construction sector was the second largest consumer of aluminium with 25% of all aluminium produced worldwide.

China is the world’s fastest growing economy. Over 46% of China’s soaring GDP comes from the country’s rapid industrial growth. This industrial growth is predominantly driven by the massive urbanization taking place which is increasing demand for aluminium and the raw materials used in its production. Due to unmatched growth rates, China, which now plays the dominant role in the global aluminium market, is expected to remain the world’s largest aluminium consumer throughout the next 10-15 years. Already accounting for about a half of global aluminium consumption, China is forecasted to boost this share to 59% by 2025.

China determines the outcome of the global aluminium market

Aluminium production grew from 32 002 million tons in 2005 to 53 180 million tons in 2014 and reached 59 000 million tons in 2016. Looking at specific countries (see table) it is clear that most countries decreased production while China

Worldwide Aluminium production growth			
Country	Year 2005	Year 2014	% Change
Brazil & Venezuela	2102	1102	-41%
EU consolidated	9009	7644	-15%
USA/Canada	5374	4568	-15%
Russia	3647	3488	-4%
China	7806	27517	253%

significantly increased production.

According to the London Metals Exchange (LME), global

“The global construction industry is expected to reach \$10,388.6bn by 2019”

aluminium prices rose briefly in mid-July to over \$1,700 per ton for the first time in twelve months. The sudden rise was due to the shock over the Brexit referendum. Prices quickly returned to normal as the global aluminium market is

currently well supplied. China being by far the largest producer of aluminium represents a market share of almost 54%. The sharp rise of aluminium prices caused previously closed Chinese production facilities to go back into operation and all surplus materials were also exported. As a result the aluminium price went back to 12,000 CNY (\$1,826 USD) per ton whereby the LME average for July 2016 had been \$1630 per ton – which is considered the break-even amount.

Green and sustainable material

Aluminium is considered a vital component of green and sustainable buildings for sev-

eral reasons:

- Maximization of natural light – heavy glass windows are easily supported by high-strength, low-weight aluminium frames.
- Aluminium is easily recycled and loses none of its properties during the process.
- Aluminium can be used in any climatic conditions and does not lose its properties in temperatures ranging between -80 °C and +300 °C.
- Aluminium structures become even stronger at low temperatures. That is why it is widely used in construction in cold areas like Siberia in Russia.

Moving Forward

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It's an illwind, but not for drillers

THE draught that currently grips South Africa and the Western Cape region in particular has generally negative consequences for food producers, livestock, industry and the economy.

Water, so often just taken for granted when we turn on a tap, is our lifeblood and the one thing all living creatures cannot do without.

But while drought brings hardship – extreme in some cases – it also has a silver lining for those involved in groundwater drilling – that is in developing boreholes and well points.

Security of a water resource has been brought into sharp focus in recent years particularly in the Cape region. During the 2008 / 2009 drought in the southern Cape, towns like Sedgefield actually ran out of water causing authorities to invest in emergency schemes and costly desalination plants, many of which are idle during times of

abundant rainfall.

Against a background of diminishing mains supply, restrictions, increased tariffs and possible fines, more affluent residents are calling in the drillers to secure this precious but not limitless resource from underground.

The appearance of a drilling rig in the up market eco estate of Atlantic Beach in Melkbosstrand caused a flurry of activity and good business for one such driller – Cape Drilling. A family owned business that has spanned four generations of the Moore family since its establishment in 1890 when Scottish driller Harry Peter Moore arrived as an army conscript during the first Anglo Boer War, and established a drilling business.

Currently run by father Deon and his two sons Ruan and Deon Jnr, Cape Drilling is based in Malmesbury and operates all over the western Cape region providing respite



for farmers, authorities and residents alike.

Recent activity in Atlantic Beach estate has seen more than 10 boreholes being drilled, from 25m to 90m deep, providing yields of 40,000 – 66,000 litres/hour of sweet generally potable water for parched gardens and in some cases for house-

hold consumption.

Typical installations involve sinking the borehole is a location determined by the time honoured divining method, but rather than use a forked stick, a 'mysterious' twisted pvc cable appears to react in a similar way to the forked stick when groundwater is detect-

ed. While the science of such methods is difficult to prove, the results are an overwhelming certainty for residents at Atlantic Beach.

