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Covid lays low Cape hotel sector



Closed, the Lord Charles Hotel after trading for 32 vibrant years.



The lounge at the Lord Charles Hotel.

THE Cape Town leisure sector has been smashed by the Covid-19 pandemic, and the recovery prospects look like a long hard haul for even the biggest operators.

The list of well-known restaurants that closed their doors – some possibly for good – during the restrictive early stages of the Covid-19 has become legendary.

Hearing that popular eateries like the Perseverance Tavern, the Cattle Baron in Tokai, Myoga in the Vineyard Hotel, the Fat Greek in Tableview, La Bottega in Woodstock and The Stack in Gardens (to name but a few) had closed would have shocked most Capetonians.

But the real horror arguably hit home when the posh NH Lord Charles Hotel in Somerset West opted to shut its doors after 32 years of vibrant trading in the leisure and conferencing sectors.

The NH Hotel Group said it would not renew its lease for the Lord Charles after carrying out a “feasibility study”.

If the Lord Charles has capitulated, then how many other smaller and less illustrious hotels were also considering boarding up their premises?

Stories are already emerging of larger scale retrenchments at other large hotels as the prospect of inbound travellers streaming into SA in the short term seems rather remote.

The big question is whether the short term pain will ease off as things normalise in South Africa.

The latest annual report from the Tsogo Sun Hotels Group – which also effectively speaks for the Hospitality Property Group – was quite instructive around the challenges that local hotels will face in the months to come.

Tsogo and Hospitality operate well known properties like the Protea Marine Hotel, the Protea Victoria Junction, the Arabella country estate, the Westin in Cape Town, the Cullinan as well as Southern Sun hotels in Cape Town and the Waterfront.

CEO Marcel von Aulock said that based on current trading levels, the recovery in occupancies to pre-Covid-19 levels was expected to take at least 18 to 24 months.

“In response to excess supply in the market, and as part of our phased reopening plan, the group only reactivated half of its portfolio in phase 1 under level 3 of the national lockdown, and this could change if demand warrants it.”

He said Phase 2 hotels were only reactivated once interprovincial leisure travel was allowed, based on anticipated demand.

Von Aulock stressed the remaining hotels were not expected to be reactivated for an extended period of time. “These hotels are generally those that are reliant on international inbound travel, large groups and con-

ferencing business.”

He conceded that with excess supply in the market and lack of demand, average room rates will be under pressure. “We are focused on ensuring that we are the lowest cost operator in the market.”

But the real effect of the Covid-19 shutdown was seen in the details of the latest annual report.

Tsogo reported that it impaired property, plant and equipment by R716 million (way above the R94 million the previous year) “as a consequence of the downward medium-term trading expectations due to the current economic environment which has been exacerbated by the global COVID-19 pandemic”.

In order to reflect the cash flow impact of the total collapse in demand caused by the Covid-19 pandemic, management assumed a 96% reduction in revenue for the first six months of the 2021 financial year.

Cash flows for the second half of 2021 and the first half of 2022 reflect a slow recovery in both occupancy and rate with the group’s entire portfolio assumed to be fully operational by September 2022 and trading at similar levels achieved in the 2019 financial year.

Tsogo said the annual growth rate applied to the cash flow forecasts for the 2023 to 2025 financial years ranged between 4.5% and 5.5%.

Containerised open plan office unit and paving donated



THE Infrastructure Specialist Group (ISG), comprising Technicrete and Rocla has donated a 12 m fully insulated containerised open plan office unit as well as 2 574 m² of surrounding paving to the Sifundlela Primary School, based at Kabokweni in Mpumalanga Province. The office unit will be used by the school’s principal, Mr Ndhlovu and some of the school’s administration staff.

Principal Ndhlovu explained “Sifundlela Primary School has never had offices for staff, staff have in the past, met for meetings in passages or under the Lapa. Now, with the donation of this containerised office unit we have privacy for meetings with staff and visitors. It enables us to house school records and confidential correspondence properly. We are very grateful to Rocla and Technicrete for these donations. It creates a proper working environment for myself and members of my team, making a difference to how we work and giving us all a sense of pride in the school we are managing”.

“In 2019 ISG donated 16 sanitation units manufactured by Rocla to the Sifundlela Primary School, and it was during this project that we became aware of the fact that Principal Ndhlovu had no dedicated office space” commented ISG Group Marketing and Communications Manager, Malebusa Sebatane.

“ISG decided to donate this fully insulated open plan office space to the school to assist in providing a secure and stable office environment for Principal Ndhlovu to carry out his duties” said Sebatane.



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Some retailers more resistant to Covid-19

SUPERMARKET giants Pick n Pay and Shoprite have both highlighted the impact of the substantial additional costs incurred to remain open for trading during the early months of the lockdown in recent trading updates to shareholders.

Pick n Pay said additional costs were incurred in reinforcing stringent health and safety standards - including rigorous cleaning and sanitising protocols. Staff also needed to be provided with cloth face masks and clear protective screens were installed at till points. Free sanitising wipes and sprays were readily made available for customers and staff.

Pick n Pay also paid an 'appreciation bonus' of R1 000 to every front-line colleague across April and May - in recognition of their service in difficult circumstances.

Shoprite provided more granular detail on the costs of protecting staff and customers during lockdown - disclosing a net total of R327.2 million was spent across the areas of health and safety, security, mobile clin-

ics, personal protective equipment, temperature scanners, store and distribution centre sanitation, employee meals, communication costs and remote network access for employees. Shoprite said the most significant spend pertained to R116.9 million paid to employees - including an appreciation bonus.

The bottom line was that Pick n Pay expected earnings for the 26 weeks to end August to drop by more than 50%.

CEO Richard Brasher said that while the trajectory and impact of COVID-19 in the coming months remained highly uncertain, the group was hopeful that many of the costs and trading restrictions seen in the first half of the financial year will not be repeated.

"We have prudently and carefully preserved our cash through tight working capital management and a keen focus on critical capital and operational spend. Our business remains strong and stable, and well-placed to serve customers and shareholders in the future" he said.

Shoprite appeared to have fared markedly better with CEO Pieter Engelbrecht citing digital voucher innovation, ongoing private label development and the conversion of Checkers Food Services (CFS) business to include a consumer facing offering as highlights.

He added that the rapid scaling of the Checkers Sixty60 digital shopping application - after a test phase introduction in November 2019 - was operational from 87 stores nationwide by June 2020.

Shoprite said its supermarkets in South Africa saw sales growth (inclusive of liquor) of 8.7% for the year to end June.

Lockdown saw customer visits for the year declining by 7.4%. But average basket spend increased by 18.4%. "Superb execution across the business coupled with considerable efforts from our suppliers resulted in volume growth of 2.3% for the year."

Engelbrecht said market share figures - insofar as they were available (up to the end of May 2020) - reflected consecutive

monthly market share gains for Shoprite for the past 15 months.

Not surprisingly then Shoprite has pencilled in a worst case scenario of earnings dropping 1.5% and a best case scenario of earnings increasing 6.4%.

Woolworths - a hybrid of groceries, fashion and homeware - said that in the year to end June there was a significant impact from Covid-19 in the second half of the financial year. Earnings would drop by between 60% and 70% and the influence of Covid-19 was expected to impact trading for at least the remainder of the calendar year.

Clicks Group, the health and beauty retailer, disclosed that turnover increased by 10% to R32.3bn in the 49 weeks to 9 August. The group expected earnings to be up by between 10% and 15%.

Clicks noted trading patterns shifted as customer shopping behaviour changed in response to the various lockdown level restrictions and consumers chose to stay home to reduce the risk of contracting Covid-19, contributing to significant

growth in on-line shopping since the start of lockdown.

Clicks did report a decline in the frequency of customer visits during the lockdown - but also reported the average basket value had increased over this time.

The group said "The decline in footfall at super regional and regional malls across the country has impacted sales in destination stores. However, Clicks is well positioned in this environment with over 70% of its stores located in convenience and neighbourhood shopping centres."

Interestingly, Clicks noted that pharmacy sales had been negatively impacted as the country had not experienced a traditional winter cold and flu season - which is generally a strong driver of sales growth.

The group added: "The incidence of colds and flu has been limited as South Africans are wearing face masks during the pandemic, social interaction has been limited, schooling restricted and large numbers of people are working from home."

Five steps to ensure POPI compliance for direct marketing

THE Protection of Personal Information Act 4 of 2013 (POPI) has now come into effect and it is important that South Africa businesses adhere to the new regulations. The use of personal information is everywhere and it's almost impossible to do direct marketing without using personal information collected from customers, suppliers and employees. The POPI Act was designed to serve as one of the measures to protect consumers from direct marketing, regulating direct marketing via electronic communications and making it stricter.

Justine Krige, Director in the Corporate and Commercial practice at Cliffe Dekker Hofmeyr (CDH), highlights five key ways to ensure that marketers do not cut corners:

1. Obtain consent

Direct marketing in any form of electronic communication including automated calling machines, faxes, SMSes and email is no longer allowed now that POPI has come into effect, unless the person has either given his/her consent to receive such electronic communication, or is an existing customer. Marketers can only send direct market electronically to a customer whose contact details were obtained through a sale of a product or service and for the purpose of direct marketing of similar products or services.

The customer must be given a reasonable opportunity to object to the direct marketing at the time the personal information was collected and on every communication thereafter. In respect of direct marketing via telephone, post and in person, every person similarly has the right to refuse to accept the unwanted direct marketing and require the supplier to discontinue such activity.

2. Don't forget the "unsubscribe" option

All electronic direct marketing communications must contain an "unsubscribe" option. Similarly, physical post boxes containing a direction that "no junk mail" will be accepted can-

not be used for direct marketing. Companies need to manage their customer databases a lot more effectively - where, how and when was the personal information initially obtained; whether the person is an existing customer and which products or services they use; whether the person has consented to receiving direct marketing; and whether the person has unsubscribed from receiving direct marketing. In particular, companies need to adopt a vigilant approach in enforcing requests from consumers to discontinue any marketing activities.

3. Include the sender's details

All communications

for direct marketing purposes must contain the details of the identity of the sender or the person on whose behalf the communication has been sent, an address or other contact details to which the recipient may send a request that such communications was terminated.

4. Stick to permitted contact times

The POPI Act has now prescribed specific days and times of days for direct marketing, and businesses must not engage in any direct marketing directed to a consumer at home for any promotional purpose outside of these times. The prohibited times for contacting consumers at home (this includes

via telephone, SMS or email) are as follows: Sundays or public holidays; Saturdays before 09h00 and after 13h00; and all other days between the hours of 20h00 and 08h00 the following day, unless the consumer has agreed otherwise.

"However, the responsibility is on the direct marketer to prove that the direct marketing communication was sent out within the prescribed period even if the consumer received the direct marketing outside of the prescribed times," adds Krige.

5. Beware the "cooling-off" period

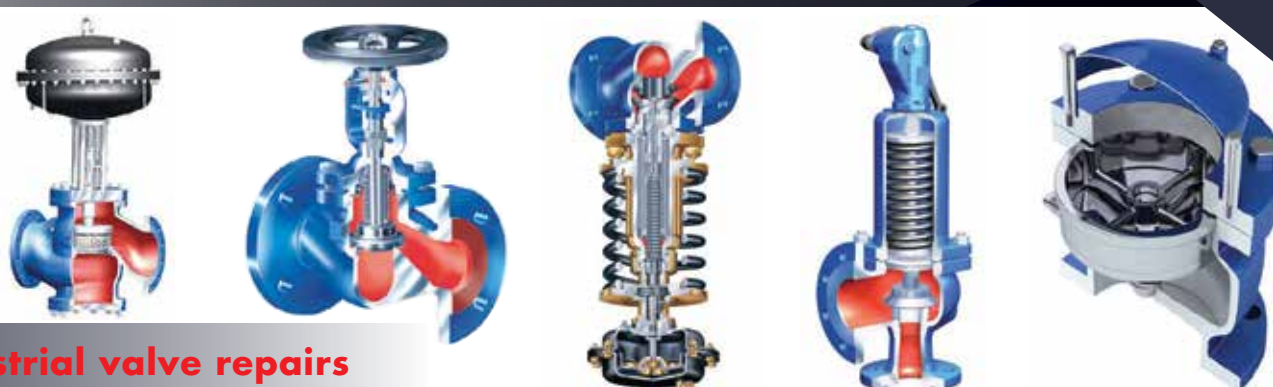
Companies must remember that consumers have an entitlement under the CPA

to cancel a transaction resulting from any direct marketing without reason or penalty by writing a notice to the supplier. This must be done within five days after the later of the transaction was concluded or the goods were delivered to the consumer.

Krige stresses that if South African marketers do not follow the law and the regulations outlined, the face getting heavy fines. "It is critical that marketers realise that POPI does not prohibit their direct marketing efforts, it does however mean that marketers are deliberate with their communications and they must ensure that the requisite approvals are in place from the consumer," she concludes.



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Pepkor re-builds for focus

PAROW-based retail conglomerate Pepkor will raise over R1 billion from the proposed sale of its building supplies hub.

Pepkor last month confirmed its subsidiary TBC (The Building Company) – which comprises well known trading brands like Buco (formerly Pennypinchers), Bildware, Tiletoria and Timbercity as well as wholesale outlets like the Cachet and Mac-

Neil chains – would be acquired by national building supplies retailer Cashbuild.

There is an interesting irony in that Pepkor boasts retail tycoon Christo Wiese as a major shareholder. Many years ago Wiese was also a significant shareholder in Cashbuild.

The deal will mean a serious chunk of profitable business disappearing at Pepkor. In the 12 months ending

March 2020, September 2019, TBC generated revenues of R8 billion through its 160 outlets and 21 franchise stores.

Pepkor will now focus on its core offering in the clothing and general merchandise segment as well as its presence in the furniture, appliances and electronics, building materials and fintech sectors. Pepkor owns the iconic Pep and Ackermans family fashion outlets as well as niche

retail brands like Tekkie Town.

Pepkor said the TBC sale would allow it to streamline its portfolio of businesses and focus on its core business of discount and value retail.

The group reckoned that TBC would be strategically better placed for future growth as part of Cashbuild.

Pepkor said the net disposal proceeds from the TBC sale would be mobilised to further reduce debt. The group has indicated a determination to reduce its gearing levels to enhance the flexibility of its capital structure.

For Cashbuild, the deal fits management's growth plans by way of geographic expansion and access to additional segments of the market.

The group said: "An acquisition of TBC allows Cashbuild an opportunity to drive these growth initiatives while still maintaining



its commitment to its customers in the South African and neighbouring markets."

Cashbuild identified a number of benefits of the TBC deal – most notably an increased retail store footprint presence in Cashbuild's previously underrepresented regions.

These regions would, in particular, include markets in the Western Cape, Eastern Cape and Kwa-Zulu

Natal.

TBC would also offer Cashbuild a broader reach into the middle-to-higher income customer segment – a target market currently underserved by the group's current offering.

There would also be an improvement in accessing and servicing the building contractors segment of the market.

Cashbuild predicted

improved operational efficiencies and improved future trading profitability through access to additional suppliers, inventory and the optimisation of delivery routes.

In addition, Cashbuild was delighted to be bringing on a highly experienced senior management team – who, the group stressed, "are fully supportive of the transaction".

Invicta: skin in the game

NEWLY appointed Invicta CEO Steven Joffe has put his money where his mouth is...

Joffe, who was last year appointed boss of the Parow-based industrial giant, will spend a not insubstantial R26 million to acquire 3 million new shares in the group.

Invicta is in the throes of a turnaround process that has already seen certain operations sold off. Joffe would stand to

benefit richly if Invicta is brought back the levels closer to its historic profits.

Joffe, in effect, will hold almost 3% of Invicta – making the CEO a significant minority shareholder in the group.

The Invicta board believed the share subscription by Joffe ensured the appropriate alignment of the interests of the CEO with those of the group and its shareholders.

Insulated traffic door makes an impact

WITH greater emphasis placed on ease of access into and out of areas in the workplace, the Apex SR 9000 insulated impact traffic door will meet these needs, give years of dependable service and still look good.

This fully gasketed heavy duty impact swing door is locally manufactured by Apex Strip Curtains & Doors, and can be custom-

ised to meet specific requirements. Lightweight but robust, the Apex SR 9000 door is engineered to withstand heavy traffic and impact, but still maintain an attractive appearance with minimal maintenance required.

The door's patented "honeycomb" framework and flexible urethane foam insulation ensures optimum stability. Superior sound-

proofing qualities are achieved by injecting high density non-CFRC urethane core into the hollow shell of the door.

The door is fitted with high bumpers to further absorb impact from man-ridden vehicles and carts. This also reduces stress on hardware and mount assemblies.

The perimeter edges on the door panels are bull nosed with a mini-

mum radius of 8 mm to prevent excessive wear on the edges.

The seal complements the insulated core reducing energy flow between environments, another plus factor on this locally made door.

The rugged 3 mm ABS outer facing of the Apex SR 9000 door is available in a variety of colours and it is impervious to moisture, acid, petro-

leum products, salt solutions, animal fats and insects. It retains its physical properties in temperatures as low as minus 40° C and it will not chip dent, peel, pit or corrode.

All Apex Strip Curtains & Doors products are manufactured in accordance with international standards using materials that comply with stringent hygiene and safety criteria.



Lightweight but robust, the Apex SR 9000 door is engineered to withstand heavy traffic and impact.

Appointment

GOSCOR Cleaning Equipment (GCE), welcomes Robert Cooper as branch manager at their Cape Town operation. Cooper will be filling the shoes of Petra Minutelli, who retired last month after being with the company since 2012 when it was still known as Tennant Western Cape.

Cooper comes from the sales and

cleaning arena and brings more than 14 years of experience in managing large teams in the contract cleaning industry, as well as expertise in the food and beverage and retail space. "He has unmatched professional experience and we look forward to his contribution," states Greg Venter, GCE Managing Director.



