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KEEPING YOUR HEAD

**I SUFFERED A BIT OF A HEALTH
AND SAFETY BLUNDER AT HOME A
FEW WEEKS AGO...**



GAVIN MYERS

My better half and I recently bought and moved into a new home and, being DIY types, this has meant all manner of home improvement is taking up most of our spare time.

We've obviously left the specialist work for the pros – renovating the en-suite bathroom and laying new flooring, for example. However, other tasks, such as painting, or gutting and redesigning the garden and entertainment area, have been tackled with enthusiastic levels of DIY gusto.

My little "man cave" features a floor-to-ceiling bookshelf, which is ideal because I have a – let's say – contentious collection of books and magazines that just happened to need such a home... And so it was that I took on the task of reinforcing the structure; a simple job of drilling some holes and affixing the bookshelf to the wall with six L-brackets and some rawl bolts and screws.

That was until one of the bolts got stuck in the wall after I hadn't drilled deeply enough for it to fit snugly. I surmised that brute force and ignorance was the best solution, so my trusty hammer was enlisted to do the dirty work. When that plan didn't work I left the hammer atop of the ladder and took a break.

When I came back I decided to finish the rest of the bolts and then try again to solve the problem. So I picked

up the ladder to move it to the next bolt – and I'm sure you can guess what happened next...

Yip – hammer to the head!

The instant I raised the ladder I knew I had made a mistake – but by then it was too late. With a gash to the scalp and a river of blood flowing down my face, the day's DIY activities had come to an end.

Some subsequent reading on head and brain injury revealed some scary statistics.

According to the *South African Medical Journal*, traumatic brain injury (TBI) is the leading cause of mortality in persons under the age of 45. Population-based studies in developing countries, including South Africa, suggest even higher rates. A study in 2007 found injury-related mortality rates in South Africa to be six-times higher than that of the global rate.

The United Kingdom (UK) brain injury association, Headway, reports that admissions in the UK for acquired brain injury have increased by ten percent since 2005/6. It adds that men are 1.6-times more likely than women to be admitted for head injury. However, female head injury admissions have risen 24 percent since 2005/6, it states.

Across the pond, the Centers for Disease Control and Prevention states that TBI contributed to about 30 percent of all injury deaths in the United States of America and that, between 2007 and 2013, rates of TBI-related visits to hospital increased by 47 percent (although hospitalisation rates decreased by 2.5 percent and death rates decreased by five percent). Falls and being struck by, or against, an object were the two leading causes of TBI.

All these statistics make me very thankful indeed that I got lucky... I didn't suffer concussion, nor did I need stitches, and the wound healed quickly. The knock to my ego – as the editor of a health and safety publication – and the lesson learnt still linger, though. **SM**

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WHAT WENT WRONG AT GRENFELL?

While a number of fires in the Gauteng region have held the headlines over the past few months, the inquiry into the Grenfell Tower tragedy – which occurred on June 14 in West London, United Kingdom (UK) – has been concluded.

The inquiry, reports James Beale, operations manager at Invicta Fire Protection, for *IFSEC Global*, revealed negligence in a number of areas, all of which combined to hinder rescue and escape attempts, and exacerbated the disaster, with the eventual loss of 72 lives.

It was revealed that none of the 120 fire doors to the flats – 106 of which were replaced not long before the fire – were compliant with regulations. In addition, fire doors onto the stairwells were also broadly non-compliant.

As well as the badly fitted fire doors, many corridors were apparently made narrower, with exposed gas mains and other obstructions jutting out from the walls. This would have exacerbated the issues of smoke and heat, and restricted the space for any evacuating residents.

The ventilation system in Grenfell Tower was designed to eliminate smoke from a single floor. It was useless on the night, as it did not work. The tower's authority had contacted the manufacturer and received a quote for repairs six days before the fire, but it had not responded.

Much was made of the fact that fire alarms failed to sound in Grenfell Tower, leaving many residents to sleep through the period where they might have escaped the blaze. There was, however, a functioning central alarm system that alerted an external company charged with monitoring multiple high rises.

Grenfell Tower did not have any external fire escapes, although these would have been rendered useless by the cladding on the building, which caught fire. Further, modern building regulations dictate that a high-rise building should have more than one stairwell, which Grenfell didn't.

The lifts in the tall building also failed to function



properly, hampering the transport of equipment and firefighters, who can override their safety cut out if they feel their use is beneficial and safe.

By law, all high-rise buildings in the UK are required to have a "wet main" for firefighting (a series of pipes running up to the top floor with water actively circulating). Grenfell Tower only had a "dry main", which required first responders to connect it to another water source.

It has also been mentioned that the lack of a sprinkler system was to blame for the scope of the fire. Sprinklers may not have helped once the fire had spread, but could have quelled the fire at source.