Borehole drilling is a noisy, messy operation that irks some residents in this pristine suburb, but is seen as a necessary evil that only involves inconvenience for a couple of days, then after the equipping phase is completed – water!

Equipping

Equipping involves placing the borehole pump, laying and connecting piping and power supply, installing a storage tank, booster pump and control system, and generally connecting into an established irrigation system.

As might be expected, the Moore's have got this down to a fine art with residents receiving water in just a couple of noisy, intense days.

The volume of storage depends upon the anticipated usage, size of irrigated land and whether the 'reservoir' will provide for household use as well as irrigation. Household use will depend of the size of family and usage habits.

"A 1 000 litre capacity tank should be the absolute minimum" says Ruan "and a 5 000 litre will be suitable for larger properties and/or large family usage. Tanks come in a variety of shapes and sizes and can be mounted at ground level or concealed underground depending upon resident's preference and site conditions" he explained.

"As the borehole pump is used to fill the tank, it is not advisable to have too small a tank as the larger borehole

pump will be constantly refilling as the water delivered by the smaller capacity booster pump is used. Frequent operation has an effect on the pump's life expectancy and running costs, although a factor, it is generally not significant and is offset by the saving in the tariff of mains water" said Ruan.

Operating and maintenance

"Cost of electricity and the pumping time will provide a cost of operation. A 1.1kW booster pump will cost about R2.50/hour to run but that will deliver far more water than the average garden needs even during the dry season. Thirty minutes of watering per day will therefore cost about R1.25, plus the tank 'top-up' of the borehole pump will be about the same, depending upon tank size.

"Sinking of the borehole and equipping involves a large capital cost for the average home owner and today runs at about R600 – R800 per metre drilled and equipping - depending upon tank and pump size and site conditions, from about R35 000. Adding this cost to the average mortgage bond could cost an additional R900/month at current interest rates" he said.

Maintenance said Ruan, is minimal as modern pumping equipment is robust and very reliable but a routine yearly inspection is recommended.

Inexhaustible supply?

Much has been broadcast recently about the existence of a giant L-shaped aquifer that is said to stretch from Veredenburg, to the east

of Saldanha Bay, as far as Port Elizabeth and locally known as the Table Mountain Aquifer. Melkbosstrand appears to lie within this water rich band and according to the Moore's, the Melkbosstrand area has plentiful sweet water resources.

Authorities are carrying out test drilling at a number of sites to establish the actual size and extent of the aquifer, its capacity and origins of supply, before larger scale exploitation can be considered.

Deon Snr explained that as dams are placed in water catchments the amount of runoff water available to recharge underground aquifers had declined. Indiscriminate discharge of 'grey water' and untreated sewage also pollutes the underground resources, he explained. A policy of sustainability needs to be made mandatory to protect underground resources such as recharging aquifers through stormwater harvesting.

What is clear though, not just for the Cape Town region, is that it is no longer sustainable to rely solely on surface water resources to supply a growing economy and a burgeoning population. The answer is a combination of surface water storage, ground water extraction (where possible) and most importantly wastewater reuse. In some cases seawater desalination might be an option.

Perhaps it's time we take a leaf out of the Windhoek Municipality's book where they have been reusing treated effluent and actually recharging their underground aquifer for more than 30 years! Perhaps that is why the beer tastes so good!

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How groundwater can help – not solve – city's water shortage

AS the end of summer finds Cape Town's water supply in a precarious state, there are options for making relatively quick and expanded use of local groundwater resources – while acknowledging that groundwater is not the panacea for the city's water woes.

According to leading engineers and scientists at SRK Consulting's Cape Town office, the aquifers in the greater Cape Town area could offer some relief if current conditions endure, by taking pressure off the demand for potable water – excluding the conventional exploita-

tion of the Table Mountain Group Aquifer.

"Groundwater sources such as the Cape Flats Aquifer and the Newlands Aquifer could be accessed relatively quickly, and people are regularly filling up containers from one of the springs associated with the latter aquifer," said SRK corporate consultant Peter Rosewarne. "It would also be useful to conduct an audit of groundwater use in the greater Cape Town area – and to see how much more capacity could be legally and sustainably developed by individual landowners."

Rosewarne cautions that even if fully de-

veloped, groundwater resources could only supply a relatively small percentage of the city's water needs. However, there is a great deal of scope for using non-potable groundwater for industrial purposes and domestic irrigation.