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CT's power quest stymied

THE Pretoria High Court has handed down a judgment in the City of Cape Town's case against the National Energy Regulator of South Africa (NERSA) and the Minister of Mineral Resources and Energy. In the case, the City seeks to develop its own clean electricity supply without requiring the Minister's per-

mission. Judge Leonie Windell postponed the case and sent the City, NERSA and the Minister to try to resolve their differences out of court – failing which they could have the matter re-enrolled for hearing. She found the city had failed to follow a formal intergovernmental dispute process before

litigating. Centre for Environmental Rights (CER) attorney Nicole Loser said: "Resolving the standoff about electricity generation is important and urgent because government is failing to deliver clean, affordable, reliable electricity to all South Africans. Eskom's coal fleet is unable to meet

the country's power demands even in this severely depressed economy. South Africans need the Minister, NERSA and local government to work fast to resolve their differences and find the cleanest and least expensive ways to keep the lights on." Recent research by the Council for Scientific and Industrial

Research (CSIR) indicates that South Africa will not have enough generating capacity to meet demand for up to five years, meaning years of load shedding risk with an estimated R60 to R120-billion economic cost. How bad it is depends on decisions that are made now. CER joined the case as a friend of the

court (*amicus curiae*) in 2019 to bring to the court's attention the Constitutional obligations of local government to protect the environment, including people's health and wellbeing. In court, CER argued that local government's duty is both to provide affordable and accessible electric-

ity services and to provide electricity without giving rise to harmful and avoidable air and water pollution and climate change. To the extent that local government intends to generate clean and affordable electricity capacity (which would be aligned with its Constitutional obligations), national government must support and facilitate local government electricity generation.

South Africa's coal-dominated electricity system makes it Africa's worst greenhouse gas emitter. Air pollution from Eskom's coal-fired power fleet causes thousands of premature South African deaths annually, has severe negative impacts for the health, wellbeing and development of children, and makes many more people too sick to work.

"Every day that government delays is another day of load shedding," said Loser. "Government's energy policies are opaque and ambiguous, and it shows no credible sign of delivering a just energy transition."

LPG Association name change

THE Liquefied Petroleum Gas Safety Association of South Africa will in future be known as The Liquefied Petroleum Gas Association of South Africa (LPGSA).

The name change reflects a strategic shift to broaden LPGSA's mandate to not only promote the safe, compliant use of LPG but to advocate for LPG's exceptional benefits in comparison to other energies in South Africa.

Safety will remain a core focus of LPGSA's work, and the LPGSA will continue to run training courses and certify installers, manufacturers and distributors of LPG and LPG equipment.

The LPG industry in South Africa is entering a phase of significant growth, driven by increased supply as a result of new import and storage terminals in Cape Town and Richards Bay, and increased demand as a result of an electricity grid under extreme pressure.

LPG is a perfect component of South Africa's eventual energy mix, especially for efficient, low-cost water, food and space heating.



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THE BEE IN MY BONNET COLUMN

The editor poses the question...

Is it stupidity or just plain ignorance or both?

THE Corvid-19 pandemic has brought to light that some people seem to behave more like lemmings hell-bent on running over the cliff than rational human beings.

No amount of warnings about social distancing, face coverings and washing or sanitising hands seems to persuade millions of people that we have a deadly pandemic in our midst and failure to take these elementary precautions will simply perpetuate this plague until scientists rescue us with a vaccine.

Then we'll be all right, won't we? We can go back to our old 'normal' ways and woe betides anyone who prevents me from doing just as I want.

I've commented before on the human condition, and it's actually not a pretty sight.

Through the power of the internet and DSTV, we can now see in great detail how the other half live and its quite mind boggling!

The population of that bastion of the free world, the USA have many millions who reason that wearing a mask

and practicing social distancing is somehow an affront to their civil liberties and that no one is going to tell them what to do and when to do it.

I wonder what part of 180 000 plus deaths they don't understand? I'll bet that the grieving relatives of those 180 000 souls are not amongst them...

Surely they can't all be stupid or believers in conspiracy theories, which could be akin to ignorance?

It seems that a large number of Americans are susceptible to con-

spiracy theories and that they show it by voting in a particular way. Stoking this characteristic has put a lot of dubious individuals in the White House, not least the present incumbent whose utterances have given birth to a new phrase – "fact checking" – true or false, but should it make a difference? Not it seems if you are part of his 'base'.

The intrinsic difference between ignorance and stupidity is that ignorance simply implies a lack of awareness about something,

while stupidity denotes the inability of a person to understand something due to insufficient intelligence, thus leading to a misinterpretation of the fact.

Clearly the difference is in the eye of the beholder and one must be careful who one calls stupid if one values one's health!

The other element is surely logic which can be measured. It does seem illogical that one would deliberately touch a hot surface, knowing that you are going to get burned, even though the hot

surface can keep you warm in the winter.

No, in the USA it's not so simple as stupidity versus ignorance, it's all to do with politics and if you're not for us, you're against us – a serious polarisation brought about by some nifty manipulation. It still defies logic though.

On the other side of the pond, a recent poll indicated that 16% of the UK population would refuse to have an inoculation against Covid-19, also had me scratching my head. And this didn't include another group labelled

'antivaxers'. Perhaps they should be relocated to the Isles of Silly (!) an archipelago, 40 km off the southwestern tip of Cornwall, to protect the majority who do vaccinate, and perhaps they then might just die out?

No, that won't work either as they will demand their NHS bed, free medication and care – it's their right, right?

So it's their right to get sick, infect others and then demand that the State must make them better, so long as it's not by an injection! Eish.

Private sector makes it, government spends it

Geoff Jacobs, President of the Cape Chamber of Commerce & Industry comments on local government audit outcomes for the 2018/2019 financial year.

IF there is one overriding lesson, among the many the Covid-19 virus has given to South Africans, it is that private business makes the money and the government's major talent is spending it – more than two thirds of all tax revenue – on themselves.

The lesson is not a flash of light and understanding to businesspeople, but remarkably few other people understand this basic economic fact.

Nor is this truism the only lesson we have had to face these past months.

There is another: Keeping a record of where, how and to whom, the tax monies go, is not high up

on civil servants' priorities: the term "civil servant" refers here to public servants at all levels – State, Province, and municipalities of all sizes.

Combine these two Lockdown-Lessons and you have a perfect description of how the South African economy, together with all its 60+ million citizens, came to be in the state they are in.

And what a state the municipalities in particular are in was again under a spotlight when the Deputy Auditor General Tsakani Maluleke briefed the National Council of Provinces (NCOP) on local government audit outcomes for the 2018/2019 financial year (Note: before the Covid 19 outbreak).

As Maluleke helpfully explained to the members of NCOP, "a clean audit goes to ... a municipality ... (that) has credible financial information, whose performance information is useful and

reliable and where we have not found significant non-compliance with key laws and regulations relating to financial and performance management".

But, what did Ms Maluleke find instead, in the accounts of the 257 municipalities audited?

It was not good. Only 20 were deemed to be clean. Twenty-eight municipalities did not bother to submit their financial statements, thus breaking the law requiring them to do so by the end of August every year. That was 24 more delinquent municipalities than the previous year.

Don't take bets that the 2019/2020 audit will be any better.

Meanwhile, what did this mean in terms of taxpayers' money? Well, a mere nothing if you consider that R2.07 billion in what auditors call "fruitless and wasteful expenditure" deserves nothing more than a slap on the wrist of those

responsible – even though it is double the waste of the previous year. Certainly, R2.07 billion pales into insignificance against the R12 billion that was not authorized – which means presumably that Treasury guidelines were simply ignored.

Anyway, who cared? Certainly no one in the 34% of South Africa's municipalities who between them ended the year having spent more taxpayers' money than they were allocated – a generous overdraft facility one might argue.

Which provinces had the worst record? Well, according to the Auditor General, KwaZulu-Natal, North West, Western Cape and Eastern Cape, accounted for 71% of the annual irregular expenditure. Kwa-

Zulu-Natal won first prize in these stakes, managing to double its take to R6.47-billion, thanks to the valiant efforts of the eThe-

kweni Metropolitan Municipality.

One way eThekweni did it was to pay contractors' R800-million to develop an "information and technology management system", while R424-million went to service providers hired to build "washing facilities and schools".

eThekweni, it will be recalled had some trouble with its mayor who refused to step down when this became public.

Meanwhile nine municipalities are being investigated for "non-compliance likely to result in financial loss or the harm of a public-sector body and the general public" – in accordance with the Public Audit Amendment Act. This sounds fairly innocuous until you remember it is taxpayers' money that we are talking about—money they have earned and already paid taxes on.

How else do our municipal servants

manage this looting? Common methods were fiddling the procurement process, theft of municipal assets, vandalism, and paying for goods and services that were not actually delivered.

And then there are the billions of Rands 229 municipalities owe Eskom. The best at not paying Eskom was Emalahleni municipality in Mpumalanga which owed R2.77 billion. Altogether the 229 owed the giant State-owned utility R18.9 billion.

But of course, Eskom was not the only SOE waiting for municipalities to pay their bills. Water boards were owed R9.7-billion by June 2019. The Mopani district in Limpopo owed R930 million.

Imagine if this kind of industrial scale looting had taken place in the private sector. Heads would have rolled; chief executives would have been fired; sharehold-

ers would be carrying pitchforks into annual general meetings. Nothing like this could happen in the civil service, of course. The most any of the guilty could expect would be to be put on extended paid leave pending an investigation, followed by cashing in of pensions and retirement on the proceeds to pastures new.

However, one looks at it, there is no way of avoiding the conclusion that the state of the majority of our municipalities is a picture of chaos, dominated by unbelievable levels of corruption, incompetence, and inefficiency.

How SALGA can reward this level of non-performance with salary increases year in and year out is beyond comprehension. Then again, we get the government we choose, and if we continue to accept this without protest, we don't deserve any better.

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Port of Cape Town clearing backlogs

THE Port of Cape Town say that it is ramping up operations and reducing shipping backlogs caused by the impact of COVID-19 on the port's human resources.

By 2 July 2020 the number of vessels waiting at anchorage had been reduced from eight to one vessel for the Multi-Purpose Terminal (MPT) and from 11 to four vessels for the Cape Town Container Terminal (CTCT).

While marine operations human capital is currently at 60% capacity due to positive cases of COVID-19 coupled with employees in quarantine, a full marine service is available from Transnet National Ports Authority to move vessels in and out of the

port. The full marine fleet available includes two tugs, and a third tug on standby, one workboat and one pilot boat.

Berthing services - which was most affected by the virus - is now back to normal with two berthing gangs.

Terminal operator

Transnet Port Terminals (TPT) has also increased its resources. The container terminal is currently operating at 70% while the MPT is at 75% capacity.

CTCT is operating five gangs 24/7 and working towards having six gangs operational. Cape

Town MPT is operating two berths: Berth F with one gang and Berth H with three gangs.

Transnet also announced that 20 employees from Durban Container Terminal have volunteered to be deployed to Cape Town to address backlogs.



No increases for plastic industry

A recent press statement from NERSA (National Employers Association of SA) advised:

THE parties to the Plastic Industry collective agreement have agreed that, in light of the current economic situation, a blanket exemption will be granted in respect of wage increases as prescribed by the collective agreement.

Therefore, no employer in the Plastic sector is obligated to implement any increase contemplated in this agreement.

This agreement is only applicable to Solidarity members and has no bearing on employees who are not members of Solidarity.

However, as there is no other collective agreement regulating terms and conditions of employment in the sector, employers are under no obligation to implement any increase in respect of the remaining employees.

The full circular issued by the MEIBC (Metal & Engineering Industries Bargaining Council) can be viewed at: https://mcusercontent.com/7af202f977bc5d-bad675398d7/files/a0aceb84-cbde-4d9b-b80e-683c2c7afc30/Industry_Circular_No_2020_07_Plastic_Industry.pdf

(The editor wonders whether government employees will voluntarily forgo wage and salary increases or even take a cut in remuneration as so many private sector businesses have had to implement. A rhetorical question no doubt!)

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Video coms beats lockdown blues

AT the end of 2019, Cummins Africa Middle East (AME) was contracted by a leading provider of cloud and computing web services to supply nine C3000D5E units enclosed in customised acoustic enclosures. The Cummins team had to leverage relationships inside and outside the organisation to expedite the necessary resources to complete the project on time.

The genset packaging process inside the acoustic enclosures started early, based on the customer's strategic global requirement. In addition to the early start, the project's delivery schedule had to be reviewed to find areas where the build could be expedited to meet the customer's delivery milestones.



A Cummins generator in an acoustic enclosure on its way to the port.

The project faced comprehensive design-related and implementation challenges in the previous phase. These challenges had to be addressed in Phase 2. Over three-week period, several stakeholders were involved in developing a comprehensive list

based on the previous two years of operation to ensure that all design and operational deficiencies previously identified were resolved. The task was further complicated as the delivery schedule was very tight, which necessitated that the design improvements

happened concurrently while the enclosures were being built.

Adding to the difficulty was the travel restrictions imposed due to the Covid-19 pandemic. In place of a more effective and easy face-to-face meetings, the AME team had to rely solely on Skype

and Zoom to work with the design and factory teams at the manufacturing plant for the process of issue identification, redesign and improvement implementation. It was new and challenging for the AME team having to deal without direct contact on drawing reviews and trying to articulate problems/concepts via remote viewing, while adding to intermittent connectivity of the web.

The Project Design & Implementation (PD&I) commissioning team worked at the vendor's premises to test the full integration of the generator package inside the acoustic enclosure.

After completing all the internal tests, the team conducted three full days' virtual witness testing with the customer, who was

based remotely. The team used three cameras to stream the test from all angles to enable the customer to witness the test. Moreover, the virtual test was video-recorded, and the video shared with the customer. The customer witness test included a 12-hour full load test, in addition to functional tests for all the other subsystems.

The customer was

satisfied with the generator performance and factory acceptance test set-up and process, which is considered as a remarkable success for Cummins. Cummins AME PD&I was able to execute, test and deliver the project on time for a strategic customer despite the operational, logistical and mobilisation challenges brought about by the Covid-19 pandemic.

How many litres of petrol can you buy with one South African salary?

THE second edition of the Petrol Index — a report prepared by

Picodi.com - shows how many litres of petrol citizens of various countries can afford based on their country's average salaries.

Here is some information from the report:

- In 3 out of 7 considered African countries, petrol prices in the first half of the year 2020 were lower than in 2019
- In South Africa, the decrease in petrol prices amounted to 4.1%
- An average South African can buy **1 345 litres** of petrol with their pay
- In Saudi Arabia, you could buy 8 210 litres of petrol for the average pay
- The worst situation was noted in Cuba (where citizens can afford only 28 litres of petrol)

The whole report with interactive infographics can be found on <https://www.picodi.com/za/bargain-hunting/petrol-index>.

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SUSTAINABLE WASTE WATER ENGINEERING

Maskam celebrates 10th anniversary with webinar

CONTRARY to the usual practice of face to face congratulations when reaching milestone events, the Covid-19 pandemic caused Maskam Water's 10th anniversary celebrations to be conducted by webinar.

The milestone event referred to the decade long supply, manufacture and installation of the ubiquitous Clarus Fusion Sewage Treatment System which features more than 50% local manufacture, by Maskam Water through a joint venture (JV) with licence holders, the Zoeller Pump Company of the USA.

Success in saving

Numerous businesses and authorities, including the Western Cape Department of Environmental Affairs & Development Planning (WCDEA) at its Dorp Street HQ in central Cape Town have found the advantages of the Fusion system appealing - utilising recycled grey water for sanitation purposes, irrigation or industrial usage - saving precious resources, capital expenditure and huge amounts energy. The WCDEA save over 1 million litres of potable water per annum just in toilet flushing with its Clarus Fusion unit.

The company have sold more than 280 Fusion units across sub Saharan Africa, the UAE and Mauritius since acquiring the distribution rights from Zoeller in 2010. More than 20 units have been supplied to customers in the Franschhoek Valley, (where the first plant was installed in 2010).

Dignitaries congratulate

Passing on their congratulations and good wishes were local dignitaries David Maynier, Western Cape Provincial Minister of Finance and Economic Opportunities, US Consul General Virginia Blazer, Ashton Mpofu, senior analyst at Green Cape and Sid Peimer, executive director of the Cape Chamber of Commerce & Industry.

Joining the webinar from Louisville, Kentucky in the USA was Zoeller Pump Company president Bill Zoeller who recalled the decade long association with Maskam and particularly with founder and CEO, Gerhard Cronje.

Gerhard Cronje gratefully accepted the good wishes praising the commitment of the company's dedicated workforce and took the opportunity to detail the decade long timeline of the development success and relationship with Zoeller.

Although Zoeller's products are sold in over 50 countries, Maskam is the only company outside of Zoeller's home base in the USA, to be trusted to manufacture the company's products locally.

"With 98% of the county's water resources already allocated and the ever present spectre of drought where towns have run completely out of water, has taught us that status quo cannot remain. "We need to think differently and act

differently when it comes to our water resources. On-site treatment and re-use is one of the most sustainable, if not THE most sustainable, ways of saving water / alternative water source" he reiterated.

New bylaws

In 2018 the City of Cape Town set the trend in water conservation on a more permanent and sustainable way. The new bylaws now stipulate that all new buildings and alterations that require the submission of a building plan must have water saving devices or an alternative water source for non-potable use. It is hoped that more municipalities may take this enlightened approach soon.



Gerhard Cronje CEO of Maskam presenting Annalene's 10-Years of service certificate.



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WHAT OUR FIRST FUSION CUSTOMER HAD TO SAY:

"We are very glad that we choose a Fusion system 10 years ago. This was a risky decision as it was the first of it's kind on the Continent. Since, we never had a problem and could enjoy our independence off the waste water grid. This way we were able to position the Cottage in the middle of pure nature." Christian Forrer, Acacia Cottage Franschhoek.



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Smart water solutions



RUSSIAN state nuclear energy corporation Rosatom, together with other stakeholders, participated in a technical talk titled 'power engineering: strengthening the South African power pool and developing water security in South Africa'. Organised by the South African Institute of Electrical Engineers (SAIEE), the talk, held in July, was held in the framework of the Nuclear Section, recently launched by SAIEE in a partnership with Rosatom.

Rosatom used the opportunity to highlight the comprehensive solutions and various water treatment technologies that they provide.

"South Africa is approaching physical water scarcity by 2025, and its socioeconomic development has been directly hampered by the recent drought. The country is expected to face a water deficit of 17% by 2030 based on the current usage trends, and this shortage will only be worsened by climate change," says Dr Hlamulo Makelane, research fellow at the Nelson Mandela University.

The latest Rosatom developments in water treatment include mobile water treatment and desalination units, which were introduced into South Africa at the Africa Energy Indaba Forum in March this year. The mobile water treatment solution is a fully containerised system that is mounted to the back of a standard one-ton pickup truck.

The units require very little set up and can be operational within six minutes. They can be deployed along rivers, dams or even the ocean. Clean water can then be distributed at the site of treatment or can be transported by tanker and distributed to nearby residents. They can fulfil an intermediate solution for urban and rural areas that don't currently have access to clean water or are experiencing water disruptions due to failed infrastructure.