The deciding factor was the flammable cladding, which changed the circumstances of the fire quickly, and in a way in which nobody had any experience. The same can be said of the lack of fire drills, as evacuation would never be expected to happen.

There was a lack of preparedness among the first responders to the fire, and an absence of scrutiny over the faults with Grenfell's fire protection.

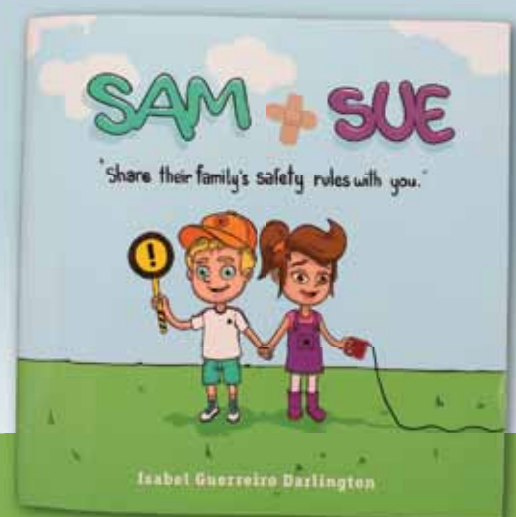
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OPERATIONS MANAGER, INVICTA FIRE PROTECTION



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JOIN US AT THE FIRST CAPE OCCUPATIONAL SAFETY & HEALTH (COSH) TRADE EXPO AND CONFERENCE!

On March 13 and 14, 2019, the Cape Town International Convention Centre will play host to the inaugural COSH 2019 conference and exhibition.

The event came about due to the need for a Western Cape-based occupational safety and health (OSH) event that includes all the sectors and is relevant to the commerce and industry of the Western Cape.

The conference event will have top, internationally renowned experts to unpack the legal frameworks of OSH. Topics will include ISO 45001, the value of health and safety policy, safety audits versus inspections, changing the workplace safety culture, and a risk-assessment approach.

The exhibition will allocate space for 40 exhibitors from within the industry to showcase their products and interact and network with delegates and visitors.

Conference chairman, Ron McKinnon, will be joined by co-chairman Corrie Loots. McKinnon is an internationally experienced and acknowledged safety professional with 42 years of experience in all aspects of the industry.

Loots is a South African risk-management professional, who is internationally respected and has a 41-year global track record.

Law firm Webber Wentzel will be participating at the COSH 2019 conference, and will address the legal

framework of OHS. The presenters from Webber Wentzel will be Kate Collier (who specialises in OHS law, with a particular focus on the mining and construction industries) and Claire Gaul (who is a specialist in employment law and employee benefits).

Conference delegates who register before September 28 will qualify for a ten-percent early-bird special.



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PORSCHE DROPS DIESEL, GEARS UP FOR ELECTRIC FUTURE

Having risen in prominence during the last decade for its low fuel consumption and generally low emissions, the diesel engine made its way into just about every class of vehicle on the road – even into those from sports-car manufacturer, Porsche.

However, diesel's time at the German manufacturer is up; Porsche will no longer offer diesel engines, but instead will concentrate its efforts in the environmentally friendly areas of hybrid technology and electro-mobility.

Demand for diesel models is dropping, notes Porsche, with only 12 percent of all Porsche models sold worldwide during 2017 being diesel. On the other hand, 63 percent of Panameras – the company's four-door, executive saloon car – sold in Europe are hybrid models.

"Porsche is not demonising diesel. It will remain an important propulsion technology. As a sports-car manufacturer for whom diesel has always played a secondary role, we have come to the conclusion that we

would like our future to be diesel-free. Naturally, we will continue to look after our existing diesel customers with the professionalism they expect," says Oliver Blume, CEO of Porsche AG.

And the company has its diesel-free future planned ... its first purely electric sports car, the Taycan, will come to the market in 2019. Significantly, its manufacture is CO₂ neutral and it is supplied with green electricity via an ultra-fast charging infrastructure spread over Europe.

By 2022, Porsche will have invested more than €6 billion (R98 billion) in e-mobility, creating the basis for sustainable growth into the future. It envisages that, by 2025, every second new Porsche vehicle could have an electric drive – either hybrid or purely electric.

"Our aim is to occupy the technological vanguard – we are intensifying our focus on the core of our brand, while consistently aligning our company with the mobility of the future," Blume concludes.



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A LIQUID-NITROGEN SOLUTION TO PREVENT AGRICULTURE LOSS

Dearman, a technology company delivering zero-emission, clean cooling and power solutions, has launched a new project aimed at reducing wasted harvests in South Africa. The project is backed by grant funds from the Department for International Development.