SRK associate partner and principal hydrogeologist Desmond Visser proposed the installation of strategically placed boreholes or well-fields in neighbourhoods where the groundwater resource potential is good, to supply irrigation water to homeowners, parks, public buildings and sports fields.



OPINION

Sea beds can recover after oil spills

Continued from back page

Finally the Torrey Canyon sank to the bottom, but crude oil still came ashore, first on the Cornish beaches and then further afield on the island of Guernsey, on Spanish and on French beaches.

But less than a fortnight the Guernsey beaches were cleaned of crude oil which was dumped in a quarry where naturally-occurring bacteria began eating away. It took them less than a year to eat the lot.

This decision was not popular with the owners of the oil. They would have liked to recover it but could not because unexploded bombs and shells were also in the

quarry, dumped there when the Germans abandoned the island in 1945.

The oil slick reached the Cornish coast in a few days triggering a massive clean-up but ironically most of the long-term damage was done by the strong chemicals and detergents that were sprayed on the beaches.

Today, divers visiting the wreck scattered on the seabed find Nature has bounced back. Far from being the unrecoverable disaster environmentalists and the headlines proclaimed at the time, the sea is "gin clear" as the BBC put it, "...the huge hull plates have so much life

on them that they look just like rocks or the bottom. The sea has reclaimed the wreck and it is teeming with life".

"... piles of machinery, winches and twisted steel plates (are) all completely camouflaged with weed, anemones, bryozoans, starfish and colourful urchins".

There are lessons the Torrey Canyon spill has for all readers faced with dramatic headlines and horrifically-oiled birds, or viewers confronted by television interviews with doom saying environmentalists.

Crude oil may be black, it may be sticky, it may smell of rotten

eggs, but it is essentially a natural substance. Nature knows how to deal with it.

Give any oil stick time and naturally-occurring creatures in the sea and in the soil will regard it as a bonanza, manna from heaven. They will go forth and multiply, and eat it all up.

Do not spray chemicals on an oil slick, that will really do long term damage.

These lessons do not mean sitting back and doing nothing when an oil spill occurs. Just don't believe all the headlines.

Best of all; re-visit the sites of the oil spills five or ten years later. Nature has been hard at it,

cleaning up and repairing. Help it along by all means but don't think humans can do a better job in the long run.

Some environmental damage will take longer to undo than others but Nature's clock is different from that of a local tourist industry, and longer by millennia than the TV news cycle.

So, next time an oil company chief executive's worst nightmare comes true and there is a major oil spill on his or her watch, try and resist joining the chorus of abuse in the media.

Nothing is as simple as it seems when it comes to the petroleum business, especially oil spills.

Propak Cape to showcase latest technologies

RETURNING to Cape Town in October, the highly successful Propak Cape trade exhibition will provide

local and international companies an opportunity to showcase their products and services to thousands

of influential decision makers. It will provide an environment for networking, sourcing of products and

suppliers, and for education and learning across packaging and related industries.

Visitors will be able

to see the latest advancements in machinery, equipment, products, materials and services offered by the packaging, food processing, plastics, printing and labelling industries. Expert advice from technical specialists will be on hand to find the right solutions for business growth.

Bringing wine and olive oil production and supply into the spotlight will be the newly launched Wine and Olive Oil Production Expo which will be held alongside Propak Cape.

As a major exporter of fruit, wine, vegetables, flowers and other valuable commodities to international markets, the Western Cape is heavily reliant on the packaging industry in realising the country's export potential and the region's all-important stake in earning valuable foreign exchange. It is essential that fresh produce is properly packaged to ensure its safe and undamaged arrival.

"Propak Cape will be showcasing the full industry lifecycle from raw materials and processing to packaging, plastics, printing, labelling, logistics, warehousing, recycling and waste management," says Joshua Low, Portfolio Director at Specialised Exhibitions Montgomery, organisers of the show. "The Wine and Olive Oil Production Expo will cover the full supply chain up to the point of packaging including, Propak Cape 2017 and the Wine and Olive Oil Production Expo will be taking place at the Cape Town International Conference Centre (CTICC) from 24-26 October.