"The key challenge of water scarcity in Africa

is access to adequate water resources. A lot of energy is required for desalination of sea water, as well as for operation of the large pumping stations to move fresh water from rivers to consumers. Rosatom has unique experience in the field of nuclear desalination, as well as the high-tech production base and the rich experience in creating world-class engineering facilities," says Ryan Collyer, acting CEO of Rosatom Central and Southern Africa. "Our aim is to give people access to clean water to improve living standards in Africa or elsewhere in the world."

According to the International Atomic Energy Agency (IAEA), only nuclear reactors are capable of delivering the copious quantities of energy required for large-scale desalination projects in the future. The existing Rosatom offer encompasses desalination facilities that employ multi effect distillation technology and are integrated into a nuclear power plant. Such installations use steam that has already been used for electricity production.

The simultaneous production of electricity and desalinated water at a nuclear power plant (NPP) is effective on account of a number of advantages, including relatively low costs, sustainability (the use of a small amount of chemicals for the desalination process) as well as economies of scale. The NPP produces large amounts of heat and steam, which is why a desalination facility integrated into a nuclear power plant is capable of ensuring supplies to areas with a population of up to one-million people.

A facility of this kind, with a capacity of 10.2-thousand m3 per day, was commissioned at the Kudankulam NPP in India, which was constructed by Rosatom. The purpose of the project was to obtain the water necessary for cooling during NPP operation, as well as to supply drinking water to population centres located nearby.

Local tech firm's app protects from Covid-19

SKYNAMO, has announced significant COVID-19 upgrades to protect a company's salesforce while trying to sustain competitive advantage, alongside nationwide training to protect the lives of mobile sales teams and the customers they are visiting.

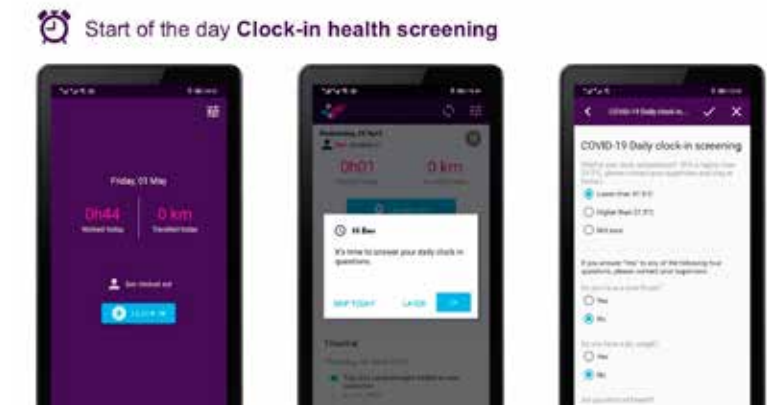
For most organisations, personal contact is essential to achieving sales goals. According to research undertaken by Xant, companies with field agents have a closing rate that's around 30.2% higher than those who rely on calls or emails and the deals are usually 130.2% larger. This makes field sales a critical investment for companies looking for stability in the current market and economy.

The data presents a real challenge. Meeting face-to-face is competitive advantage necessary in the current economy to stave off competitors vying

for the same customers who now have tighter budgets and are looking to cut costs, but business owners must not risk the health and safety of an organisation's people. The app potentially opens up opportunities for organisations that have been severely affected in a landscape defined by social distancing and minimal contact.

The COVID-19 Daily Clock-in Screening Form ensures that organisations in industries that require face-to-face engagement for sales enablement are able to protect their employees and remain aligned with the rules for occupational health and safety as outlined by the South African Department of Employment and Labour.

"There are stringent new regulations for doing business and it's important for companies to feel that they are doing everything they can to protect their



employees and their customers," says Sam Clarke, Founder & CEO of Skynamo.

"The field sales agents log into the app from the moment that they start the day and it asks a series of questions, that can be customised, that pertain to the virus," says Clarke. "These include things like temperature, general health, a cough – the basic checklist for the symptoms of the disease. Most companies take these details down when the

employee enters the building – their temperature is taken and they're asked a series of questions. For those in the field, this isn't possible which is where the app comes in."

The teams take their temperature and details remotely and provide these to their managers using an accessible digital record. They also complete a different list once they've seen a customer. They can answer customisable questions around whether the customer was ill, or

how well the company adhered to social distancing, for example. This not only ensures detailed record keeping, but it also ensures that legal procedures are tightly followed in the event that the agent does get ill and needs to apply for worker's compensation.

"The application gives the business a detailed record of field agent movements and this information can be used to track the illness if someone gets sick," adds Clarke.

Earning points under lockdown

AS was the case with most companies, lockdown measures have had an effect on hansgrohe's day-to-day operations. But National Training Manager, Tiaan Pienaar, has not let that stand in the way of helping tradespeople and architects rack up the Continuous Professional Development (CPD) points they need to stay ahead in their businesses.

CPD training needs to be undertaken by architects and various other professionals, to ensure that their skills stay up-to-date with the latest industry standards and developments. And gaining CPD points (or credits) is entirely the responsibility of

the individual professional. So, keeping up-to-date can often be an extra source of stress. hansgrohe's training courses aimed to relieve at least some of that stress during lockdown, by offering a workable alternative to real world training seminars and events.

It all began during the initial phase of hard lockdown in late March, when Tiaan took to video chat app, Zoom, to provide technical and product skills development training for staff at hansgrohe. The internal training was so well-received that the company decided to extend it to external industry professionals, who would have the added benefit of earning CPD points

despite lockdown.

In partnership with training provider, Specifying Techniques, hansgrohe issued invitations to a broad database of architects to join the CPD-accredited online training courses. And the response turned out to be phenomenal. In South Africa, registered professionals must accumulate a minimum of 25 CPD Credits in each five-year cycle. And the minimum requirement per calendar year is three. hansgrohe's lockdown training initiative provided the opportunity for architects to gain two points – an appealing value-add during the COVID-19 lockdown.

Tiaan says, "It's so



important for architects to maintain their CPD status in order for them to keep practising. And in lockdown, this was initially quite a challenge.

We felt this was a great opportunity for hansgrohe to step in and offer a solution that would help them stay on track.

"The comments I received from archi-

itects who attended the training were overwhelmingly positive", says Tiaan. "We put an online attendance register system in place, which all attendees signed, to ensure that all the necessary accreditation was in order. And many who attended remarked that they saved precious time by training online."

FNB distributes 100 000 cloth masks to SASSA beneficiaries

FNB has distributed 100 000 cloth masks to SASSA beneficiaries who collect their social grants across the Bank's branches.

The masks were distributed through 200 FNB branches in provinces which include Gauteng, Western Cape, Limpopo, Northern Cape, KwaZulu-Natal, Eastern Cape, Mpuma-

langa and Free State. The allocation in each branch was dependent on the volume of beneficiaries per branch, however each branch was allocated between 400 to 1 000 masks to distribute during the days that grants are paid-out.

Lee-Anne van Zyl, CEO of FNB Points of Presence says "Our measures are designed

to support the country's efforts to contain the spread of COVID-19 and we are playing our part by prioritising the wellbeing of banking customers and our frontline employees. Our branch consultants distributed the masks on first come first serve basis while beneficiaries were queuing to make withdrawals."

"We will continue to

provide all necessary support to customers and encourage all to ensure social distancing when using banking infrastructure, and where possible to use digital channels for some transactions. We are committed to providing essential services in a manner that prioritises the safety of our employees and customers," adds Van Zyl.

FNB branches play an essential role in ensuring that beneficiaries conveniently access their grants. In recent months, the Bank has increased levels of hygiene at its branches to improve safety and all its frontline employees in branches are equipped with sanitisers and masks in adherence to regulations.

Babcock prevails under pressure

FOLLOWING a rupture on the mainstream piping system on one of the units at a major power station, Babcock's Ntuthuko Engineering division, along with two other major boiler companies, was part of a competitive bidding process to develop a proposal in a very short period of time to repair the piping system as quickly as possible to the strictest of international standards.

Babcock was successful in its tender and was awarded the work to undertake the design, procurement and supply, fabrication, manufacture, and construction

of the complete mainstream and high-pressure bypass system for the power unit.

Keagan Naidoo, Piping Engineering Manager at Babcock Ntuthuko Engineering, explains that a complex project of this nature taking into account the engineering scope, manufacturing, logistics and the scope of construction involved, usually takes 18 to 24 months to execute. However, Babcock successfully completed the project in just seven months, working under pressure to restore the additional power capacity.

In order to assess the

extent of the damage, Babcock used a combination of visual inspection and 3D scanning technology to scan the piping system and associated structures. Using specialised software, Babcock was able to digitise the real-world architecture by capturing existing plant conditions and complex geometry, resulting in a digital copy, which identified that large sections of pipework and structures had been displaced during the rupture.

Babcock was tasked to design the replacement system whilst establishing a safe working environment

to enable the safe removal of the damaged sections of pipe-work; source and supply the replacement hardware on the piping system; and install it.

As part of removing the existing 'as-damaged' piping system, various techniques using load-bearing scaffolding and ratchet type restraints were employed to remove residual spring due to the event and prevent further displacement.

He says that the project was logistically demanding as specialty items such as forgings and piping had to be manufactured in Europe and delivered

to South Africa within the strict project timelines, while complying with the best practices in accordance with the latest international design codes available, and benefiting from the design smarts to minimise calculated stresses.

"Quality control measures which formed key gate keepers leading to cold handover proved challenging as the majority of this was done over the festive season, meaning the availability of resources from sub-contractors was not as abundant as other periods," says Naidoo.

"With great effort,



Complex fabrications at power station repair contract.

dedication, teamwork from both Babcock and the client's side, and many late nights and weekends, the unit was

successfully and safely synchronised to the power grid on 16 February 2020," he concludes.

Dis-Chem expansion

DIS-CHEM Pharmacies will add seven new stores to its footprint during July and August, adhering to its planned expansion timetable.

July saw the group opening doors to its new stores at the Valley Hyper (Nelspruit), The Neighbourhood (Linkfield), Benoni's Lakeside Mall and the Musina Mall (Musina).

Further openings in Mooirivier Junction (Potchefstroom), Makhado Crossing (Louis Trichardt) and Parow (Cape Town) are scheduled for August. Adding to this is the scheduled opening of an additional store in the Gallo Centre in Francistown, but this is dependent on the reopening of borders.

Once the Francistown store opens, it will take the total number of Dis-Chem stores in Botswana to 2, with a concomitant footprint increase in South Africa to 180 sites.

The July and August openings will increase Dis-Chem's total retail space to just over 241 000m².

Ivan Saltzman, Dis-

Chem's CEO says the group plans to open a further ten stores before the end of the year, although certain locations may be hampered by construction delays or catch-ups. "We are currently on track to meet our expansion plans and we are fortunate that the delays brought about by lockdown have not had a

material impact on the roll-out of new sites."

He says unanticipated delays may result in a small number of site openings being pushed into early 2021, but these will run alongside expansion targets. Dis-Chem says 21 new stores have already been identified and secured for FY2021 and growth in the brand

has made it an anchor store in malls.

"We plan to maintain our target of reaching 200 stores by 2021/2022 if there are no unforeseen circumstances. In a market where consumer spending in under severe pressure, expansion brings greater access to everyday low pricing in dispensary, healthcare,

nutrition and beauty items to a larger number of consumers. A further plus, thanks to the inclusion of Dis-Chem clinics within our stores, is greater access to much-needed primary healthcare services which has a dual benefit for patients and the public healthcare system," Saltzman concludes.

New trucks for online deliveries

SERCO is offering two new vehicles purpose-built for the delivery and collection of goods in the burgeoning online sales market in South Africa.

The first is an insulated truck which is 20% lighter than the company's usual product and the other is a dry freight solution for the transport of products such as electrical goods and computers as well as all sizes and shapes of home appliances.

"The lockdown has triggered a rise in online shopping, which most likely is expected to continue after the pandemic settles. This has caught many online retailers

flat footed as they gear up to handle the logistics at these higher volumes," said Serco CEO Clinton Holcroft.

"During the lockdown, we researched what we as vehicle bodybuilders needed to offer as solutions for our customers and came up with these two new designs which are ideal for businesses in the online sales industry."

Serco initially launched the new 'chiller body' for body sizes under 3.1m in length but have fast-tracked the development and now can offer for insulated bodies right up to 6m, ideal for distribution and home deliveries of

food products and pharmaceuticals requiring temperatures between -4 and +8 degrees C.

"Many home deliveries are done using bakies and motorbikes but as the market has grown, so too requires bigger and more suitable vehicles which are temperature controlled to suit food transport," said Holcroft.

"We offer lightweight aluminium shelving to accommodate whatever boxes, crates and perishable products clients need to transport."

In the dry freight vehicle range, several options are available, including units with conventional seam-

less fibreglass panels through to lightweight versions especially suitable for the smaller bodies giving more payload while offering improved security and protection against water damage as compared to curtain sides and conventional steel bodies. A variety of lightweight shelving options are also available.

"Key aspects are that the newly designed vehicles for online distribution can be built to spec and delivered within three or four weeks, and are price competitive and lighter than conventional options," added Holcroft.



One of the newly designed vehicles for the delivery and collection of goods in the online sales market.

Sun International customers make a difference

SUN International has paid over R2-million to the Solidarity Fund, after more than 15 000 members of its loyalty programme pledged their leisure points for this purpose.

At the start of the national lockdown the company froze all leisure and casino points accumulated by its Most Value Guests (MVGs). Each leisure point represents R1 in value and can ordinarily be redeemed at any hotel or leisure facility within the group.

Sun International

CEO Anthony Leeming said, "We were considering practical ways to respond to the crisis when a number of our MVGs asked us to set up a charity fund to which they could contribute. The points represent a hard cost to us that we would have to pay over to whichever property they are redeemed at, so it made sense to divert the rand value of donated points to the Solidarity Fund instead.

"Right now we are all focused on fighting the COVID-19 virus,

but a bigger economic battle is looming. The hospitality, gaming and leisure industry has been particularly hard hit, so the economic hardships facing smaller businesses and individuals resonates deeply with us. We applaud the many MVGs who responded with compassion and generosity."

On behalf of The Solidarity Fund, Interim CEO of The Solidarity Fund, Nomkhitha Nqweni expressed her appreciation saying, "It is through the collective efforts of contributors

like Sun International and its 15 000 customers that enables The Solidarity Fund to support the national health response, contribute to humanitarian relief efforts and mobilise South Africans to drive a united response to the Covid19. This generous donation will directly benefit those impacted by the pandemic and help The Solidarity Fund to make a real difference by providing Personal Protective Equipment to our frontline health workers, testing kits and food relief to vulnerable



communities, amongst other important initiatives."

Sun International is

one of six loyalty programmes whose members to have exercised the option to donate

to the Solidarity Fund, and is the only hospitality and casino group to do so.

Quantum: hot in the henhouse



TENSIONS have ratcheted up markedly following last month's story on dramatic ownership changes at Quantum Foods – the Wellington-based poultry, egg and animal foods producer.

It did not take long for Bloemfontein-based poultry producer Country Bird Holdings – which acquired a 31% stake in Quantum from PSG-aligned Zeder Investments – to flex its muscles.

CBH – which holds lucrative supply contracts with large fast food companies – called for a meeting of shareholders to consider nominating a new director to the Quantum board.

But Quantum declined to convene the meeting – citing legal opinion obtained over the eligibility of the candidate proposed as a director by CBH. CBH, at this

stage, has not revealed the identity of their nominee...although CBN understands the person doesn't have links to the local poultry sector.

At the time of going to press CBH was reportedly re-considering its options – which would probably revolve around nominating a different director to the Quantum board.

At face value it would seem, Quantum has – for the moment – managed to build a defence against CBH – which is perceived as making a hostile advance on the group.

It would appear that offshore investment entity Silverlands – which recently acquired a 32% stake in Quantum – might be working together with other major shareholders like Astral Foods (the country's biggest poultry producer) and the group's directors

(including chairman Andre Hanekom and CEO Hennie Lourens).

Talk around agri-sector sources is that the smart money is backing CBH to talk away from Quantum.

That said, rumours suggest that CBH had grand plans for Quantum. CBH last month also acquired the Enterprise processed meat business from Tiger Brands, and seems determined to build a larger business around affordable protein sources.

It has been speculated that CBH might have considered reverse listing onto the JSE through Quantum – a deal to would create a formidable food sector player.

If CBH is frustrated in its attempts to engage constructively with Quantum around future strategy, one option might be to sell off its shareholding to Astral. Such a move would bank a neat profit for CBH, but it is debatable whether this would compensate for the larger strategic plans the company had for its Quantum investment.

It has been reported that Astral has recently bumped up its initial 6% stake in Quantum to close to 10%.

Quantum is of huge

strategic importance to Astral. Astral has previously raised issue with CBH acquiring a strategic stake in Quantum – suggesting that the current broiler supply agreement with the company could be jeopardised over the long-term.

Quantum supplies roughly 30% of Astral's live broiler chickens processed in the Western Cape. Quantum has a similar agreement with Eastern Cape-based poultry producer Sovereign Food Investments.

The gist is that Astral would need to make a considerable investment in its own production capacity if it needed to replace the lost supply agreement with Quantum. Quantum, to date, has been a reliable partner in the arrangement.

In its last financial report, CEO Hennie Lourens said volumes of day-old chicks increased by 4.1% and overhead costs were well managed. "Although the breeder section of this business is still under pressure, we saw an improvement in the performance of the recent grandparent genetics received." He said commercial broiler performance remained at a very high level.

From hives to wine



MARK Collins, the recipient of Popular Mechanics Inventor of the Year 2014, SAB Social Innovation award 2014, and the Emerging Genius 2014 award, used his passion & love of nature to create a beehive that is both superior in design and aesthetics.

BeePak hives, the world's first composite flat pack and insulated beehive, has a plethora of design elements making it tougher, easier to clean, insulated to moderate temperature & predator proof and one of the most effective honey producing hives ever designed. BeePak hives are also user friendly for the hobbyist or novice beekeeper wanting to attract bees



to their garden and can be custom wrapped in colours and design's to create a living functional art piece for the garden.

Honey is immortal and never spoils. Astonishingly, archaeologists found edible,

liquid honey in the tomb of King Tutankhamun being approximately 2 000 years old.

At a chance social encounter, over a glass of wine, a common interest set off a brain storming session that led to a partnership with Nina Steininger who shares the same passion for creativity, nature and sustainability and Ammon Righini being the founder and creator of the Cannabucha brand.

In conjunction with one of South Africa's top award winning winemakers, this trio created Pheromone Wine, a smooth, easy drinking classic Bordeaux style blend infused with a hint of raw honey and 20mg of the finest whole plant spectrum CBD and aged in oak barrels for over two years, the result of which is said to be phenomenal.