Food waste in South Africa is estimated to be worth R86,5 billion annually, half of which occurs in the fruit and vegetable sector. Low farmer income makes access to cooling technology difficult.

Dearman's 24-month project seeks to develop a mobile pre-cooling system, using the company's ground-breaking liquid-nitrogen engine. The Dearman technology is the basis for a suite of zero-emission power and cooling solutions being developed by the company, which have applications across transport and the built environment.



Working with local partners Transfrig, a cold-chain operator, and Harvest Fresh, a family owned food producer based in Gauteng, Dearman will develop a mobile, off-grid, zero-emission system that allows small farmers to access affordable pre-cooling.

Pre-cooling rapidly reduces the temperature of produce immediately after harvest, to ensure minimal post-harvest food loss.

The fruit and vegetable pre-cooling market is estimated to be worth R1,34 billion across Africa. Dearman's project seeks to deliver a successful technology demonstration, including a six-month field trial, and set out a viable route for wider commercial deployment of the pre-cooling system.

The company estimates that deploying just 250 Dearman pre-coolers in South Africa would be enough to process the 350 000 t of fruit and vegetables that are wasted during post-harvest handling and storage.

Additional impacts would include saving 328-million cubic metres of water and 29 000 hectares of land also currently wasted, as well as boosting farmers' incomes by 12 percent.

Daniel Fennell, Dearman's head of new applications, says: "We're very excited to be launching our new project in South Africa. Small farmers in the country want an affordable and clean pre-cooling system. The zero-emission system we are developing can offer a real alternative to polluting, expensive diesel systems and help to reduce post-harvest food loss."

ELEVATING SAFETY SOLUTIONS IN WORK AT HEIGHT

On August 27, Gravity Training, in conjunction with Cairnmead, hosted the work-at-height safety workshop at the Gravity Training venue. The event was noteworthy in that it brought together some of the key role-players in the construction and telecoms industries, and highlighted shared concerns, demands, requirements and significance of work-at-height safety needs across various industries.

MBA North's Gerhard Roets contributed to the workshop as a presenter. The MBA North "Training-on-the-Move" vehicle, which was on display, was well received by the attending delegates.

The atmosphere at the workshop was electric with passionate staff assisting the proceedings of the day.

The topics under discussion ranged from foundational frameworks and contextualising work-at-height safety, through to the essential elements of training, equipment and access solutions. Discussions culminated in a review of the progression from awareness to safety excellence that has become a defining marker for Vodacom.

Topics and presenters included:

- Circle of safety: Shone Dirker, Cairnmead
- The true cost of an incident: Herman Enoch, FEM
- Fall arrest: Heinrich Schroder, Gravity Training
- Introduction to the MBA: Gerhard Roets, MBA North
- Rope access, gear management and training: Barry Lottering, Gravity Training
- Work at height safety systems: Hein Stapelberg, Gravity Access
- Success when implementing safety: Barry Niemand, Vodacom

"We would like to express our gratitude to Gravity Training and Cairnmead for the successful execution of an insightful and informative workshop. It has left a meaningful impression on all who attended," said Roets.



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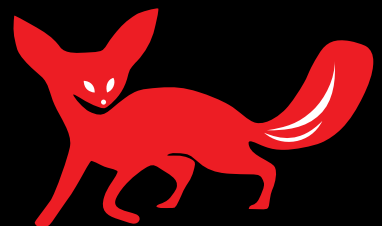
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TAKE A LESSON OR TWO FROM SCUBA DIVERS

THE IMPORTANCE OF FOLLOWING THE RULES CAN NEVER BE OVERSTRESSED - ESPECIALLY WHEN YOU RISK A PULMONARY EMBOLISM, ARE SITTING ON THE SEA BED WITH MANTA RAYS, OR CONDUCTING YOUR EVERYDAY WORK

Throughout my years as a safety and health professional, it has alarmed me to know how many employees and/or contractors work in unsafe ways. It's unbelievable, but true. They either enter machinery without isolating and locking out, or without overriding the interlocking devices, or they work without the necessary safety-protection equipment, and/or choose to come into contact with moving and rotating parts of machinery – many of these with life-altering and even fatal consequences!

What has alarmed me even more is that I've participated in many investigations of these incidents and major close calls over the years, and often these events (involving total violation of the safety rules and procedures) are, in fact, observed by people or colleagues on site!

In some cases, these observers are even the supervisors and foremen – all failing to respond to the unsafe working behaviour.

RULES OF THE GAME: PLAN, UNDERSTAND AND ADHERE

In the early 2000s, I considered taking up scuba diving, but was put off by the number of "crash courses" offered by resorts around the world (such as in Thailand and Egypt). It was in 2005 that I finally took up the challenge and enrolled with a registered scuba-diver training organisation.