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- Heavy Lifting
- Import and Export, International Trade: Clearing Agents, Shippers, Insurers
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So much for politicians

I know it's hard to believe, given the times in which we live, but there I was, in a quiet corner of the local Pub & Grill, peacefully minding my own business while pondering everything but politics. Of course, that didn't last. In walked Luke the Dude, announcing that Zuma must go.

That in itself was not a controversial sentiment, seeing that even Big Ben agreed. After all, our part of town does have a DA councillor, albeit deployed. But you never know with Big Ben. He once pulled 19 votes for an ANC faction in a local election. I believe I was the only visitor to his tent on election day, joining him for a cup of self-made tea.

Well, here he was, smiling benignly at Luke the Dude. And for a while some rare sense of unity reigned among the gentlemen and ladies (their presence has nothing whatsoever to do with political correctness) joining in the repartee during a well-deserved break from mowing the lawn or washing the car. Or cooking the supper.

Of course, still smarting from his failure to provoke any in our company with his entrance statement, Luke the Dude abused this state of affairs, much as the ANC does with the DA's self-inflicted foot wounds. "The ANC must go!" proclaimed he. So. Up went the volume.

"I think we should all be very grateful for the good government of the ANC," retorted Big Ben in a rising baritone, "sitting here, drinking beer and having a peaceful conversation..."

"Not any more, Puppy," interrupted Jon the Joker.

"Careful now," taunted Stevie the Poet, shouting to be heard above the other interruptions, "we'll have you up for hate speech. Calling him puppy of all things. You should take note of the legal precedent set by the learned magistrate in the Penny Sparrow case. Calling a human being anything less than a human being, such as a monkey or, surely, puppy, will get you relieved of your life savings for hate speech."

Stevie the Poet is a lawyer in his other life.

"But, but, but," stammered Jon the Joker while seeking a proper defence, which he duly found: "But I was talking about Big Ben, and he is white. You can say whatever you like about white people. ANC leaders prove this legal convention all the time! Even Shakespeare is too white for the ANC."

"Hmmm," advised The Prof, "my dear Steven the Poet, if your case rests on precedent, I do believe he has got you there."

"Hah!" shouted Jon the Joker, punching his fist in the air. Then he sealed the case with his second line of argument: "At any rate, I called him Pappie, not Puppy."

The unusual silence confirmed that nobody had a valid legal argument against this surprise revelation. After all, a pappie is the same as a daddy, just in another official language, and a daddy is certainly not less than a human being. All daddies agree on that and I should hope all mummies too.

Big Ben's scowl, settling over his visage on being called a puppy, was slowly replaced with a smile, indicating that he had no problems with being called a pappie. Even though he is not. That is, as far as I know, being in the habit of minding my own business.

But he was not done with Jon the Joker. "What

do you mean, not any more?" he enquired.

"I mean the conversation is not peaceful any more, as you can hear for yourself," exasperated Jon the Joker. "Useless!"

"Too true," contributed The Prof, "and we have not even touched upon our degrading to junk status, the fate of the rand or the flawed people appointed to be Minister and Deputy Minister of Finance."

"That would be Minister Malusi Gigaba and Deputy Sifiso Buthelezi," added Bob the Book. "I know Buthelezi has some dirt sticking to his expensive suits because of those Spanish trains that do not run between Guadalquivir and old Saville, or anywhere in South Africa, really, although they cost us several hundred million. That comes from his time as chairman of Prasa, the Passenger Rail Agency of SA, as raised by Public Protector Thuli Madonsela in her Derailed report. Expensive governance failures were uncovered at Prasa."

"Indeed so dear Robert," confirmed The Prof. "And seeing that you are doing such an eloquent job, why don't you enlighten us about Mr Gigaba as well?"

"Gigaba?" interrupted Luke the Dude, "he is the Pappie who crippled our tourism industry. Useless! And now he is Minister of Finance! What is he going to do to the rest of the economy?"

"I do not agree," proclaimed Big Ben firmly. "Mr Gigaba was minister of home affairs. He was never anywhere near the tourism ministry. So how could he cripple that industry?"

"A good point," diplomatised Bob the Book, "but unhappily not a valid one. Gigaba brought down our country as a tourist destination while minister of home affairs by introducing ridiculous visa regulations. Rather than being hassled beyond endurance by Malusi Gigaba, international tourists simply took their dollars and pounds and euros to other countries. And of course, thousands upon thousands of South African jobs went down the drain as well."