For overseas distribution enquiries, please make a beeline to website: www.pheromonegroup.com Or email: info@pheromonegroup.com. For BeePak enquiries: www.beeepak-world.com

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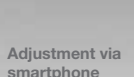
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JUNGHEINRICH

World leaders in lithium-ion technology

Dr. Lars Brzoska, Chairman of the Board of Management:

“Globally, no other brand has more lithium-ion industrial trucks in service than Jungheinrich”

Jungheinrich – established in 1953 – has become a world leader in the material handling equipment, warehousing and material flow engineering sectors. Within these segments, the company is ranked in second place in Europe, and third in the world.

These accolades are in no small part due to its pioneering work in the development of lithium ion battery technology and control systems which are found right across its range of battery electric lift trucks.

Li-ion batteries are ubiquitous – they are found everywhere – from cell phones, laptops to power tools and importantly to battery electric industrial trucks where its advantages over conventional lead acid batteries make it the obvious choice in the food and beverage sector where fast turnaround and hygiene concerns of zero air pollution are paramount.

The reasons are not difficult to see: high-power energy cells score over traditional lead-acid batteries with superior performance and efficiency.

A typical 1 000 Ah lead acid battery can have a mass of 1,2t and is used as a vehicle counterweight whereas a 500 Ah li-ion battery gives better performance and only weighs 80 kg! To compensate for the loss of counterweight all lithium-ion units are built with a balancing weight.

The lasting performance of li-ion batteries improves warehouse efficiency and handling capacity. Fast charging times – typically only 1.5 hours for a full charge and zero maintenance ensures continuous lift truck operation. The long service life of three times that of a lead acid battery easily offsets the higher initial cost especially as a second lead acid battery and attendant transfer station isn't required as there is no need for battery swaps to complete a shift.

Jungheinrich is so confident of the battery's performance that it offers a five year unlimited guarantee on its li-ion batteries, irrespective of hours worked. And not just in its own industrial trucks – Jungheinrich li-ion batteries and control systems can also be retro fitted to other brands of lift trucks.

A pioneer in li-ion technology since 2011

In the race for electromobility in intralogistics, Jungheinrich has become a world leader in lithium-ion know-how, having embraced this technology in 2011 when its EJE 112i was the first series-ready li-ion vehicle ever. Over the nine years of research and development Jungheinrich Energy and Drive Systems (EDS), have expanded its portfolio of forklift trucks powered by li-ion batteries until virtually its entire fleet is now li-ion ready.

Safety first

Jungheinrich li-ion batteries are manufactured using the safest cell chemistry available, lithium iron phosphate. They are non-toxic and do not release gas. Its specially developed battery management system uses highly sophisticated electronics to monitor each cell and will gently power down in the event of dangerous situation. Their customer service department handles transport and disposal, ensuring maximum safety for people and equipment.

Extremely short charging times

With just 90 minutes from zero to full charge, li-ion batteries are always charged and ready for use across shifts. Even after an intermediate charge of only 30 minutes, a 24 V battery will have reached 50 % of its capacity. With boost and intermediate charging possibilities, such as during breaks and downtime, 24/7 vehicle availability is ensured.



Maximum power at all times

Greater depth of discharge and a constant voltage characteristic mean that more power is available than with lead-acid batteries even when the battery is running low. The batteries recover energy during braking, and a better overall efficiency rating enables them to save up to 20% more energy. In addition, communication between the battery and the charger ensures efficient and fast charging.

They are completely maintenance-free and do not release gas.

Fully integrated systems

As the only complete system supplier for intralogistics, Jungheinrich offers a comprehensive, interconnected system in which the battery, charging unit and vehicle perfectly communicate with each other, thus significantly reducing power requirements. This is because Jungheinrich is the first manufacturer of industrial forklift trucks in the world that produces its own li-ion batteries and control systems.

For more information call 080 098 4001 or visit the website www.jungheinrich.co.za

Latest offerings

ETV 216i – the world's first li-ion reach truck

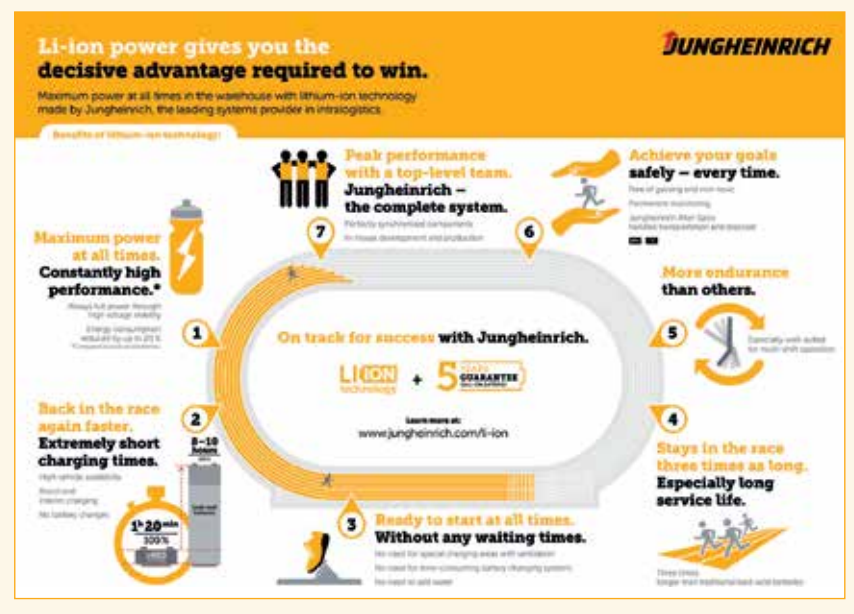
The ETV 216i is the latest innovation in its lithium-ion technology. It's the world's first reach truck with a fully integrated lithium-ion battery. Its full power and long-lasting performance coupled to the revolutionary vehicle design also ensures top ergonomic and safety performance.

The EFG with li-ion technology

Almost the entire Jungheinrich fleet is li-ion ready. That includes the EFG counterbalance forklift trucks equipped with 80 V (500 Ah) lithium-ion batteries. Fast charging times, zero maintenance and a long service life ensure that the EFG with lithium-ion technology is a step ahead with higher handling capacity and energy efficiency.

Top-performance order picking

Its Series 3 EKS vertical order picker with an innovative 48 V li-ion battery guarantees high-performance, safe and energy-efficient order picking. All made possible by fast charging times, no maintenance requirements and a particularly long service life.



National supermarket embraces retail-ready packaging

PICK n Pay have partnered with global supply-chain solutions company CHEP to trial and launch innovative retail-ready packaging (RRP) platforms in its stores across the country.

RRP is an innovative last-mile solution that allows products to be moved from factory floor to the store floor

on a single pallet, to be delivered either directly within a shelf, in an aisle, or as a free-standing unit.

These retail platforms offer a customisable solution for manufacturers and retailers that minimises touch-points, reduces damage and drives sales in retail stores, with positive environmental

impacts. The platforms are smaller “fractional pallets” that include a protective cardboard wrapping, doubling as an in-store branding and marketing opportunity.

The challenge

Traditionally, a category like, for example, sugar involves a lot

of handling along the supply chain and this can cause inefficiency, damages and unnecessary waste for both retailers and suppliers.

It is also difficult for brands to attract the attention of shoppers in a shelf environment, where products are commoditised, with little way of differentiating them-

selves to customers.

“Pick n Pay wanted to address these issues and approached us to find a viable solution,” explains Conor Powell, Last Mile Solutions Manager at CHEP Sub-Sahara Africa.

The solution

“Our retail-ready packaging solution

protects goods as they move through the supply chain, but also saves time and resources. These can also be used to merchandise products in store. Technically speaking – an all in one solution,” says Powell.

RRP trials were first conducted at Pick n Pay stores in Gauteng.

The platform performed above expectations in driving efficiencies, reducing damages, and lowering the carbon footprint of packaging to create cost savings along the supply chain.

Delving into consumer behaviour

To further test the solution, CHEP partnered with Neural Sense, a neuromarketing company that uses consumer neuroscience to understand consumer behaviour. Shoppers were fitted with mobile eye-tracking glasses to see what grabbed their attention and how they visually navigated the store environment, as well as galvanic skin response sensors to measure their level of emotional arousal during the shopping experience.

The tests showed that the branded retail-ready packaging attracted significant attention in-store (outperforming other point-of-sale activities), provided a more convenient shopping experience (given the ease at which products could be selected) and overall 67% of shoppers preferred to shop from the palletised retail-ready packaging compared to standard shelving displays.

The new platforms are installed on reusable 900 x 600 mm CHEP pallets that are returned to suppliers as part of the company’s circular-economy, share-and-reuse model – a business model that has seen CHEP rated the most sustainable company in the world in the Dow Jones Barron sustainability rankings.

“We chose to launch our Last Mile Solutions with sugar, a known-value item,” said Powell. “These products move quickly and are more likely to be affected by damage or slower replenishment.

“Within the first two months of piloting the solutions with Pick n Pay, they saw a significant reduction in product damage.”

“We are excited that our new solutions have been well received by shoppers and our partners at Pick n Pay,” he added.

“This solution can boost efficiency for retailers, manufacturers and other service providers but also fulfils a marketing and display function,” said Powell. “We look forward to working with our partners to customise this offering even further.”

Are your products catching your customer's eye?

Fractional and Retail-Ready Packaging is an innovative solution that allows products to be moved from factory floor to the store floor on a single pallet, to be delivered either directly within a shelf, in an aisle, or as a freestanding unit.

We have two offerings in place and more on the way. The current offering includes a 900x600 wooden platform and a 600x400 plastic platform. Both allows for innovative branding and allows for seamless integration in-shelf.



Safety for your staff and shoppers

by reducing the number of touches to products from warehouses to store floors.



Manage costs sustainably

Save up to 60% of operational costs by using shelf ready display units.



Reduce secondary packaging

Retail-ready packaging eliminates the need for secondary packaging, which saves on resources and avoids waste.



Reignite promotions effectively

Promotions can come pre-filled on a cardboard display attached to a reusable display pallet.

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Tips for correctly handling the vacuum pump in a chamber machine

Vacuumping of Fresh Food

Vacuumping fresh food using chamber machines is often a daily activity in butcher shops, at fresh food counters for meat, sausage, and cheese products, as well as in the food service industry. All fresh foods contain more or less unbound water, which partially evaporates during vacuum packaging. This can have an influence on the quality of the product. Furthermore, if the packaging machine is not permanently in operation, the packaging result may deteriorate, or the packaging process may take too long. If the packaging process takes too long, the food to be packaged will lose weight. Below is an explanation of the physical operations performed during the packaging process, as well as some practical advice to ensure trouble-free operation and a long service life for the vacuum pump in the packaging machine.



Fig. 2 Typical R5 rotary vane vacuum pump from Busch for use in chamber packaging machines

Fresh foods such as meat, sausage, fish, and cheese are usually vacuum packaged at a pressure of around five millibars. At this pressure, the oxygen content in the remaining residual air is so minimal that the activity of various microorganisms is prevented. This significantly increases the shelf life of the packaged products. However, such low pressures also cause water to start evaporating at low temperatures. While water at normal atmospheric pressure only evaporates or begins to boil at a temperature above 100 degrees Celsius, at a pressure of 30 millibar it starts to evaporate at room temperature. At a pressure of 8 millibar, water evaporates already at a

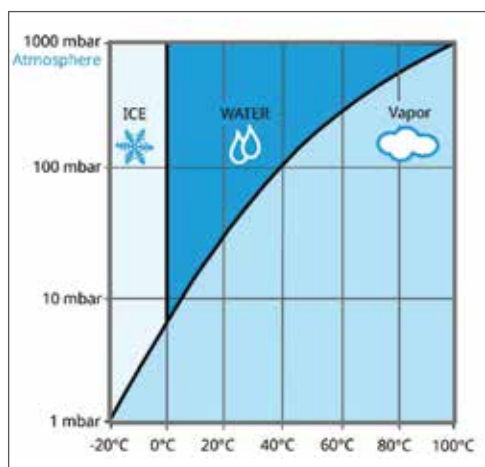


Fig. 3 Change in the aggregate states of water as a function of temperature and pressure

temperature of 4 degrees Celsius – even in cooled rooms (Fig. 3). For this reason, fresh foods always generate water vapor during the packaging process, and this water needs to be extracted by the vacuum pump together with the air from the packaging chamber. If the vacuum pump rarely or never reaches the operating temperature due to very short runtimes, the water vapor condenses almost completely inside the pump. This leads to an accumulation of

Recommendation for operation

In order to ensure the reliable and trouble-free operation of chamber machines, the following should be observed:

1. Let the vacuum pump warm up before packaging

To do this, simply run the packaging machine five to ten times without any product and packaging bag. Make sure that the chamber is dry for this.

2. Use the service program regularly

Nowadays, most chamber machines have a service program. This program ensures that condensed water vapor that has mixed with the oil is removed from the vacuum pump. This program should be started at least once a week. Depending on the packaging machine, it takes between 10 and 20 minutes. The vacuum pump is brought to operating temperature so that the water in the vacuum pump evaporates again and is discharged.

3. Check oil level and oil quality weekly

A visual inspection should be carried out once a week to check that the oil quantity and quality are correct. This can be done quickly and easily through the oil sight glass. The oil in the vacuum pump should be colorless to yellowish and clear. If the level falls below the MIN mark on the oil sight glass, oil must be topped up. If the oil is milky and cloudy, this is a sign that water has mixed with the oil and formed an emulsion. The service program then needs to be run. If this has no effect on the

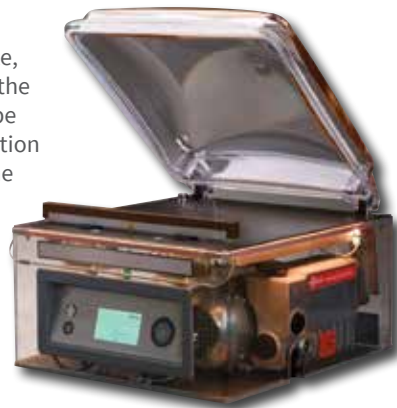


Fig. 1 Functional model of a chamber packaging machine with visible rotary vane vacuum pump inside

R5 oil-lubricated rotary vane vacuum pumps from Busch Vacuum Solutions are standard (Fig. 1) in chamber machines and are used by all renowned manufacturers. They have been specially developed for packaging food and have proven themselves over decades. Through continuous advancement, these vacuum pumps have achieved the highest possible quality standard (Fig. 2).

visual condition of the oil, an oil change needs to be performed. Darkening of the oil is a sign that some substances, for example spices, have been deposited in the oil or that it has aged too much. An oil change also needs to be performed if this is the case.

4. Use suitable vacuum pump oils

The quality of the oil in vacuum pumps and the correct quantity play an important role in the packaging process and in protecting the pump. It is therefore essential to choose the correct oil to ensure the vacuum pump and thus the packaging machine function properly. Busch Vacuum Solutions has developed special oils for vacuum pumps in packaging machines. The VSA vacuum pump oil is suitable for packaging very moist products, since it has been designed for the extraction of air with a high water vapor level. For less moist food, the VSL vacuum pump oil can also be used. Both oils are food-grade synthetic oils with H1 approval. They also have a service life of up to four times longer than mineral oils. Busch also offers suitable oils for packaging with oxygen as a modified atmosphere.

5. Service your vacuum pump regularly

The vacuum pump in a chamber machine should be serviced regularly. The service intervals depend on the operating conditions, the number of packaging cycles, and the type of goods to be packaged.

A reliable indicator of when an oil change needs to be performed is the visual condition of the oil, as described under point 3.

When changing oil, the exhaust filter in the oil separator should always be replaced as well. For vacuum pumps with a pumping speed of 25 cubic meters per hour or more, the oil filter also needs to be changed. The sealing rings on the service openings should also be replaced in order to prevent leaks. For your convenience, Busch offers service kits for all R5 vacuum pumps, which contain all the necessary parts. Busch Vacuum Solutions offers a worldwide maintenance service so that this work can also be carried out by a service technician directly at the customer's premises. Different types of service contracts are available.

Observing these instructions will help to ensure trouble-free operation and a long service life for the vacuum pump, as well as optimum packaging results.

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BUSCH VACUUM SOLUTIONS

No salty lumps



Multotec drew on capabilities of its state-of-the-art Centrilab technology developed by sister-company Siebtechnik Tema.

WELL known in the mining sector for dewatering and other mineral processing solutions, Multotec Process Equipment has also been growing its footprint in food and chemical applications.

A recent installation by the South Africa-based original equipment manufacturer (OEM) successfully assisted a salt producer in Namibia in reducing moisture content in its product. According to Multotec Process Equipment senior process engineer Khathutshelo Mutshinyalo, a fit-for-purpose vibrating centrifuge was the answer in this application.

"The customer had a specific requirement to achieve a low moisture level in their coarse salt application," Mutshinyalo says. "However, we

also needed to prove upfront that our solution would deliver the correct result."

With its experience and its in-house testing facilities, Multotec was able to define a test work method to meet the customer's precise needs. It was also able to draw on the capabilities of its state-of-the-art Centrilab technology – developed by sister-company Siebtechnik Tema. The Centrilab tests the separation of suspensions in the centrifugal field, by simulating the particular centrifuge operating conditions.

"This allowed us to specify the optimal machine for the customer, and prove the results before the order was placed," he says. "The vibrating centrifuge we specified features a maximised area

inside the housing, to optimise the dewatering process."

The result was that Multotec's centrifuge achieved a moisture content 10% better than the customer's expectation. Achieving better than the desired moisture content ensures that there is minimal to no formation of lumps in the product, which saves the customer potential penalties.

"By testing to ensure the right solution, and deploying a product specialist and technician on site, we could commission the centrifuge outside South Africa within a week," he says. He notes that Multotec's footprint with this technology includes companies in South Africa, Botswana, and Kenya using it for similar applications.

Motors and VSD help food and beverage plants reach sustainability goals

Brith Isaksson, Global Segment Manager: Food and Beverage, ABB Motion

STRONG demand for convenient, healthier foods and beverages – produced and packaged in the most environmentally friendly way possible – is placing critical importance on sustainability at every stage of the value chain. Variable speed drives (VSDs) and high-efficiency motors can help the industry address two key sustainability challenges – energy efficiency and water conservation.

Increasing energy efficiency

Electric motors usually make up the bulk of a plant's energy consumption. The good news is that there is a significant opportunity to reduce electricity usage by upgrading from inefficient motors to ultra-premium motors, like IE5 synchronous reluctance motors (SynRM).