After qualifying, I completed over 100 dives and, despite being fairly experienced by then, it was always comforting to know how much emphasis was placed on safety among the diving community – always!

Before and during every dive the diving rules were revisited, and every diver was expected to follow the rules. For example, it was common practice ahead of any dive for the dive masters or instructors to brief all the divers – sharing information about the dive site and the expected currents. They'd allocate diving partners (the buddy approach), and they'd confirm maximum depth and expected duration of the dive.

In this way, everyone knew and understood the plan. Divers were also reminded that diving is a high-risk activity.

A few years back, a friend of mine asked how I, as a safety and health professional, could do scuba diving, it being such a high-risk sport. Yes, it's a high-risk sport, with each dive presenting a degree of risk (regardless of all the best laid plans) including, for example, equipment malfunction, getting lost underwater, suffering decompression sickness (known as "the bends") or pulmonary embolisms from surfacing too fast, running out of oxygen, becoming claustrophobic during wreck dives, or panicking when diving among an abundance of sharks.

There is also the added risk of being attacked by an underwater creature. Although this is more rare, it's not impossible – just think back to the wildlife TV presenter, Steve Erwin (crocodile hunter), who was fatally injured in 2016 by a stingray.

However, despite the risks, if divers clearly understand the rules of the game and closely adhere to the procedures, the potential for things to go wrong is dramatically reduced.

The same applies in industry: in addition to the various key controls, we need to ensure that good planning of tasks is entrenched among all employees and contractors (including tool-box talks and permit to works), and that all safe-work procedures are easy to read, clearly understood and applied.

COMPETENCY THROUGH TRAINING ... AND MORE TRAINING

Qualifying as a scuba diver requires both theoretical and practical training from certified diving institutions. Whether it's to obtain entry-level open-water one qualification, advanced, master or rescue-diver qualification, or whether it's to become a dive master, they all require theoretical and practical training sessions.

This ensures sufficient understanding and competence. Even once qualified, if a significant amount of time has passed since their last dive, the diver is required to kit up and enter the water to conduct certain exercises to ensure competence.

The same should apply to industry! By ensuring appropriate and well thought through training material, competence tests and practical exercises, industry can ensure that employees and contractors understand the rules and relevant procedures and that they have the competence to do the tasks expected of them.

Just presenting PowerPoint slides and/or showing a safety video does not ensure sufficient understanding of what is required; and without "on the job" training, competence is not a given.

Importantly, refresher training must be conducted and discussions held to ensure a clear understanding of what action to take if or when things go wrong. Refresher training and communication efforts must be focused on making safety a habit.

ENTRENCHING THE BUDDY APPROACH

The buddy approach is entrenched in scuba-diver training. Before embarking on any dive, the dive master will allocate a buddy to every diver. The expectation is that they look out for each other's safety throughout the dive.

This includes checking each other's equipment prior to



any dive (such as checking that oxygen bottles are open and pressure gauges are working, weight belts are fitted and the buoyancy-control devices are secured).

Once again, the same buddy approach should apply to industry – where colleagues look after their own safety, as well as the safety of others. Also known as an interdependent culture, this approach will prevent many injuries (including life altering and fatal injuries) and will make a significant difference to the safety performance of a company.

LIVING BY THE RULES OF THE GAME

Living by the rules of the game is not always the easy option, but it does need to be the only option.

One of my dreams has been to dive with the manta rays, and it was on a reef dive in the Maldives where I finally realised the magic of diving with these magnificent creatures. After about 20 minutes of anxious waiting, the first manta made its way towards the reef, and it wasn't long before we found ourselves among 13 mantas! All seven divers sat on the seabed in absolutely awe as the mantas played in our bubbles and swam around us.

When the maximum dive time had been reached we all began our ascent, completed our safety stop at five meters, surfaced and climbed onto the dive boat. You can imagine the excitement of the team of divers, with everyone regaling their experiences and sharing photographs.

It wasn't long before the divers started talking about going back into the water, but without sufficient time on the

surface. The dive master reluctantly agreed, but with the proviso that everyone had to be in agreement.


While the opportunity to swim among the mantas again was extremely appealing, I could not agree to breaking the safety rules. As a result, we all had to wait out the correct time allocation before descending. Needless to say, I was the least popular person on the boat at that time!

While fewer than on the first dive, the mantas fortunately did grace us with their presence again, but, regardless of whether they had or not, I had no regrets – compromising my safety and that of my dive buddies was never an option.

SUMMARY

If we want to make a difference and ensure continuous improvement in the safety culture and performance of operations, adopting the same disciplined approach of scuba diving is important.

That, in combination with other safety initiatives, will develop the desired behaviours and promote the interdependent culture where "buddies look after buddies", or, in industrial terms, where colleagues look after colleagues.