"Derek Hanekom was the minister of tourism then, and remained so until President Jacob Zuma's latest Cabinet reshuffle, when he was fired. Hanekom did his best to bring sense to his colleague at Home Affairs, but Gigaba continued with his destruction. He simply would not listen. Mmatsatsi Ramawela, speaking as CEO of the Tourism Business Council of SA, said at the time that Home Affairs refused to meet, negotiate or engage about the disastrous visa regulations."

"Former DA leader and ambassador to Argentina Tony Leon noted in a 2015 opinion piece that tourism used to be the easiest SA product to sell. I've got a copy here. In 2010 the World Cup increased arrivals from Argentina by 122%. And even in the next year, with no World Cup, the figures were up by 78% compared to 2009. No visas were required then and

there were direct flights to South Africa.

"But by 2015 SA Airways had cancelled the route and Gigaba was on a mission to destroy growth and jobs. When Leon visited his former embassy, he found that the tourism section had turned from a hive of activity to a funeral parlour."

"Tourism from the massive Chinese market, Leon noted, had fallen by 70% and was described as collapsing. The Grant Thornton consultancy estimated that 100,000 jobs would be lost."

"When Minister Hanekom's and the local industry's concerns were brought to the attention of the man ultimately in charge, President Zuma, he promised a review of the visa regulations. Knowing Zuma, there was no review of course, and minds changed only when it was too late. That is our president and his latest minister of finance in action."

"Hoo boy," said Luke the Dude, "and in the weird world of Jacob Zuma the good guy gets fired and the bad guy gets promoted to one of the top jobs in government."

"That was quite a mouthful, Robert," added The Prof, "and sorry to say, Benjamin, certainly an eye-opener."

"Humph," responded Big Ben, "and is the DA any better? They are attacking Helen Zille, who happens to be the most successful leader they ever had, with much more spit and venom than any of Zuma's ANC critics are showing him."

"That is quite true of course, Benjamin," agreed The Prof. "It is rather breath-taking the way they have turned on her, like an angry

OPINION

ON THE CONTRARY



Pieter Schoombie

pack of... ah, I almost said wolves, but given Steven's legal advice on hate speech, let's rather say like an angry group of rugby daddies. Led by the fearless Aloysius Maimane himself, who would have been nothing without Zille.

"What did he think he was doing when he rushed into a formal complaint? Did he not think the ANC would abuse his actions to run circles around him? The results are well illustrated in the Cape Times main headline of April 3, when the Zuma controversy was at its hottest. Does the headline feature Zuma? No. Instead it read, legitimately, 'DA charges Zille over racism'. Zille? Racist? So much for thinking ahead."

"A last point," concluded Bob the Book. "Despite their shortcomings, Gigaba and Buthelezi have one game-breaking qualification their predecessors do not have: by all accounts they were the preferred candidates of the brothers Gupta. Enough said."

E-mail: noag@sonic.co.za

Sea beds can recover after oil spills

In one of those unfortunately rare BBC programmes without bias, a diver was filmed off the Cornish coast in Britain looking for the wreck of the Torrey Canyon, a Liberian-registered oil tanker that sank there in 1967.

Readers who were compos mentis then (and still are) will recall the massive oil spill that resulted and the farcical attempts to limit the "damage to the environment". The use of quotation marks is deliberate for reasons that will be clear later.

The Torrey Canyon is the largest shipwreck in British waters. She ran aground spilling more than 119,000 tonnes of crude oil into the sea, 15 nautical miles west from Lands End and seven nautical miles from the Scilly Isles.

There was almost an immediate panic by the British authorities as environmentalists used the press to magnify the awful damage

THE OTHER SIDE OF THE COIN



Keith Bryer

they predicted the spill would cause at sea, and when it inevitably came ashore.

The British Government actions are difficult to believe now. It poured millions of litres of detergent on the spill, thus causing more damage to sea life than would otherwise have occurred. When that failed they ordered the Air Force to bomb the wreck, and set fire to it, hoping to disperse the oil.

With television cameras watching every move and nightly broadcasts featuring chilling predictions of what would happen if they failed, Royal Air Force bombers dropped 62,000lbs of bombs, 5,200 gallons of petrol, fired 11 rockets, dropped napalm on the wreck. Some of the bombs failed to go off.

Continued on P27

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