Adding variable speed drives can also have a significant impact on energy savings. Companies can even use ABB's EnergySave calculator to explore how much energy and money they could save by installing drives. Using VSDs allows for more control over a motor and adjusts the speed or



VSDs and high-efficiency motors can optimise energy consumption in food and beverage applications.

torque according to the actual needs. Replacing throttle valves/vanes with VSDs on pump and fan control is an excellent opportunity to save energy. Adding VSDs can reduce energy consumption between 20 to 60 percent.

Modern process plants are being challenged with reducing overheads and simultaneously shortening maintenance downtime. This means that the available maintenance staff must be fully equipped with the most advanced plant information systems in order to properly plan their maintenance activities. ABB Ability™ Smart Sensors are a cost effective solution for either pumps and/or motors, and are designed to help planners and maintenance engineers visualise areas of the plant that need the most urgent attention, providing the necessary infor-

mation needed to properly plan the corrective action without the need for costly expert site visits. Since the smart sensors are already gathering on-line data, they can also very easily be used to quickly spot guaranteed energy saving opportunities. Data collected from the smart sensors, combined with information collected from VSDs' inbuilt sensors and loggers, can be collated, stored, and further accessed via cloud technology. The ability to gather and analyse this data can reveal information that can be used to make performance improvements that will increase efficiency, safety, and product reliability.

Optimizing water usage

Minimizing the water used for process equipment and pipeline cleaning presents another challenge for

food manufacturers.

One solution is to implement efficient pumping by using VSD pump controls to help optimize water usage. These controls offer several critical software functions such as regulating the pressure and flow rate for pipe clean and fill functions in Clean-In-Place (CIP) equipment. This reduces the cleaning time, resulting in less water and cleaning materials being used. Anti-cavitation software can also detect and prevent cavitation to ensure the optimal flow of water throughout the plant an extending the pump's lifetime. Another way to save water is to choose products that are very easy to clean – taking less time and requiring less water such as hygienic, stainless-steel washdown motors designed with smooth, crevice-free surfaces.

Sustainability is everyone's responsibility

By prioritizing energy and water conservation, identifying the areas that need the most attention, and committing to energy and water saving initiatives, manufacturers can have a significantly positive impact on sustainability, which invariably results in reducing costs and making an organisation more competitive.

Used or rental solutions for agribusiness

GOSCOR Lift Truck Company's used and rental solutions offer cost-effective capital equipment options to the farming community.

"We have pre-owned and rental units, and these are available with short lead times to accommodate farmers who have immediate materials handling equipment (MHE) needs," says Patrick Barber, Sales Director at GLTC.

"We established our dedicated Rebuild Centre in March 2017, which is purely focused on refurbishing ex-long term rental units. This was a timely investment in the sense that equipment rebuilds are a growing trend, not only in the MHE industry, but across the capital equipment sector at large. We have already seen a big jump in our used sales since the development of the Rebuild Centre," explains Barber.

GLTC's rebuild programme gives agribusiness customers the opportunity to save as much as 50% over buying new, while having the assurance that their refurbished machines will operate at peak capacity. When it comes to the lifetime of refurbished forklifts, depending on the original age of the truck the application hours worked, one can get an additional 3 years or 6 000 hours from their refurbished unit.

Flexible rental solutions

"The benefit of renting from GLTC is two-fold: firstly, we offer full-time, skilled service personnel, and, secondly, we keep a large inventory of parts to service the equipment," explains Barber.

"Our promise to the customer: If we can't repair a machine within



24 hours of a reported breakdown, we will replace the rental machine at no extra cost to the customer (subject to Terms and Conditions)," he adds.

To help farmers maximise their uptime, GLTC has technical teams strategically placed across South Africa to be able to service and look after clients – whether they are in the city or out in the greater farming communities. "Our units are tried and tested in the South African market. We have numerous blue-chip companies that trust us with their

material handling requirements," says Barber.

"The units we have available are focused on normal day-to-day forklift requirements. We can, however, offer tailor-made solutions, should an application need a more specialised piece of equipment. We will come out to wherever customers are based in South Africa to do a site evaluation and do specific recommendations on their requirements – whether for a specific forklift or any warehousing equipment," adds Barber.



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Resource efficiency as a tool for #BuildingBackBetter

The advent and impact of COVID-19 in South Africa has amplified the systemic socio-economic challenges faced by our country. But it also offers an opportunity to rebuild our economy in a more sustainable manner.



Lee-Hendor Ruiters

Resource Efficient and Cleaner Production (RECP) might be a very technical and industrially focused methodology, but the concept also embodies the principle of team work in order to achieve more with less, and that is what we need as a country.

RECP is defined as a systematic and integrated approach to managing energy, water, environmental and financial resources, eliminating or minimising waste and emissions to the environment, on a sustainable and cost-effective basis.

The NCPC-SA supports industry to implement RECP through thematic projects like the Industrial Energy Efficiency and the Industrial Water Efficiency Projects and is available to provide assistance, advice and technical support to South African industries.

The potential to save resources and related costs through operational improvements is evident in the NCPC-SA's results. In the past five years, the Centre has assessed 739 company sites of all sizes, from massive steelworks to B&Bs. Identified RECP opportunities in this time period are valued at an average of R1.9 million per company, per year. This is mostly in energy, but water and material savings also feature strongly.

Sadly, the majority of companies do not implement the majority of opportunities, for many reasons. But when they do, the results are a testament to what can be achieved with a collective effort. Last year, one company supported by the NCPC-SA in the Western Cape measured water savings of 60.44 million litres over 16 months. That is the water consumption target for the entire City of Cape Town for one week. The impact of hundreds of companies doing likewise speaks for itself.

Companies implementing broader RECP

implementation have enjoyed energy and water savings through an integrated approach. Atlantis Foundry, for example, realised water savings of 4.9 million litres and energy savings of 3 203 MWh, which combined saved the plant R 12.4 million. In under two years.

Savings are just as possible in smaller companies and less resource-intensive sectors. Excellent Meat Packer, part of Excellent Meat Holdings group achieved water savings of 23 million litres and 120 MWh of energy that resulted in combined R1.5 million in monetary savings.

Due to the success of the NCPC-SA projects the Centre recognises the need to advocate for concentrated and inclusive industrial development in a struggling and post COVID-19 national economy.

The NCPC-SA realises that companies of all sizes across South Africa may need additional advice as operations return to the new normal. For more information, interested parties can visit www.npcp.co.za or email npcp@csir.co.za.



The South African Industrial Energy Efficiency Project has supported industrial and commercial companies to save a staggering R 4.6 billion since 2011.

Through the implementation of **ISO 50001** aligned **energy management systems** and **energy systems optimisation**, the IEE Project partners have assisted large and small companies to save costs and carbon emissions through sustained energy savings.

Enjoy real, sustained savings in difficult economic times through continuous improvement in energy management. And consider the benefits of an ISO 50001 certification to the bottom line.

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5.82 TWh
Energy saved



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ZAR 4.67 billion
Energy costs saved

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The IEE Projects is a national partnership initiative with international implementing and funding partners:



Driving efficiency through gas-generated energy

INDUSTRIES require reliable energy to operate optimally. When energy supplies are unreliable, it can interrupt manufacturing processes which ultimately leads to a loss in revenue. Organisations are therefore increasingly looking at spreading their risk and supplementing their energy supply to ensure that they can continue operating should the country's grid go down.

Leading West African cement manufacturer, SOCOCIM Industries has signed a seven year deal with energy provider

Aggreko Africa to diversify their energy supply using natural gas. According to Mourtada Diallo, Director of Power Plants at SOCOCIM Industries, they needed to augment their existing energy sources to ensure business continuity and drive efficiencies. "Energy accounts for more than 50 percent of the cost of manufacturing cement," he says. "In the past, we relied on diesel generators and the country's energy grid for electricity supply. That meant that if the grid went down, our manufac-



turing would be interrupted."

SOCOCIM requires 50MW of power for the plant to operate and the company uses three different sources of

energy, namely a diesel power generation plant, the country's grid, and the gas-generated power from Aggreko. "When there was enough exploitable gas,

we generated 27MW of power through Aggreko. However, due to the depletion of onshore gas wells, this has dropped to 9MW – a shift that shows

Aggreko's flexibility in adapting the technology and production of energy to the quantity of gas available," says Diallo.

SOCOCIM is also investing in gas exploration initiatives to increase the amount of available gas. "We are working on increasing gas reserves in the future. As more gas rises, we will increase our power generation with Aggreko, because we know that we can cut the cost of energy-generation by roughly 21 percent by using gas."

He concludes that

Aggreko Africa's solution gives them energy reliability, drives down costs, and improves business continuity. "We needed to improve our efficiency. We partnered with Aggreko in 2008 to achieve this and, with this new contract we will have close to 20 years of collaboration with them. As more gas becomes available, we hope to generate even more energy using this cost-effective method. Our goal is to eventually become self-sustainable in energy generation and go completely off-grid."

"Eco-heroes wear masks and make a difference wherever they are"

Clean-up and recycle SA week (14-19 September 2020)

EACH year, the local plastics industry welcomes the arrival of Spring and warmer weather by encouraging citizens to help make a difference where they live, work, learn or play by participating in Clean-Up & Recycle SA Week – an annual public awareness week during which plastics and other litter are removed from our country's neighbourhoods, rivers, streams, beaches and oceans.

"This year's Clean-Up & Recycle SA Week is scheduled to take place from 14-19 September 2020, culminating in National Recycling Day on Friday, 18 September

and the International Coastal Clean-Up Day/Let's Do It World Clean-Up Day on Saturday, 19 September 2020. Unfortunately, early indications are that COVID-19 pandemic will be forcing a change in our plans to host our annual beach and community clean-ups," says Douw Steyn, Plastics SA's Director of Sustainability.

Steyn explains that South Africa finds itself in the same uncertain situation as countries around the world owing to the fact that large public gatherings are prohibited and beaches are closed in an effort to prevent the spreading of the



disease.

"The International Coastal Clean-Up Day is the world's big-

gest volunteer effort for ocean health. Over the past 24 years that South Africa has been

participating in this global event, we have seen tens of thousands of people give up two

hours of their time to help rid our beaches of litter. This year, however, we will be supporting the global call to avoid large group gatherings and maintain social distancing in the interest of everybody's health and safety," Steyn says.

Instead of flocking to beaches or gathering in groups for clean-ups, Plastics SA is spreading the message that this year, every South African should be an eco-warrior... one who wears a mask, maintains safe distancing and makes a difference in their immediate area.

In the same way the health pandemic has forced individuals to

take responsibility for their health, the plastics and packaging industries are uniting their voices in calling on South Africans to also become responsible citizens when it comes to disposing of their waste. Plastics SA believes it is possible for us to turn the tide on ocean pollution if every person becomes conscious of his or her immediate surroundings and picks up the visible litter around our homes and neighbourhoods.

Nature looks after us, and it is up to each of us to look after nature in return. During the first weeks of the pandemic, we saw first-hand how quickly the environment healed and restored itself when careless human behaviour was removed from the equation. It is time we realise that every piece of trash that falls from somebody's hand, eventually finds its way into a stream or river and is then carried into our oceans. The issue of plastics in the environment is a human behaviour problem, and the solution therefore also lies with changing human behaviour. Even the smallest act by one individual, can end up making a huge difference!

Says Steyn: "It is vital to recycle as much of our country's waste as possible in order to reduce the strain on our country's landfill sites. Reusing and recycling plastic products reduces the material's environmental footprint as it uses less water, energy and other raw materials to create new products. In addition, more than 60 000 people are employed by the plastics manufacturing and recycling industries, making a meaningful contribution to the country's economy"

Clean-Up & Recycle, South Africa!

Spring time is clean-up time.
This is the ideal time to turn attention and efforts to cleaning up our environment. Every piece of plastic that is carelessly discarded, eventually makes its way down rivers and streams to our oceans.

As the weather warms up, head outdoors and make a difference where you live, work or play.

Even the smallest action makes a difference!

THROW TRASH in the Bin

AND NOT in the OCEAN

Clean-Up & Recycle SA Week
14-19 September 2020

National Recycling Day
18 September 2020

International Coastal Clean-Up Day
19 September 2020

Let's Do It World Clean-Up Day
19 September 2020

The Plastics Industry and Partners Taking Action
www.cleanupandrecycle.co.za

Company addresses**Johannesburg**

18-26 Electron Ave, Isando,
Kempston Park, 1600

Cape Town

36 Gold Street, Northgate
Business Park, Ysterplaat,
Cape Town, 7405

Port Elizabeth

70, 2nd Avenue, Southern Life
Gardens, Block D, Ground Floor,
Newton Park, Port Elizabeth, 6061

Kwazulu Natal

35 Intersite Avenue office
no.C6, Springfield Park,
Mayville, 4058

FESTO

Festo supports the Automation Industry with technology from the Core Product Range

Quality and attractively priced solutions from a reliable partner are the keys to success during these times

This year, the South African government imposed strict restrictions as an attempt to suppress the spread of Covid-19. As a result, the restrictions have had a ripple effect on the economy and industries such as the Automotive, Food and Beverage, Textile and the Medical industry. The Festo Core Product Range, also known as Stars in Automation offers solutions that support Automation Industries during these times.



Adrian Bromfield,
Head of National Sales
at Festo South Africa

The Core Product Range offers the latest technologically advanced solutions that assist customers in becoming competitive without compromising on high quality at attractive prices. Festo is helping companies cut down costs and realise up to 80% applications in the industry effortlessly through these selected products. "As a preferred partner in the Automation Industry, we look at our customer's challenges and design high performing solutions to overcome them. This is why we recommend the latest Core Product Range to our customers that require products with optimal price-performance ratio" said Adrian Bromfield, Head of National Sales at Festo South Africa.

The hallmark of the latest Core Product Range is the collaboration between the design engineers and production planners from Festo; they worked closely together during the development of these products to ensure that the products meet customer needs. According to a research institution, Meticulous Research, the overall estimated impact of COVID-19 in the Automation Industry is 7-8%. As leaders in this industry, Festo recognises the vital role of supporting the industry through this pandemic. These products are one of the initiatives that they are using to support their customers. Below are some of the Core Range Product highlights and features that customers can expect from Festo.

Smallest slide drive in the market

The Festo Mini Slide DGST is strong when it comes to precision, forces, motion control, durability and reliability. The yoke and slide are manufactured fully automatically as a single part. In addition, the developers successfully reduced the number of components by 60% compared with the previous model. This enables the DGST to be produced in large quantities with maximum efficiency and cost-saving.

Available in a twin-piston design with diameters of 6-25mm and stroke lengths of 10-200mm, the slide houses the integrated guide and the endplate – all manufactured from a single part, eliminating torsion, misalignment and providing precise movements. Impact shocks at the end of the stroke are reduced by the integrated cushioning elements, seated within the body length. With built-in stroke adjustment, the DGST eliminates the need for additional parts, saves space and ensures top performance for your applications.

Flexible adaption to applications

Reliability is standard with the guided cylinder DFM. This impressive guided drive has the best price/performance ratio in the market and offers optimum guide characteristics, sturdiness and flexibility. It is reliable, adaptable and resilient – even with high torques. With its two different guide variants, the DFM can move on average over 100% higher loads than its competitors. It adapts flexibly to every application thanks to a choice of assembly and air port options. The combination of linear drive and powerful guide unit means that the DFM can reliably move high loads, even in tight spaces.

For example, the recent pandemic has resulted in a strong demand for mouth and nose protection masks worldwide. With Festo technology and pneumatic components from the Core Product such as the attractively priced DFM, the mechanical engineering company Mikron has developed a system that allows practically anyone to produce masks themselves. The electrical and pneumatic components from the core range installed in the Mikron plant can be delivered quickly worldwide so that the plant can be constructed decentrally at locations around the world.

2 200 products to choose from

The core product range includes over 2 200 components from every phase of the pneumatic and electrical control chain – from compressed air preparation, valves and cylinders to accessories, such as matching tubing and fittings. Several components marked with a star on the Festo website are typically in stock locally and ready to be ordered. Products in the Core Product Range are proven Festo quality with high logistics performance thanks to automated production at various decentralised locations. "We pride ourselves by offering products that give customers peace of mind in tough times and allow them to concentrate on their core competencies", concluded Bromfield.

For more info, contact marketing on 08600 FESTO (33786) or email marketing.za@festo.com.



Mikron mask production
plant with Festo Core
Product Range solutions

Festo guided cylinder DFM

Simply part of the solution.

Experience increased productivity with over 2 200 Core Range products ★

Quick delivery | In stock worldwide | Attractively priced

Tel: 08600 FESTO (33786)
Email: sales.za@festo.com
www.festo.co.za

A million success stories



High precision: Promass Coriolis flowmeters enable high-precision measurement of a wide variety of liquids and gases as well as fluids with entrained gas bubbles.

ENDRESS+HAUSER surpasses the million mark for Coriolis flow measuring technology and reaches 500 000 vortex meters produced.

With its one-of-a-kind innovations in vortex and Coriolis flow measuring technology, Endress+Hauser has been making the wishes of its customers come true for almost four decades. The company has now exceeded two notable milestones: The production of over one million Coriolis flowmeters and 500 000 vortex meters. "These numbers stand for high-quality meas-

uring technology and, above all, satisfied customers in all kinds of industries around the world," says Bernd-Josef Schäfer, Managing Director of the Product Center for flow measurement at Endress+Hauser.

In 1977, Endress+Hauser started to produce flowmeters with just three employees in a former military barracks in Reinach, Switzerland (Basel-Landschaft). In the mid-1980s, the company expanded its device portfolio by adding vortex meters and Coriolis flow measuring technology, which

was relatively unknown at the time. Both measurement methods enable customers to measure both liquids and gases with a single device. In addition, vortex meters measure the quantity of steam in utilities.

The process industry has been generating a steady demand for high-quality flowmeters for decades. To supply the increasing number of units required today, the company is producing at six facilities across the globe with state-of-the-art logistics: in Switzerland, France, the USA, China, India

and Brazil.

"Each facility features precise calibration systems which are regularly checked by national accreditation bodies. This is how we guarantee that each individual device will deliver consistently high measurement quality," Schäfer says.

Ground breaking innovations make it possible to measure a wide variety of fluids in pipelines with high accuracy, such as milk, acids, bases, hydrocarbons, crude oil, steam or liquids with entrained gas.

Popular highlights among customers include the in-line viscosity measurement (Promass I), the 4-tube Coriolis flowmeter for maximum flow rates (Promass X), the measurement of liquids with entrained gas without an additional device (Promass Q), recording smallest flow rates of a few grams per minute (Promass A), determining the steam quality directly in the pipeline (Prowirl F) or an all-in-one vortex meter with integrated temperature and pressure measurement (Prowirl F/R/O).