Senior leaders and first-line managers (supervisors and foremen) have an important role to play in ensuring this interdependent culture, and having a zero tolerance to any violation of all safety rules and procedures. In addition, we all have a responsibility to understand and adhere to the safety rules and procedures, thereby ensuring our own safety and the safety of our colleagues, our buddies at work. 



Brian Darlington is the group head of safety and health for the Mondi Group, based in Vienna, Austria. He has filled the role since 2012 and is responsible for safety and health in more than 30 countries. Brian started working at Iscor before joining Mondi in 1987, working in Gauteng. In 2000 he transferred to the Kraft Division in Richards Bay. During 2005, Brian transferred to Europe, taking up the position of business unit SHE manager, responsible for SHE in paper mills in Austria, Hungary, Israel, Slovakia, Poland, South Africa and Russia, as well as forests operations in South Africa and Russia.

DRIVEN TO DISTRACTION

A RECENT STUDY BY THE WORLD HEALTH ORGANISATION REVEALS THAT THERE ARE NOW MORE MOBILE PHONES THAN PEOPLE ON THE PLANET. SO PERHAPS WE SHOULDN'T BE SURPRISED TO LEARN THAT MOBILE USE IS NOW THE BIGGEST CAUSE OF DEATH AT THE WHEEL AROUND THE GLOBE. IN THIS ARTICLE, ANDREW SHARMAN EXPLORES THE PSYCHOLOGY OF DISTRACTION ON THE ROAD AND IN THE WORKPLACE

A recent study of in-vehicle video footage estimated that around 22 percent of crashes are caused by driver distraction. Further, drivers who perform a secondary task, such as talking or texting on a mobile phone, while at the wheel are between two and seven times more likely to crash.

Drivers using mobile phones are now around four times more likely to be in a crash that causes injury – irrespective of being on a hands-free or hand-held phone. Interestingly, their crash risk remains higher than normal for up to ten minutes after the call has ended.

In Australia, researchers at Queensland University found that drivers using mobile phones have slower reaction times, difficulty controlling speed and lane position and they brake more sharply in response to hazards, increasing the risk of rear-end crashes.

Driver reaction times are 30-percent slower while using a hands-free phone than driving with a blood alcohol level of 0,05 grams of alcohol per 100 ml of blood (the current

limit in South Africa), and nearly 50-percent slower than driving under normal conditions. Drivers who text while at the wheel are 23 times more likely to crash than a driver paying full attention.

So, with data like this, why do drivers continue to use their phones while on the road?

The research suggests that many drivers believe that they are always in full control of their vehicle and believe that using phones while driving does not pose a significant risk to them.

However, scientists at the University of Utah show that drivers are not able to correctly estimate how distracted they are, and 98 percent are not able to divide their attention without a significant deterioration in driving performance.

THE POWER OF BELIEFS

Ajzen's theory of planned behaviour (1980) has become one of the most popular in the prediction of an individual's



behaviour. The theory asserts that an individual's actions are guided by three factors:

- **Behavioural beliefs** are beliefs about the likely consequences of a particular behaviour, producing either a favourable or unfavourable attitude toward the behaviour.
- **Normative beliefs** are beliefs about the expectation of others or peers. Normative beliefs are subjective and result in a perceived social peer pressure towards the behaviour.
- **Control beliefs** relate to the perceived presence of factors that may be advantageous or disadvantageous to the performance of the behaviour. Control beliefs exert the perceived ease or difficulty of performing the behaviour.

These factors influence the overall personal intention to perform a behaviour and, in simple terms, suggest that a more favourable behavioural attitude, when coupled with supportive normative pressure from others and the feeling of being in control, will increase the likelihood of a certain behaviour being performed.

In relation to driving, Ajzen's theory can help us to understand the antecedents (also known as "activators") of unsafe behaviour.

By way of example, an individual may choose to use a phone while driving because they are confident in their

own ability to do two things at once (a behavioural belief), and they observe others around them using mobile devices while behind the wheel (a normative belief) and when they are behind the wheel of their own car, they feel that they have the freedom of choice to use their phone (behavioural control).

MENTAL OVERLOAD

It's estimated that the human brain is exposed to up to half a million data messages and signals each and every day. Perhaps this information overload causes us to believe we need to do two things consecutively in order to simply "get things done"?

Daniel Kahneman won the Nobel Prize in 2002 for his work on human judgment of risk and decision-making. He's regarded as one of the world's leading thinkers in psychology.

Back in 1974, Kahneman and his research partner Amos Tversky made a ground-breaking discovery. They identified that the human brain was capable of taking mental short-cuts to solve problems or issues with which we are faced. A "heuristic", to give it its proper name, is by Kahneman's own definition: "A simple procedure that helps find adequate, though often imperfect, answers to difficult questions".