LM series adds voltage and serial outputs

THE LM series has been a very successful addition to Banner Engineering's laser measurement sensor portfolio. With micron level resolution, excellent performance on challenging targets like shiny metal, and extremely high excess gain for detection of the darkest targets, the LM has proven to be a problem-solving sensor that reliably solves application challenges for many industries.

The LM series will now be available with discrete, analog (voltage and current), and serial outputs to solve the toughest measurement applications. Voltage (0-10V) output and RS-232 serial output models have been added to both the LM80 and the LM150. The serial model provides high resolution distance measurements with RS-232 data export via a separate communications cable, providing a lower cost alternative to ethernet based protocol. The LM further differentiates itself by providing RS-232 communica-

tions with a single, low profile accessory, while other competitors require both an amplifier and communications gateway. The addition of analog models with embedded voltage outputs offers more application flexibility when interfacing with PLC inputs cards or taking readings with a voltage meter.

Precise measurement

LM Series sensors provide reliable quality and process control with 0.002 mm resolution and repeatably to accurately measure real world targets in a wide range of colors. It has been designed with dynamic power adjustment for precise measurement across shiny and dark targets, providing more reliable inspections with less measurement variation.

High speed

With response speeds as fast as 0.5ms, the LM can reliably detect fast moving targets to solve high-speed applications. High measurement

speeds allow the LM sensor to better identify a problem on fast moving parts while reducing the time required for inspections. Capable of a 4kHz measurement rate, the LM150 offers a best in class speed, for more precise tracking of geometry changes.

Real world stability

LM Series sensors combine a thermally stable design that resists temperature changes, and enhanced mounting stability, enabling tremendous accuracy in the toughest environments. The +/-0.006mm °C temperature effect offered by LM sensors is imperative for high-precision applications where even a few degrees of temperature change can cause other sensors' measurement error to double. It has a chemical-resistant, compact stainless-steel housing that fits in tight spaces.

For more information contact Turck Banner Tel: 011 453 2468, Email: sales@turckbanner.co.za

Four new, powerful etherCAT terminals

INCREMENTAL encoders have become indispensable in many applications – often they are small and inexpensive. Beckhoff have extended the EL51xx terminal series for analysis of 5 V incremental encoders with RS422 and TTL signals with the aim of implementing incremental signal analysis within the control system in a space-saving

and cost-reducing manner.

Four new, highly compact products complement the existing portfolio, based on the latest technology. Each EtherCAT Terminal features an integrated sensor supply that can be parameterized for 5 V, 12 V or 24 V and offers compatibility with RS422, 5 V TTL and open collector encoders. Based

on internal pull-up resistors, no external wiring is required for open collector analysis. Additional 24 V digital inputs can be used to save, lock and set the counter value. High-precision EtherCAT distributed clocks (DC) facilitate synchronous reading of the position value.

In addition, a wide range of integrated functions enable the

support of further applications directly in the terminal, e.g. rotary axis function, workpiece measurement and standstill monitoring.

For more information contact Beckhoff Automation Phone: 0861 BECKHOFF; Mobile: +27 (0) 79 493 2288, email info@beckhoff.co.za or visit www.beckhoff.co.za

Fill and measure the level accurately

SENIX ToughSonic ultrasonic transmitters perform distance and level measurements with "non-contact" technology, requiring a minimum working distance to the liquid. Elevating the sensor has been one solution, but now there is a better way...

When used with new Senix 90 Degree Adaptor, users can achieve the minimal working distance without raising the sensor for a more compact instal-

lation. The ultrasonic dead band is essentially inside the adaptor so filling a container won't interfere with measurement, and the sensor's maximum range is unaffected. This stainless steel adaptor is now available for all 1" NPT threaded ToughSonic 3, ToughSonic 12, and ToughSonic 14 sensors.

Senix ToughSonic Ultrasonic sensors perform distance and level measurements that measure the liquid or other surface from

above. They're tough and used in some of the harshest factory environments anywhere. Senix makes them smart too. They come with Senix's new Reference Target Temperature Compensation technology to eliminate drifting from diurnal effects such as rapid temperature shifts. They are widely used in closed tanks and stilling tubes, in open-air monitoring for irrigation, stream monitoring, flood and tsunami

warnings, and sea level monitoring, as well as installed in heavy construction and farm equipment. ToughSonic Ultrasonic sensors are exceptional for accurate object detection in a variety of applications.

Easily connected to users' equipment, Senix sensors have built-in switches which can control relays, light alarms, motors, and more.

Contact INSTRUTECH on 010 595 1831 sales@instrutech.co.za

Conductivity sensor LDL200 for CIP monitoring with IO-Link



- Reduce inaccuracies associated with a time-based cleaning process
- Improve process performance with flexible measurement points
- Compact, high-quality sensor design prevents failures and unplanned downtime

Applications

These sensors are used in cleaning processes (CIP) in the food industry. They detect the concentration of cleaning agents, check the rins-

ing water for residues and for product validation.

Potential

Precise, fast and reliable measurements during the process help to improve plant availability and optimize cleaning cycles. Reduced amount of cleaning agents, lower energy consumption during rinsing and lower water consumption result in considerable cost savings.

Advantages of LDL at a glance:

Much shorter commis-

sioning time
– No need for additional evaluation electronics
– Simple wiring using M12

Robust and compact design

– The fully welded stainless steel housing prevents water ingress
Attractive offer
– High availability and fast delivery times
– Flexible adapter concept reduces / simplifies warehousing

Contact Customer Support: info.za@ifm.com or visit www.ifm.com for more details.

Roboteur takes the tedium out of repetitive tasks

AS computers become smarter they are going to take over many of the mundane tasks now performed by people. Robotic process automation (RPA) will do many jobs better and quicker than their human counterparts, releasing people to do the creative and innovative things that will set their organisations apart.

RPA has been a dream for many years now, but has stopped short of becoming a reality because the tools available to create the automated processes are themselves complex to use and manage.

Until now, that is: Roboteur from SpacePencil is an easy-to-use and inexpensive tool that lets just about anyone create robotic processes to automate repetitive and mundane tasks.

"At the end of the day, we believe the decision to use RPA should come down, quite simply, to return on investment (ROI)," says Graham Fry, MD of SpacePencil.

This ROI includes money saved, and more. "The moment tasks become mundane, people do them in a rush and make mistakes – and there is a cost involved in that."

ROI should also

Smart manufacturing online conference

MORE than 1 000 delegates are expected to join Rockwell Automation and leading industrial organisations on 16 September to experience the latest VirtualConnect event, the full-featured exhibition delivered directly over the web.

The Next Horizon for Smart Manufacturing, will follow three technology tracks, providing video presentations, demos, analysis, case studies and panel discussions on the topics of mechatronics, digital engineering, and process control. The event kicks off at 9h30 (GMT+2) on 16 September 2020.

To register go to www.rockwellautomation.com/en-gb/company/events/in-person-events/virtualconnect-smart-manufacturing.html

include the increase in staff productivity and creativity once people are deployed away from tedious jobs.

A typical RPA project today comes in at costs not necessarily justified by the tasks being automated. On top of that, around half of RPA projects fail.

Fry believes that, by putting a simple and easy-to-use tool into the hands of coders, business analysts and business owners, RPA can become a much more successful and cost-effective exercise.

He explains that Roboteur is an RPA platform and development environment that makes it simple and inexpensive to automate processes.

"With Roboteur, it is all about the ROI," says Fry. "Anything else is noise. Why spend a million dollars to develop a pen that works in space when a pencil does the same job?"

Barry Buck, chief technology officer of SpacePencil, says the Roboteur design

team aimed to give the developer more control, with a visual programming platform and business tool to help users define automated tasks. "We wanted to make it user-friendly with not much training required."

"Roboteur ticks all those boxes, plus it is granular enough to handle edge cases as well as more complex scenarios."

"Essentially, it is a visual programming platform with a lot of intelligence built in. It is different from the status quo because it's built on new technology and is distributable – you can run it as a desktop app or on a web browser, in the cloud or locally."

"It is a general automation tool that builds out the conceptual layers that are the entry point for RPA tools; and, as a granular visual programming tool, it is powerful and complete."

Find more information at www.spacepencil.co.uk.

How to implement robotics in your business

NATURALLY, robots will be part of the future business scene, but where does a business even start?

Yaskawa Southern Africa's National Project Manager, Sean Low, believes discovery and consultation are the first steps.

The key, according to Low, is identifying which processes can be automated and early implementation. "While many start-ups might put off automation until later stages of their operations, early adoption is an investment and beneficial in the long run, as you won't need to overhaul your entire process in the future."

Once the processes set for automation have been identified, the next step is cost considerations. Though judging by how businesses are tightening their belts, budget is a legitimate concern. Many organisations would love to implement robotic automation, but there is a fear about affordability.

The good news is that the leasing of robots is a possibility. There are various organisations that put together robotic solutions and



Robotic welding operations.

lease them out to businesses on a monthly basis. Low says it's a viable option that works out for a plethora of businesses based on their needs.

"It's all dependent on the industry and the specific requirements," Low explains. "Think of a fruit packing company, for example. Due to the seasons, the business will have three months of increased volume and might require a palletising and packaging robot to handle the extra load. However, the robot might not be required for the other nine months of the year, so

for seasonal businesses it is a more attractive option to lease a robot cell for a period of time than to buy one."

To see the true value of robotics, however, businesses need to immerse themselves in the advanced technology. Much like any other technology, if you buy the product and don't read the manual, you'll miss some of the biggest features. This is why training is essential.

"If you don't understand how to use the robot," Low states, "you won't see value in it. That's why Yaskawa believes in a cradle-to-

the-grave approach. From the moment you receive the robot, to the training of the operators, to when the equipment is officially retired, we are there for our customers every step of the way."

No matter the size or age of a business, it's never too late to adapt to a new way of working. While robots and automation have been around for decades already, the demand for them grows on a yearly basis. The blueprint for the future is digital, mechanical and programmable, and the time for adoption is now.

Safety Rope (SRO) limit switch – the emergency stop button from Bernstein

In April this year, Bernstein introduced their new Safety Rope limit switch to the international market. Bernstein has focused on developing the best electrical safety products to protect machine and process operators for over 70 years and the SRO is no exception.

The German-based industrial safety technology company, Bernstein AG, is represented in South Africa by Anglo Allied Engineering. Managing Director Karin Visser explains, "The SRO is a rope pull switch which provides safety for conveyor belts or machines. As a supplementary safety function it was designed to be installed on machines in addition to existing safety devices. It is not a replacement for other safety devices. The SRO comes into play if other measures stop working or the user is unable for any reason to conduct a normal stop."

An emergency stop happens when a dangerous movement is anticipated or has been spotted. It is different to a normal stop, which switches off the power. With one action, any person present can avert danger by hitting the emergency stop button.

The SRO emergency stop device has an ISO13850 rating. Its compact design is useful for narrow spaces, and distances of up to 30 metres can be secured. The rope device is made of metal and the housing comes in either plastic or metal. The SRO combines two different



devices in one: an emergency stop activated by pulling a rope and an integrated emergency stop button on the device.

Applications in which the SRO can be used include packaging machines; woodworking machines; intralogistic systems; printing and paper machines; textile machines and automation systems.

For more on the full range of Bernstein safety devices, contact Karin Visser on +27 11 766 1180 or email info@angloallied.co.za.



SA built air dryer – a new solution for wastewater plants

The SA series of air dryers locally manufactured by Artic Dryers International in Johannesburg, offers an ideal solution for cleaning and drying compressed air for wastewater plants.

ACCORDING to Allen Cockfield CEO of Artic Driers, any compressed air system in wastewater plants has its own challenges – the process agitates and aerates the wastewater as part of the treatment process. The proximity of the compressor plant room to the treatment ponds means that humidity levels are high, and compressors draw the high humidity atmospheric air to compress.

This water content, with other contaminants such as compressor oils and airborne solids, in the compressed air must be removed prior to it being fed into the distribution system. Failure to treat the compressed air treatment effectively will lead to control valve and positioner failures.

Conservative construction and design

“The range embodies a simple, robust design. Long contact times and larger than normal desiccant loads mean that the dryer provides minus 40°C PDP compressed air with ease for any manufacturing plant or even a medical facility. The heavy-duty design and construction, along with simple controls, have been deliberately included in the new SA series to ensure reliability and ease of maintenance at site.

“The design includes the use of two patented shuttle valves that provide reliable switching, directing the compressed air from one vessel to the other every four minutes. The

two-simple air-operated angle seat valves control the desorption air flow to atmosphere with almost zero back pressure. Low back pressure is essential to ensure efficient desorption of the desiccant used in the drying process,” explains Cockfield

Fully adjustable timing system

The timing control system is fully adjustable if and when required. Adjustments are provided for the drying cycle as well as the re-pressurization cycle. The controller also features a dew point digital indicator should dew point monitoring be required. The same controller and (optional) dew point probe, can, at a flick of a switch, control the timing sequence to reduce

purge air losses and reduce operating costs.

The timer system can control up to five solenoid valves, making it a great retrofit parts item for almost any other brand of a dryer on the market.

The Impact of Covid-19

The ability of importers such as Artic Driers to import equipment stocks has been severely affected due to massively increased air freight costs, along with a slow-down at the country's docks due to reduced staff levels. This situation will not change for many months to come, believes Cockfield.

“The launch of the SA Series Dryers in June this year was a logical continuation of what we have been quietly doing

for the past 12 months,” says Cockfield. Artic has built a large number of different sized low dew point heatless adsorption air dryers, for a range of clients in widely different industries.”

The SA range will provide clients with shorter lead times than imported units, it is less expensive, and most importantly, it uses local materials and labour and suppliers.

Ranging from 3 to 42 m³/min at pressure up to 13 bar, the SA series will suit the majority of clients' needs. The smaller modular HDD series dryers ≤ 3 m³/min will continue to be imported from Malaysia.

Cost effective

The array of features does not necessarily

translate into high cost of ownership. In fact, the purchase prices are competitive and well bal-

anced. This is supported by the number of dryers currently in the build programme for clients.



Oil coolers in hydraulic systems

HANDLING a hydraulic system means controlling the flow of pressurized hydraulic fluids. Hydraulic systems are comparatively easy to install and maintain. But, sometimes they are risky too. The important reasons for hydraulic system failure are over-temperature, over-pressure, contamination, etc... In this article, the discussion is on how your hydraulic system can be protected from over-temperature. Tem-

perature is one of the crucial reasons for system failure and hazards.

We consider the hydraulic system as heat generators. The continuous flow of fluid through the system, the friction between system components, long-time operations, and many other factors together will increase the temperature of the fluid. This increased temperature will affect the viscosity of fluid, increases system wear, damages the lubri-

cative film, increases the risk of cavitation, internal leakages and thus reduces the lifespan of the system. Most of these concerns of hydraulic system overheating can be solved by choosing an effective method for the system cooling.

There are two methods to prevent overheating issues in the hydraulic system. The first method is by improving the reservoir size and by using a large volume of hydraulic fluid that can

neglect the generated temperature. But, this approach is expensive and creates hydraulic fluid wastage. Comparatively, the second method is more efficient and here the circulating hydraulic fluid is passed through certain cooling components for reducing heat. Mostly this cooling component will be oil coolers. A system with an oil cooler for heat reduction can be operated for a long period effectively without overheating.

What is an Oil Cooler?

Oil coolers are also known as heat exchangers. The primary function of the oil cooler in the hydraulic system is preventing the system from over-temperature. Oil coolers in both closed and open hydraulic system will pass the hydraulic oil through a coil or core to reduce the generated heat of the oil. Also, this cooling component can mitigate the effect

of environmental surroundings. The following are the other important benefits of using oil coolers.

- Stable cooling and filtration performance
- Unaffected by fluid flow and duty cycle variation.
- The size of the oil cooler can be varied on the basis of heat load
- Extend the life of the hydraulic system and hydraulic oil

- Pressure in the return line doesn't affect the oil cooler. Because it is placed separately
- Improve the overall efficiency and productivity of the system
- Easy to maintain and repair.
- Entire system shut down not required for repair/maintenance

Hydraulic oil coolers are used in different industries like agricultural, manufacturing, automobile, etc... The important components required for the construction of hydraulic oil coolers are oil reservoir, cooling fan, relief valve, filter, mini hydraulic motor, etc... The size of the oil cooler is directly related to the heat load. For a system with higher heat generation, the cooler sizing needs to be proportionally greater to withstand that load. The other major consideration in choosing a hydraulic oil cooler are flow required, desired oil temperature, oil viscosity, and more.

Air-cooled oil coolers and water-cooled oil coolers are the two important categories of oil coolers used in the hydraulic system. In the air-cooled oil cooler, it will be equipped with electric or hydraulic ventilator and it cools down the heated fluid by streaming air through it. The water-cooled oil cooler utilizes liquids for cooling the hydraulic oil. This cooler is more efficient, quieter and compact in size. To prevent contamination of both fluids, a barrier is used for separation.



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Quality welding skills boost SA's economic recovery

WELDING is a scarce skill in South Africa with a resultant shortage of suitably qualified welders, who are equipped to meet the required skill level for new and existing projects. The current situation follows decades of non-regulated welder training, resulting in many welders but very few who are adequately qualified or competent welders. In fact, in 2017, government identified a list of 13 scarce skills with welding ranked at number two on this list, highlighting the critical need for qualified artisans in this field.

The Southern African Institute of Welding (SAIW) Executive Director John Tarboton comments; "The current constrained COVID-19 environment, which restricts cross border movement; means that local skills are urgently required to maintain

and produce products for key South African sectors. These include power generation, mining, petrochemical, motoring and structural steel manufacturing.

"With skilled welding artisans at hand, South African fabricators have an unprecedented opportunity to thrive, especially within the manufacturing sector where as much as 80% of manufactured products and maintenance requires highly trained welders. However, until there is an adequately trained workforce available, many South African companies and welders won't be able to take advantage of this huge opportunity."

Artisan appreciation

As an internationally recognised body for the welding industry in southern Africa,

the SAIW believes it can assist the situation by providing the necessary industry facilities and accredited training levels. Tarboton comments; "Internationally, the role of the apprentice starts at an early age as part of the education curriculum where school leavers already carry artisanal value for future employment. "Unfortunately, in South Africa, there is a stigma around being an artisan and a real lack of appreciation for the value this role holds as a potential career. Ultimately, the demand for work in current times lies in the blue-collar sector and we welcome industry co-operation and alliances for career upliftment which promotes our student welders to a level where they can add real value. This will provide better employment opportunities and provide

skilled local welding services at a lower cost."