Heuristics are the little "rules of thumb" that allow us to quickly process information and conclude an adequate decision without having to digest volumes of information or deeply deliberate what our course of action should be.

It's interesting to note that the word heuristic is derived from the same root as the word eureka. Perhaps this reflects exactly why, when our minds make these little short-cuts for us, we feel so pleased with ourselves for being so quick-thinking.

Kahneman and Tversky identified three main types of heuristics:

- **Availability heuristics** help us to estimate the probability and likelihood of something happening – based on information we can easily recall. Studies suggest that those events we can bring to mind most quickly are those that have occurred recently.

For example, if the news reports several road accidents on a certain stretch of highway, then we may believe that we are more likely to suffer a crash on that particular road and avoid that route for the near future.

If we can recall last night's TV news reporting of a series of fatal accidents involving people using mobile phones, perhaps our brain might be less keen to let us pull out our phone while driving.

- **Anchoring heuristics** are based on the idea that we often take decisions related to specific reference points within our memory. These reference points act as anchors to connect historical information to the present.

As an example, if a manager in an organisation was involved with a serious workplace accident earlier in her career, future discussion on this topic will often trigger her thought process to pull against this anchor in her mind. This may result in either a raised level of awareness and knowledge, or conversely, perhaps a degree of over-sensitivity or even a reluctance to engage.

- **Representativeness heuristics** help us to predict

the probability of something happening based on the proportion of relevant items in play.

For example, if I take a jar of coloured candies and ask you to tell me which colour of candy will be drawn next from the jar, you would no doubt want to know how many of each colour I had placed in the container. When I tell you that 75 percent of the candies were red, you would likely guess that red would be the colour of the next one to be drawn. This proportion is known as the base rate.

The representativeness heuristic is significant in our world of safety. Where a base rate appears to be in our favour, we can be lulled into a false sense of security – for example, when we experience a period of time without an accident at work, our confidence begins to grow and it becomes easy to believe that we have the ability to predict random events (accidents, or red candies) from the base rate data to hand (our chart of historical rates or the data on sweets in the jar).

THINKING FAST OR SLOW?

In his excellent book, *Thinking, Fast and Slow*, Kahneman describes a new heuristic – originally proposed by psychologist Paul Slovic – where individuals allow their personal preferences and biases to influence their decisions.

When the Affect heuristic kicks in, our brains respond to our most basic emotional likes and dislikes. For example, if you observe a man with a big beard and tattoos on his arms you may label him a thug, rebel, or perhaps a motorcyclist and might conclude that he is “not your cup of tea”, but the affect heuristic does not shut down your mind completely; it leaves the door open just a crack for you to change your decision. So, when you learn that the man is, in fact, an eminent doctor, who is known for saving the lives of many sick children, it becomes easy for you to modify your initial view.

Slovic and his peers have conducted several studies looking at affect, all of which confirm the bias most humans have for the physical appearance of others. In one recent


study several participants were sent individually to make a sales pitch to a group of strangers. In each case where the participants were considered to be “highly attractive” and “well-groomed”, the pitch was successful and the deal closed. Those participants who appeared to have taken less care with their choice of clothes and personal grooming rarely got the sale.

GOING WITH THE GUT

By their very nature, heuristics are used without our conscious thinking. The idea of a “mental shotgun” makes it easy for us to come up with fast answers to difficult situations because it avoids the need for long, deep thought. But heuristics have a flipside. They may lie behind the unconscious errors that we create as we go about our daily business and lead us into taking decisions and setting targets rather naively – whether we’re behind the wheel, operating workplace equipment, or engaged in other tasks.

Heuristics can be helpful, but we should note that they can also lead to errors. Have you ever gone with your gut, only to find you made the wrong choice? This is because heuristics are imprecise ways of judging probability. As Kahneman says, they are a “consequence of the mental shotgun; the imprecise control we have over targeting our response” to the questions or issues we face.

So how might heuristics affect our work in safety, health and quality management?

- Well, if we use last year’s accident rates as a heuristic to predict our performance this year, or five years into the future, is it a solid short-cut? What other data do we need to bring into consideration?
- When we respond to an incident based on its pull against an anchor embedded deep within our memory, is our reaction proportionate and unbiased?
- If we calculate probability based on a spate of recent events, how confident are we that we’ve got the numbers right?
- When we provide commitment and support only for safety projects proposed by attractive members of the team, are we focusing on the right risks? 



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THE ZERO-HARM EATING PLAN

WHEN WE MEASURE SAFETY, WHAT IS IT THAT WE ARE ACTUALLY MEASURING?

Around a braai, a dear friend who is a fitness guru explained how many people waste their time standing on a scale. Standing on a scale does not bring about weight loss. It only tells us how much we weigh.

Instead of focusing on how much weight we want to lose, it will be more beneficial to identify the actions that will get us there. Starting a fitness regimen is recommended. Choosing a healthy eating plan and cutting out fizzy drinks will make a tremendous difference.

Rather than measuring our weight, we should gauge how well we are sticking to the plan. Concentrating on the activities that will get us there is more practical, easier to measure and more motivating when we succeed.

Did I drink a coke? Did I go to the gym? How many times this week did I follow my eating plan? By being true to these activities, the chance of realising the goal will significantly increase.

The same is applicable in our desire to reach zero harm. I was with a client the other day, and I asked how it was going in their safety journey. He smiled and gladly told me how they had not had a fatality or LTI for the year. I asked if that was by luck or design? Sadly, he did not know.

Like standing on a scale to measure weight, measuring lagging indicators such as frequency rates is not a guarantee of not having an incident.

The fact that there were no injuries is not an indicator that the work was done safely. It is possible for someone to arrive home safely after binge drinking and driving at over 200 km/h. Measuring his safety by the fact that he was not in a car crash is not an indication that he was safe.

Lagging indicators have no preventative value. We want to fill our car's petrol tank before we run out of fuel. To do that we need indicators that can help us to take proactive steps.

Most leading indicators would naturally include housekeeping, maintenance, training, audits and risk assessments, among others. For this article, I would like to highlight one that is often overlooked but absolutely essential; and that is employee engagement.

If people are not committed to the company, it is unlikely they will fervently adhere to any of the company's safety initiatives. Having an engaged workforce should be prominent in any safety strategy.

In a previous article, I referred to Gallup's 2016 study, that surveyed 1,8-million workers in 73 countries across 49 industries and found that companies that had high levels of employee engagement also had 70-percent fewer safety incidents.

Gallup's research also found that 86 percent of people in the workplace are disengaged. Their hearts are not in what they do. The number-one reason for this is because of the

leader to whom they report. There is an adage that "people do not leave companies, they leave bosses".

Leaders need to intentionally build a working and safety culture that activates their team's morale. Foremost is how they treat people. Being abrupt, short-tempered, rude uncaring or refusing to listen will definitely have a negative impact on the commitment level of their people.

them as the most important asset.

As part of the leading indicators for safety, leaders should constantly be asking themselves how they have engaged with their people and how they have demonstrated care.

On the last walkabout did the conversation gravitate around work, or was it around connecting and building relationships? Was the discussion centred on the things



It is too easy to have posters and mission statements that declare "people are our top priority" or "people are our most important asset" or "we care for our people".

What we really value and believe is seen in times of immense pressure, or when something goes wrong. When targets are not being met, are the instructions to pick up the pace, insinuating safety must take a back seat, or is working safely still being promoted?

If someone gets injured, does the manager find out if they are alright, or do they want to know who messed up? This is when workers see if the company truly cares and if it sees

the worker has potentially missed and done wrong, or was the emphasis placed on listening to their concerns and suggestions?

Is there a culture where workers are too afraid to make decisions and report near-misses because of the fear of reprisal? Alternatively, do people feel empowered to take ownership of their work and be responsible for their safety and the safety of others?

This type of culture does not magically happen. It requires effort and attention. It requires leadership. It needs to be a priority. SM



Dr Brett Solomon is the CEO of The Kinetic Leadership Institute and is a recognised leader in combining neuroscience, change management and leadership theory to drive cultural transformation processes. Brett specialises in neuroleadership, especially when it comes to an understanding of what motivates human behaviour and how to influence it. He has been involved in numerous culture change and leadership development initiatives throughout Africa, Australia, Canada, Saudi Arabia and the United States.

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VICARIOUS LIABILITY AND THE DEMISE OF INDEPENDENT- CONTRACTOR DEFENCE

AS FAR AS EMPLOYERS ARE CONCERNED, THE LIABILITY THEY INCUR TOWARDS THIRD PARTIES INVARIABLY INVOLVES THE DOCTRINE OF VICARIOUS LIABILITY. HOWEVER, THE NATURE OF VICARIOUS LIABILITY IS CHANGING - AND EMPLOYERS SHOULD BEWARE

The doctrine of vicarious liability holds that an employer is liable for harm or loss arising from the negligence, or other forms of wrongdoing of its employees, that occur in the course and scope of employment.

Therefore, if the employer is a company, or some other type of entity with corporate personality, the only way it can incur liability to a third party is through the conduct of its employees.

This type of risk is pervasive and affects all employers regardless of their size or nature of operations. The risk arises from the commission of wrongful and negligent acts that cause harm or loss to third parties. Liability attaches when the injurious act obliges the perpetrator to compensate the affected third party.

Legal scholars and economists cite several reasons to justify imposition of vicarious liability on employers. From a legal perspective, it is desirable as it assists injured third parties to get compensation, because the employer probably has more resources than the offending employee.