In line with this, the SAIW is looking at the establishment of a national register of trained welders. The plan is to launch an online portal where SAIW members can log in and source the required skilled employee within their industry sector. The strength of this offering is the trust that prospective employers can place in this offering, given its endorsement by the SAIW.

Internationally recognised local proficiency

The SAIW is also seeking to better serve the industry by providing a far more flexible, customised approach to the courses that it offers. This will see it developing specific skills programmes



tailor made for individual students and specific sectors. Tarboton comments; "Overall, our training courses will continue to emphasise the role of the welder within an internationally recognised playing field via our association with the International Institute of Welding (IIW). But we are also focused on training students

for what is required on the ground locally.

"Ultimately, we aim to provide the required building blocks for a long-term career in welding which is in line with international standards and we also want to give our students the ability to work in local manufacturing and fabrication industries within a reasonable period of time."

Looking ahead, Tarboton comments; "With this new streamlined strategy, we aim to boost welding skills through our internationally accredited training facilities, and firmly believe that the skills we create within the local sector, will be significant contributors to the relaunch of the South African economy."

Book offers industry-based practices to design, make, and test AM components

*Additive Manufacturing of Metals
Materials, Processes, Tests, and Standards*

By Leila Ladani, Ph.D., Professor of Mechanical Engineering, Director, The Polytechnic School, Arizona State University

THIS book is a technical introduction to additive manufacturing (AM) with a focus on powder bed fusion and metals. It provides the theory and industry-based practices to design, make, and test metal components via AM. After outlining the methods and materials of powder bed methods, the book explains the workings and physical limitations of electron beam and laser melt technologies in manufacturing parts, using a variety of metal powders. In this context, the physics of powder melting is described, as well as the effects of temperature variables on the properties of a part. The critical elements of how powder feedstock is chosen and formulated are explained.

Processing methods are described using original design and engineering parameters developed by the author. Information is provided on current test methods of metals produced by AM, as well as how to carry out quality control, monitor reliability, and implement safety standards. For process design, a section is devoted to modeling.

Each chapter includes a set of problems for students and practitioners that reflect metals' fabrication in industry.

From the Preface

"For the specific technology that is the focus

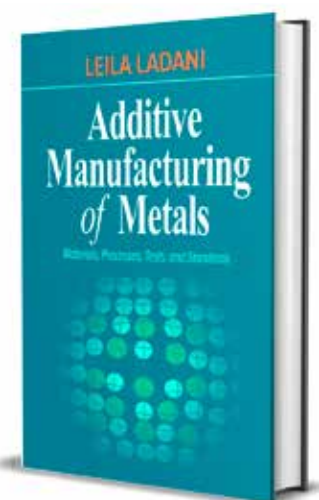
of this book, powder bed fusion technology, the raw material is discussed.

Conditions under which these materials are produced and their required characteristics, are explained.

Additionally, the book covers the standards that have been developed to date on additive manufacturing. These standards play a very important role in the qualification, certification, and applica-

tion of this technology, especially aerospace."

For more information and how to order, go to <https://www.destech-pub.com/product/additive-manufacturing-metals/>



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The College of Cape Town is a leading provider of Technical and Vocational Education and Training, committed to serving and educating learners from all communities, offering a holistic learning experience in various vocational disciplines. It is also the oldest Further Education and Training Institution in South Africa with a proud history dating back to the beginning of the 20th century. Four former technical colleges, Athlone College, Cape College, Sivuyile College and Maitland Technical College/Western Province Technical College (now the Pinelands campus) were officially merged on 1 February 2002 to become the College of Cape Town. This arose from a rationalization in FET Colleges in which some 150 colleges around the country were reduced to about 50.

As a leading provider of Education and Training in mainly the FET band, the College of Cape Town has more than 11 000 students and its courses lead to recognised qualifications that are demanded by commerce and industry. The College strives to provide high-quality education and training to help equip individuals with the qualifications and skills needed to start out on a chosen career path.

The Pinelands campus

The Pinelands campus is the hub of Electrical Engineering studies at the College of Cape Town and has 22 workshops and labs for the growing number of students. It is also an accredited Refrigeration and Electrical Trade Test Centre.

In common with other institutions of higher learning, the College of Cape Town is largely dependent on funding from Government, with 90% of its student body receiving assistance from the National Student Financial Scheme (NSFAS) supplemented by donations from trusts, foundations and corporate South Africa.

Such a donation was recently received from Electro Mechanica (EM), specialised importer and wholesale distributor of high-end industrial electrical products, motor control switchgear and electronic automation products. The substantial donation – valued at more than R700 000 – of automation and distribution products was made to the Pinelands Campus to enhance its training facilities, thereby ensuring the curriculum remains relevant and in line with the latest trends.

This included PLCs, HMIs, soft starters and distribution boards. The donation is in line with EM's corporate social responsibility initiative to contribute to community empowerment and skills development. The products will allow the Pinelands Campus to focus on the growing trend to industrial automation and are complimented by a range of peripherals, explained EM Product Manager William Cameron.

The College provided EM with a 'wish list' of what it required, which allowed Cameron to source the required products from the supplier's extensive inventory. The substantial donation was celebrated at an official handover ceremony in mid-July, which also allowed EM to introduce the company to students.

The Pinelands Campus will update its workshops towards the end of the year, installing the necessary cabling and readying work benches for these new products. Following that, EM will send technicians to train the lecturers on the full range of equipment supplied and to provide assistance in getting the equipment referenced in the new curriculum. EM has also supplied training materials for the donated products.

This includes the Delta range of industrial automation products. Extremely flexible and adaptable, the range has numerous applications that make it ideal for training purposes. Cameron foresees a long-standing relationship with the College of Cape Town, with a possibility of making more donations in the future and to other training centres in Durban and Johannesburg.



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Present at the donation handover were (L to R) College Principal, Louise van Niekerk; Deputy Principal, Tilly Reddy; EM Director, Peter Whitelaw; Pinelands Campus Manager, Jan Kriel; and EM Product Manager, William Cameron.

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Inspiring minds

A vote of thanks from the College

Odwa Sigaba, Administration and Events Officer at the Corporate Communications and Marketing Department and former student of the College wrote of the donation:

“It is with great excitement to know that amid the COVID-19 pandemic there is light. On the 14th July 2020, the College of Cape Town, Pinelands Campus had the honour of hosting a donation event for its NC(V) Level 3 and 4 Electrical Infrastructure Construction students.

This auspicious moment was when the College's request for support heeded any form of support for the needy students, especially during these times of uncertainty. Electro Mechanica (EM) sponsored the Pinelands campus with equipment that will assist and brighten the future of our students. The donation of equipment will help ensure that learners have enough equipment to use for their electrical practicals.

“This great initiative has not only boosted the confidence of our students but of the lecturers as well to enhance practical experience.

“The event was attended by the EM Director Peter Whitelaw and Production Manager William Cameron. Amongst them the College Principal Louis Van Niekerk and the Executives of the College in their respective order. It has been a great honour during this time that such opportunities are made available for students.

The College would like to thank Electro Mechanica for making everything possible for our future artisans.”



Why the pandemic could slash the amount of plastic waste we recycle

By Dr Eleni Iacovidou and Dr Norman Ebner, Brunel University

THE COVID-19 pandemic has increased the use of plastic medical and protective equipment, such as single-use gloves, masks and aprons. Much of this equipment must be discarded after use to limit the spread of the virus.

“...discarded “COVID waste” could soon outnumber jellyfish in the Mediterranean Sea.”

But demand for plastic packaging has also spiked in the retail sector, as customers wary of catching the virus shun loose products. Elsewhere, people are using antibacterial wipes and bottles of hand sanitiser at a rapid rate, with some worrying that discarded “COVID waste” could soon outnumber jellyfish in the Mediterranean Sea.

The market for plastic packaging is projected to grow by 5.5% in 2020, causing a surge in the amount of waste being sent for recycling. But just when its services are needed more than ever, the recycling industry has been rocked by crises.

The future of plastics recycling

International travel and industrial activity dried up with the onset of global lockdowns, causing oil demand and prices to plummet. Since most plastic is made from oil, its falling price has meant the cost of plastic resin production has dropped too, making it cheaper than ever to manufacture new plastic products.

Amid a glut of cheap virgin plastic, petrochemical companies could end up churning out even more to stabilise the demand for crude oil. That would make using recycled plastic material economically foolish, as it would contribute to the oversupply



haunting the market. With demand for recycled plastic at a record low, the recycling industry may be left with fewer and fewer buyers.

A drop in demand for recycled plastic material would cut into the profit margins of recycling companies. Lower revenue will delay investments in new plants and technologies and limit how effectively the system can improve recycling rates.

For waste management and recycling companies to turn a profit, the taxpayer would have to bear a

greater share of their costs. But will this added burden go down well post-pandemic, with cash-strapped local authorities and widespread redundancies?

The UK government has now pushed back the ban on single-use plastic items from April to October 2020, to ensure supply chains have enough time to source alternative materials for straws, stirrers and cotton buds. If this delay affects the planned implementation of a plastic packaging tax on products with a recycled mate-

rial content lower than 30%, currently pegged for April 2022, these twin setbacks could threaten the UK’s goal to eliminate all plastic waste by 2043. Businesses would revert to using virgin plastics with little incentive to opt for more expensive recycled materials. The oil price crash could flood the market with cheap virgin plastic.

Rescuing the industry

A coordinated effort between governments and the industry could maintain recent prog-

ress on recycling rates. Pushing ahead with the ban and new taxes could ensure businesses continue funding the recycling of plastic packaging waste, and using it in the new products they make.

If businesses stick to their targets of replacing some of their virgin plastic material with recycled plastic, regardless of the costs involved, it could help maintain investment in the recycling sector within the UK. But with more plastic waste being treated domestically amid reduced demand for waste in foreign markets, recycling companies in the UK could be overwhelmed with waste they have little financial incentive to process.

Recycling companies and exporters of plastic packaging waste under pressure to deal with more of it may ship it to other countries illegally, or falsely claim they have recycled a higher amount. This information is self-reported, leaving regulation vulnerable to fraud.

And then there’s

you, the consumer. We each drive demand for single-use plastic packaging with our buying habits, and we can reduce it and increase recycling rates by purchasing wisely and checking whether the packaging we discard is recyclable or not.

Unwittingly, we bear a significant proportion of the cost of the recycling process via the council taxes we pay. That money can be used to improve services if the burden of waste management is lower. Reduced demand for plastic packaging and better sorting of household waste can, collectively, lead to a more effective and cost-efficient recycling system.

Buying less goods that come with unnecessary plastic packaging, and becoming more mindful of how we separate our plastic waste in the home will improve the efforts of local authorities and the recycling industry, and could also improve the odds that the government meet its ambitious recycling targets on time.

World Clean Up Day

Smart Waste suggests that World Clean Up Day would be a good time to start a culture change as to how we view waste and recycling.

BILLED as the biggest one-day civic action in human history the organizers expect millions of people in 180 countries to participate. 19 September is 2020’s World Clean Up Day. It certainly draws attention to our environment and clears mountains of refuse. But is it enough?

To be effective in cleaning up the world we need a change of culture. If World Clean Up Day is the start of a culture change then we are all for it. In our experience, culture trumps most other forms of change.

An example of a change in recycling cul-

ture proves the point. We are often called upon to assist organizations to introduce a waste management system. A crucial part of any system is to teach people to recycle. There will always be individuals in an organization who inherently believe in recycling, a secretary who saves her used paper and then either reuses it or takes it to a drop off site to be recycled.

These individuals do not represent the culture of the organization however. Maybe the organization is a manufacturing operation and the managers are

incentivized by meeting production quotas. In such an organization very little attention is usually paid to waste or cleaning up production processes.

There are several ways to address this. Buying new containers and clearly marking them as general waste and recyclables seldom works. It costs a lot of money with little return – but it looks good. A more effective way of cleaning up the waste and learning to recycle is to change the organization’s culture.

Which is why we prefer to first grab the hearts of the individu-

als and get them excited about the benefits of eliminating waste and recycling. Once converted the individuals will quickly change the organizations culture. That is the time to install the new containers.

If the World Clean Up Day helps individuals understand the part each of us plays in generating waste and the effects of such waste on our environment it will have been successful. Once the understanding is there then communities and organizations will be ready to start cleaning up our world.



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Innovative Packa-Ching recycling initiative

A recycling business, 'Packa-Ching', has seen community residents across South Africa making an income by selling their recyclable packaging; shifting a change in behaviour towards packaging waste and cleaning up the environment.

The success of the Packa-Ching recycling business model has resulted in a partnership which saw Sasol coming on board as a key sponsor. Sasol is currently executing a multi-faceted plastic sustainability approach to support the elimination of plastic waste leakage into the South African environment. It has committed to fund 25 additional Packa-Ching mobile units across South Africa by agreeing to a much-needed fuel sponsorship for all Packa-Ching business owners to assist them with their fuel costs.

Packa-Ching is a mobile separation-at-source recycling service. It consists of a recycling collection truck and trailer that parks at different collection points within a community for a few hours each week and collects used recyclable packaging material from community members. Each Packa-Ching unit is managed by a business owner, who operates this mobile recycling collection



truck and trailer. With logistics costs being a major factor in waste collection and recycling operations in South Africa, support with fuel costs will be very important to help these business owners build a sustainable business over the next 5 years, while reaching more of the community, allowing more people to trade in their recyclables.

"We are grateful for the support for our business owners and key sponsors who make Packa-Ching the success that it is," says Mandy Naudé, CEO at The Polyolefin Responsibility Organisation (Polyco), who is the founding organisation of Packa-Ching.

"Our goal for Packa-Ching is to teach people within under-resourced and informal communities that waste has value

when recycled. Residents bring their sorted recyclables to the Packa-Ching unit, have them weighed, and in return are paid directly into their eWallet via their cellphone.* Packa-Ching shows people that used packaging has value and selling recyclables becomes recognised as an income generating activity. The result is a cleaner environment and a more economically active community," says Naudé.

"If we can increase the participation rates in these communities, we can divert a significant amount of recyclable packaging material that would have gone to landfill as waste." Recyclable packaging that is lost to landfill is a lost value that could have been economically repurposed.

Since 2017 Packa-

Ching has been responsible for more than 1 400 tons of recyclable packaging being diverted from landfill and over R1,1 bn that has been paid to community residents.

The Packa-Ching business currently has four units operating in the areas of Cape Town in the Western Cape; Thabazimbi in Limpopo; Buffalo City in the Eastern Cape; Katlehong in Gauteng; with the newest addition launching in Newcastle in KwaZulu Natal at the beginning of September 2020. Scaling up the success of this business model, Polyco aims to have a further 25 Packa-Ching units operating across South Africa by 2025. Sasol South Africa's sponsorship of the administration costs required to implement and operate Packa-Ching, as well as fuel for all 25 recycling units over the next five years, will significantly help to achieve this goal and make this recycling business a success. The expected benefits of rolling out 25 recycling units over the 5 years will result in the collection of 70 000 tons of recyclable waste to drive the downstream recycling industry, R50 million paid to communities as well as creating over 75 new jobs.

Alternative fuels key to relieving South Africa's energy pressures

Interwaste weighs in on the role of waste management, in particular mining waste, as a source of relief on South Africa's fossil fuels and the creation of alternative fuels for industry use.

SOUTH AFRICA remains in a dire energy crisis with utility costs having recently increased by 17% and faced with an energy shortfall of 5 000 MW of generating capacity. And, if we consider that almost 77%2 of South Africa's primary energy needs are reliant on coal, then there is no doubt that we are heading towards not only an energy, but an environmental crisis too.

For energy to truly be sustainable in South Africa – not only increasing capacity, but also ensuring the country is able to meet carbon tax objectives, industry needs to look beyond the use of fossil fuels such as coal, and find alternative energy providing sources.

"It is here that waste plays a significant role. As the country moves towards a zero waste to landfill target and where hazardous waste to landfill is already prohibited, there is mounting pressure to find ways to repurpose waste and ironically such repurposing can, and already does, contribute significantly to energy inputs at various production facilities with the opportunity to increase this fundamentally," says Jason McNeil, CEO at Interwaste.

As industry remains one of the largest users of energy, evident by the decrease in consumption over the past few weeks, then so too should they be interested in the creation of alternative fuels to drive down South Africa's reliance on traditional energy inputs.

Let's take the mining sector for example. Mining is responsible for more than 38%3 of the total industrial energy use locally. Of course, mining is crucial as it contributes to GDP and to a massive portion of exports in a normal world. It also contributes 2444 million tons of marketable coal annually and makes South Africa the fifth largest coal producing country in the world.

"It is exactly this fact that places a lot of pressure on this sector to successfully transition towards a low carbon future as well as find ways to reduce their own reliance on energy or, at the very least,

ensure they are contributing towards a cleaner energy and future for other industries," says McNeil.

Some waste in the mining sector, like many others, presents a key opportunity for the creation of alternative fuels. In fact, as innovations drive this sector forward, we are likely to see a greater focus on waste streams being repurposed for energy in other industries – as well as for this sector itself.

"We can only imagine the possibilities created by mining waste where mining off-takes, such as old oil, can be converted into a light burner fuel for heavy machinery – not only powering up their own machinery and reducing their energy consumption and carbon emissions, but also providing other industries with such fuel and contributing to larger energy relief," continued McNeil.

If we consider that hydrocarbon oils for example contribute around 5%5 of the total volume of waste produced by the mining sector, there is no doubt that treated through the right process, it presents a perfect waste for repurposing and a huge contributor to other sectors.

So, what other waste streams can be used to contribute towards energy/alternative fuels?

Waste derived fuels is a key contributor to the energy sector, focused towards hazardous waste products such as liquid sludge, hydrocarbon waste streams and petrochemical waste being blended into a homogenous product with defined energy, physical and chemical properties - which can then be used as an alternative fuel. Currently such waste derived fuel is being sold into the cement industry as the primary off-take, but there is a strong focus on driving this to other industrial sectors.

Refuse derived fuel (RDF) also plays a fundamental role. "At Interwaste we have pioneered RDF locally and have really taken a stringent approach to ensuring we can convert as much industrial waste into this product as possible," states McNeil.

RDF is a solid fuel source recovered through the shredding and bailing of certain pre-sorted dry industrial non-recyclable waste. The RDF produced by Interwaste requires no heat for drying, produces a cleaner RDF and a much higher heating value RDF similar to that of A-grade coal and forms a very suitable and robust alternative to fossil fuel use. Such fuels can be used within sole/co-feeding plants and replaces conventional fuels (e.g. coal) in production plants for power, steam and heat generation, cement kilns and other suitable combustion installations.

If we use the mining sector as an example again, rubber is one of their biggest waste streams (tyres, conveyor belts, etc) and can be put through the RDF process by using technology to strip out the wire, remove beading of OTR (off the road) equipment, cut in half, quarter and shred down into fine particular size for RDF use in other industries.

"In fact, we are currently looking at a localised model of RDF where trials to convert hard hats, oily rags, overalls etc can be reduced to a smaller size and converted into an RDF equivalent," says McNeil.

Beyond energy provision and finding alternatives, there is a carbon responsibility in South Africa more now than ever, with carbon tax being implemented across industries. The alternative fuels listed above are considered sustainable fuels and so, businesses that contribute to, and use, such fuels are given a 25%6 relief on carbon tax payable.

"The reality is that, less reliance on fossil fuels within the sector makes room for more coal for the general production of energy, reduces reliance by industry on South Africa's energy supply and creates a solid case for the reduction of carbon emissions. Therefore, the more industries that can move towards alternative fuels, the better for the economy and the environment. It is a win-win all round," concludes McNeil.

Celebrating the HDPE recycling market

Recent research highlights that over 75% of High-density polyethylene (HDPE) milk and juice bottles are recycled, proving that the demand for white or transparent post-consumer HDPE products for recycling in South Africa is high. At the centre of promoting this economic potential, the Polyolefin Responsibility Organisation (Polyco) invests in infrastructure and end use development that is essential to grow the waste collection, recycling and beneficiation of polyolefin plastics.

COMMON HDPE milk and beverage bottles are designed for recycling. They are heavy, have a HDPE cap and are free of by-products, such as ink, that pollute the recycling value chain. These design aspects make it an economically attractive material.

"There are several market end uses that help improve the recycling rate of HDPE products by promoting the use of recycled HDPE (rHDPE) content" says Mandy Naudé, CEO of Polyco. "There is especially a drive for rHDPE to be used for higher value applications, such as personal care product packaging, which requires a quality recyclate, made ideally from white milk bottles."

To understand the opportunities for the



HDPE and rHDPE markets better, Polyco recently conducted research into the economic potential of one of its key market sectors, beverage bottles. "Our research has highlighted that more than 20 000 tons of HDPE beverage bottles enter the market each year and up to 17 500 tons are recycled," says Naudé. "This amounts to 75% of HDPE beverage packaging being recycled."

This recycled material re-enters the economy instead of polluting the environment or ending up in landfill.

The research also highlighted that due to the economic value of this HDPE material, there is at least one HDPE mechanical recycler in eight of South Africa's nine provinces. Informal waste reclaimers predominantly operate around the big metros, with the recent

research highlighting that in excess of R35million is earned by waste reclaimers for the high value HDPE beverage bottles that they collect.

"It is encouraging to see industry role players working together to take advantage of the economic opportunity that comes with recycling HDPE and creating products that have rHDPE included in the product design," says Naudé.

"It is important for consumers to realise that recyclable plastic, such as HDPE, must be kept out the landfill waste stream altogether so that we can maximise its' economic value," concludes Naudé.

To find out more about Polyco, visit their website www.polyco.co.za

OPINION

Be worried Eskom, very worried, your days are numbered

Continued from back page

has a smaller one in the pipeline that will give 2.5 kW/h. It is the size of a large suitcase and will power the average home.

The 10kW/h Sterling generator sells for more than R100 000. It can be leased. The lessor gets any extra electricity produced to sell into the grid. Linked to PV panels even more power can be sold – as well as making electricity when the sun does not shine.

In the US where fracked gas and a pipeline network is available, a large Stirling generator could power not only whole suburbs but could link to other generators in a mini-grid, automatically pushing extra power to where there is a

sudden high demand in one area of the grid.

If the idea of mini-electricity grids seems farfetched, it is not. Many such grids were the way electricity was delivered in the 1900's to individual city blocks.

There is a real possibility that mini-electricity grids will return. In the US where power stations are private companies, some are already reacting to a perceived threat posed by PV panels, and have caused an uproar where they have imposing an extra charge on those of their customers who have PV panels on their roofs.

Our municipalities, who make a mint from adding their own charges to the Eskom price, are already, in some cities, subtly discouraging people from reducing their electricity bills by installing solar hot water subsystems.

It will be interesting to see what Eskom will do to defend its protected status and the comfortable jobs that go with it. Municipalities in South Africa are likely to fight like cats and dogs to keep theirs.

Just as cell phones have slashed the profits of landline providers like Telkom in the rest of Africa, mini- power grids will do the same to Eskom. You can count on it.

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Cape Business News is always on the lookout for stories of companies that are shaping the Cape business landscape. If your company has a story to share, in these, or any other business sector, send your story to editor@cbn.co.za for consideration.

World's biggest rooftop greenhouse opens

Lufa Farms just opened what it says is the world's largest commercial rooftop greenhouse.

Building on a new hanging garden trend, a greenhouse atop a Montreal warehouse growing eggplants and tomatoes to meet demand for locally sourced foods has set a record as the largest in the world.

It's not an obvious choice of location to cultivate organic vegetables—in the heart of Canada's second-largest city—but Lufa Farms has inaugurated the facility that spans 15 000 m2, or about the size of three football fields.

"The company's mission is to grow food where people live and in a sustainable way," spokesman Thibault Sorret told AFP, as he showed off its first harvest of giant eggplants.

It is the fourth rooftop greenhouse the company has erected in the city. The first, built in 2011 at a cost of more than Can\$2 million (US\$1.5 million), broke new ground.

Since then, competitors picked up and ran with the novel idea, including American Gotham Greens, which constructed eight greenhouses on roofs in New York, Chicago and Denver, and French Urban Nature, which is planning one in Paris in 2022.

A local Montreal supermarket has also offered since 2017 an assortment of vegetables grown on its roof, which was "greened" in order to cut greenhouse gas emissions linked to climate change.

'Reinventing the food system'

Lebanese-born Mohamed Hage and his wife Lauren Rathmell, an American from neighbouring Vermont, founded Lufa Farms in 2009 with the ambition of "reinventing the food system."

At Lufa, about 100 varieties of vegetables and herbs are grown year-round in hydroponic containers lined with coconut



coir and fed liquid nutrients, including lettuce, cucumbers, zucchini, bok choy, celery and sprouts.

Bumblebees pollinate the plants, while wasps and ladybugs keep aphids in check, without the need for pesticides.

Enough vegetables are harvested each week to feed 20,000 families, with baskets tailored for each at a base price of Can\$30.

The company's "online market" also sells goods produced by local partner farms including "bread, pasta, rice, etcetera," Sorret said.

On the ground floor of the new greenhouse, a huge distribution center brings together nearly 2 000 grocery products for offer to "Lufavores," including restaurants.

Sales doubled during pandemic

"We are now able to feed almost two percent of Montreal with our greenhouses and our partner farms," said Sorret.

Lufa Farms spokesman Thibault Sorret shows off vegetables grown at what it says is the world's largest commercial rooftop greenhouse in Montreal

"The advantage of being on a roof is that you recover a lot of energy from the bottom

of the building," allowing considerable savings in heating, an asset during the harsh Quebec winter, he explains.

"We also put to use spaces that were until now completely unused," he said.

Fully automated, the new greenhouse also has a water system that collects and re-uses rainwater, resulting in savings of "up to 90 percent" compared to a traditional farm.

Lufa "more than doubled" its sales during the new coronavirus pandemic, a jump attributable "to contactless delivery from our online site," says Sorret.

Profitable since 2016, the private company now employs 500 people, around 200 more than before the pandemic, according to him.

It is currently working on the electrification of its fleet of delivery trucks and is in the process of exporting its model "to different cities around the world," starting with Canada and the United States, Sorret said.

"What's a little crazy," he recalls, is that none of the founders "had grown a tomato in their life" before opening the business.

Story courtesy of AFP.

Night owls have more grey matter in their brains than early birds

By Tim Pilgrim, Brunel University

BEING a late-riser suggests you could have more grey matter in your brain, a study from Brunel University London has shown. A new survey of thousands of MRI scans revealed that people with a preference for waking up in the late hours of one morning, and going to bed in the early hours of the next, are likely to have a higher volume of grey matter in their precuneus, a key area of the brain associated with social behaviour.

Previous studies have shown that lower volumes of grey matter are associated with how empathetic or cooperative a person is, traits that scientists have also previously found correlate with being an early bird, suggesting such personality traits could be underpinned by a physical signature.

The paper – Diurnal Preference and Grey Matter Volume in a Large Population of Older Adults – was published by

the Journal of Circadian Rhythms.

"We know that some people like to go to bed quite late and get up quite late," said researcher Dr. Ray Norbury, a senior lecturer in psychology at Brunel's Centre for Cognitive Neuroscience. "We call these people late chronotypes."

Using a selection of data from the Medical Research Council's Biobank—which includes information from thousands of volunteers, including brain scans and questionnaire answers on a preference for mornings or evenings—Dr. Norbury set out to determine whether there was any correlation between a late chronotype, and having a higher volume of grey matter.

"What we found was that evening types had greater grey matter volume in an area of the brain called the precuneus," said Dr. Norbury, an avowed morning person.

"We know from meta-analysis and previous work that this is a key component of our social brain. We also know that reduced volume in this area has been associated with

empathy, agreeableness and cooperation, so it ties nicely with behavioural data that suggests early chronotypes tend to engage in more pro-social behaviours than evening types.

"So, whilst we don't have a measure of agreeableness in these individuals, it looks like there could be a signature in the brain that underpins it. It might be that part of the reason early types are more social and agreeable is related to grey matter in this region of the brain."

Eveningness, meanwhile, has previously been shown to be associated with an increased risk of psychiatric disorders and personality traits such as neuroticism.

The brain is made up of three primary types of tissue—grey matter, white matter and cerebral spinal fluid. The grey matter is largely responsible for processing information, whilst the white matter acts as the roadways through which information is shared between different parts of the brain.

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Then we started laughing

CCHEERS! Cheers! Cheers!" greeted Luke the Dude in his rush from the door to the counter of the Local Pub & Grill, still a novel and cheerful improvement on the artificial fellowship of the laptop screen so cruelly imposed on the Congregation of Carefree Conversationalists.

"Welcome!" grinned The Governor, optimistic again after having his livelihood cut off for months on end by the Command and Control Centre of our bewildered masters.

"Have you stocked up, Boyo?" enquired Colin the Golfer with his habitual concern. "I have been told by a friend of a reliable source close to the ANC that poor old, dear old Cyril will be coerced into closing everything down again."

"Wait for the weekend," warned Jon the Joker. "They do it after hours, when only the bootleggers are laughing."

"Not to worry," consoled Bob the Book smugly. "Fool me once and all that. I am as prepared as the good Pilgrims on the Mayflower were for their voyage to The New World."

"Hmmm," pondered Big Ben. "Does that mean your cellar is dry? I don't think those Pilgrims took anything but water on their ship."

"On the contrary," assured Bob, "they took more beer than water. Google it. But all for health reasons, of course. Not only is beer good cheer for the spirit, it contains excellent nourishment for the body. It is a well-known fact that beer drinkers live happier and healthier lives; just look around and see for yourself."

"Evidently," confirmed The Prof. "All of which makes one wonder what the people spied by Nkosazana Mini-Zuma drink."

"Obviously a lot," nodded Jon the Joker. "What do you mean," asked Big Ben suspiciously.

"Elementary," elucidated Jon. "They don't drink beer, as alluded by The Prof, because by Mini-Zuma's account, they are neither happy nor healthy. Instead, they are sick, violent people who go about beating up their family members. They also threaten the lives of others on the roads."

"The only imbibers known to the ANC are dangerous drunks and those who lick torn newspaper to make a zol. So what's their solution? Train experts to help the vulnerable? Apprehend and lock up dangerous criminals? Don't even mention locking up ANC criminals. No, they take the easy way out: ban tobacco and beer. And all the rest."

"Never mind that beer is good for you and that a zol is not rolled around tobacco."

"It's not only Zuma," laughed Irene the Queen, "That little round chappie who broke the remains of the Railways and calls himself Fear EFF All, Fiks Mbalula, also tries to be heard, but not as loudly as 'The General' disaster with the Hat, Bheki Cele."

"Don't forget our Trumpian – not many people know that – minister of surprise, Lindiwe Zulu," insisted Miss Lily, "she is responsible for social development but blissfully unaware that people will go hungry without money for food. Are these really the best people available to President Ramaphosa? The poor man."

"He has a talent for selecting cabinet ministers and madams with, ah, shall we say a history," mused The Prof while filling his pipe with his own blend, happily back in his old seat under the 'No Smoking' sign. "The minister of sport comes to mind. Strange title for a job, not many countries in the

democratic world have them. Minister Emmanuel Mthethwa, with a very sordid history."

"That one," recognised Jean-Jay, our Gallic man of the soil who regularly reminds us just how long the Huguenots have been farming his land. "That one who doesn't know the difference between 'black lives matter' and 'Black Lives Matter'. That learned gentleman with two certificates and one diploma? That confused Connard who thinks people wearing T-Shirts with the slogan 'Rugby Against Racism' must be racists. Look! They took the T-shirts off for the game! Mon Ami, look at that one and you understand why talking is not working ..."

"In more ways than one," pacified The Prof.

"I do not agree," contested Big Ben. "We have the best government in the world. Never has a government been so good. Just look around you: here we are in our favourite pub, enjoying a quality drink in good company without a threat in the world!"

For once, nobody interrupted. Then Luke the Dude guffawed and we all started laughing. I gave Ben a brotherly punch on the arm and he joined in.

Stevie the Poet restored normality.

"Mon Ami," asked he, "you are referring to the game between two English rugby clubs where four players kneeled and most, including eight contracted South Africans, did not. All wore 'Rugby Against Racism' T-shirts. This was 100 percent an English rugby meeting, yet the South African 'minister of sport' lost whatever mind he has and threatened to hunt down the un-kneeling 'racists', as he called them? Right?"

"Oui," frowned Jean-Jay.

"Right," continued Stevie. "So I want to ask The Prof, why did you say this Mthethwa has a very sordid history?"

"Well Steven," responded The Prof, "his sordidness is amplified by his history. Keep in mind that Mthethwa emerged from this English game – the British media had much fun – as the highest-ranking propagandist for the Black Lives Matter movement, evidently without the faintest inkling that the movement has goals completely separate from the plain English meaning of the words 'black lives matter'."

"I cannot think of anybody who would disagree with the words. But that is not the issue. And for a minister to be so ignorant about the issue he propagates, that is not only embarrassing, it can also be dangerous."

Be worried Eskom, very worried, your days are numbered

AUSTRALIAN scientists claim it is now possible to print a photovoltaic panel on a plastic base. University of the Free State scientists say they can do the same on glass without losing its see-through qualities. It all should send shivers down the spines of every top executive of every large power station in the world – including our own dear Eskom.

Eskom should watch out because there are more technological challenges to its business model just over the horizon. Wind generators are just a false start compared to what is coming.

Each electricity generator attached to a home, farm, factory or hospital is one (at the moment) small nail in Eskom's coffin. Each brings the day nearer when the large power station no longer enjoys a monopoly over regular and cheap electricity supply.

If that seems far-fetched, consider this. When, not "If" every building has its own regular electricity supply there will be no need for giant pylons and thousands of kilometres of cabling to bring power to cities and towns. Best of all, there will be no need for Eskom's massive and expensive bureaucracy.

It is early days before this happy situation is a reality but it is a safe bet that children born in 2015 will live to see it. It is not a mad Jules Verne science fiction dream either.

A century ago, small towns in South Africa all had their own mini-power stations and their own electricity grid delivering power. They were run by municipalities and were paid for by property rates. This is the reason why we do not get bills from Eskom but from the local council. Councils only agreed to close down their power

stations when Eskom power reached them. Now they sell on Eskom power to their ratepayers (making it even more) and making a tidy profit in the process.

Middle class city dwellers often dream of getting away from it all, living "off grid" without benefit of piped water, electricity, garbage disposal and even electricity, but when they try it, they discover it is a hard life unless you have the cash for batteries and the rest.

But as technology develops, it is getting nearer to being able to live an almost suburban life off grid, without the worry of rates, electricity, sewerage, and rubbish collection, the cost of which rises every year.

Indeed, escaping the stranglehold of large energy suppliers like Eskom, not to mention the municipal bureaucracies, may be possible in less than a decade.

Private mini-power grids will supply city and suburban neighbourhoods light industrial areas, supermarkets, and even blocks of flats.

This possibility is not only for the rich. Poor rural communities will also benefit – if the Government will allow it.

There are more alternatives to Eskom than photovoltaics. One of the best is the Stirling engine electricity generator,

It can that can be fuelled by petrol and diesel but anything that can burn and produce heat works, such as wood pellets, grass, peanut shells, and twigs.

Enviro-mentalists (sic) will be delighted to know a Fresnel lens can concentrate sunlight to provide heat for the engine. The Stirling engine is an external combustion engine as opposed to internal combustion engines.

OPINION

ON THE CONTRARY



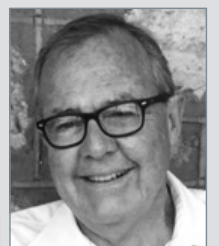
Pieter Schoombee

"Why sordid? Earlier in his unremarkable career, from 2009 to 2014, Mthethwa was the minister of police: the person responsible for the actions of our police 'service'. During those five years, on 16 August 2012 to be exact, the SA Police Service took lethal action against striking miners and shot 34 of them dead. It became known as the Marikana Massacre."

"So the man ultimately responsible for this mass murder of black people does not lower his head in shame and sorrow; instead he braggadociously threatens sportsmen taking a stand against racism? Sickeningly sordid."

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THE OTHER SIDE OF THE COIN



Keith Bryer

Using a Fresnel lens with a Stirling generator (and in perpetual sunny climes) it is a Dream Green Machine producing free power. It is cheaper than photovoltaic panels and runs even when the sun does not shine. It can use batteries to store power although it does not need them, and it does not need inverters since it generates alternating current.

Some say these generators will start a revolution on a par with the impact of desktop computers.

Already, a Stirling generator the size of an average stove is available in the US. Its engine was invented 200 years by a Scot who was worried about the number of people killed or injured by the early steam engines.

With safer steam power, his engine fell out of favour. It was revived during WW2 when Commandos needed silent outboard engines on sabotage missions.

In the 1950s, Phillips marketed a small Sterling generator but it could not compete with cheap Japanese competitors.

Today, fuelled by diesel, large Sterling engines drive Swedish submarines. Smaller Stirling engine generators are already for sale in the US. They offer complete independence from large power grids.

The inventor, who uses 3D printing to make some of the more intricate parts, has one 10 kW/h machine powering his house with more electricity that he can use. He

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