Another argument in support of vicarious liability is that the employer creates the initial risk conditions by asking his workers to conduct economic activities on his behalf. Therefore, when things go wrong, the employer ought to be answerable.

From an economics of law standpoint, imposing vicarious liability is desirable because it creates the right incentives for employers to be more discerning in their hiring and management of employees.

The logic here is that if an employee causes harm or loss to a third party in the course and scope of employment, imposing liability for such harm or loss on the employer creates incentives for the employer to train, exercise greater care when hiring, or even sanction the employee.

From an employer's perspective, vicarious liability does not depend on proof of wrongdoing or negligence. The only requirement is that the harm or loss arose from the fault of an employee acting in the course and scope of employment. It is not a defence for the employer to argue that the employee did not follow procedure or standing instructions.

The essence of vicarious liability is that the employee caused harm or loss to a third party while furthering business and economic interests of the employer. That alone is sufficient to find the employer liable. Therefore, even if the employer is blameless, liability still attaches.

Over the years, claims arising from vicarious liability are becoming increasingly difficult to defend. Once it is the case that an employee caused harm or loss to a third party in the course of employment, courts in countries like the

United Kingdom (UK), Canada and South Africa tend to lean towards a finding of liability rather than exonerating the employer.

Nevertheless, one defence available to employers in vicarious liability claims over the years has been the independent-contractor defence. The defence holds that an employee creates vicarious liability because he or she operates under the direct control and instruction of the employer, but an independent contractor does not; since he does not operate under such direct control of the principal who owns the company.

The argument in support of the proposition that an independent contractor creates no vicarious liability for the principal rests on the logic that independent contractors usually render services that the principal cannot, or is incapable of supervising. Hence, when things go wrong, the principal cannot be responsible for the resultant harm or losses.

Over the years, courts have shown a clear appetite to widen the scope of vicarious liability and there is a large body of case law from various common-law countries confirming this. It is against this background that the recent English law case of *Barclays Bank Plc versus Various Claimants* [2018] makes interesting reading.

In that case, the Court of Appeal in the UK held that the independent contractor defence no longer applies to vicarious liability claims. The brief facts of the case are that Barclays Bank engaged a medical doctor to do pre-employment medical examinations on prospective employees.

In the process, the doctor sexually assaulted 126 pre-employment candidates. The candidates sued Barclays Bank as a collective alleging that the bank is vicariously liable for the conduct of the doctor. Barclays Bank's defence was that the doctor was not an employee of the bank but an independent contractor.

The Court of Appeal held that in such cases, the focus should be on two critical issues. One is to decide whether the relevant relationship between the parties in the lawsuit is one of employment or "akin to employment".

The other is whether the tort has sufficient closeness to the employment or quasi employment. Applying these two factors, the court held that the medical examinations that the doctor carried out were for purposes of employment, because Barclays relied on them to decide on the physical suitability of applicants.

Some may ask, what is the relevance of this case to South African employers? There are two reasons why the case is

important. First, there are strong similarities in the common law of the UK and South Africa and local judges often refer to UK case law, making it prudent for South African liability risk managers to follow jurisprudential developments in both countries.

Second, South African courts have previously shown an inclination towards extending vicarious liability to the principal for acts of a subcontractor without categorically ruling that the independent contractor defence is no longer applicable to claims of vicarious liability. A case in point is *Langley Fox Building Partnership (Pty) Ltd versus De Valence* 1991, where a main contractor was held liable for the negligence of a subcontractor.

The implications of this UK development for employers are significant. They not only need to worry about the possibility of their employees causing them loss through the doctrine of vicarious liability, but their independent contractors, too.


Although it is too early to tell if this is a wholesale abandonment of the independent-contractor defence or a limited one, the decision of the Court of Appeal undoubtedly increases the risk facing employers under the doctrine of vicarious liability.

Furthermore, there may still be a number of salient aspects on vicarious liability and the independent-contractor defence where further guidance from the courts is necessary. This lack of certainty is not good news for employers.

The doctrine of vicarious liability continues to change and the main driver of the change is the courts. Although vicarious liability claims are still defensible, it is hard to argue against the proposition that such claims are getting more difficult to defend for employers.

In the case against Barclays Bank, it is difficult to see what measures the bank could have taken to monitor the conduct of the doctor. In addition, there is no obvious way that the bank could have predicted the conduct of the doctor.

However, in vicarious liability claims, none of these issues matter. Once a court finds that the relationship between the principal and the so-called independent contractor is one of employment, or is akin to employment, and that the wrongful act is close enough to that employment or quasi employment, vicarious liability would most likely be the outcome.

The ever-evolving nature of vicarious liability means that it will continue to give employers a lot to think about in future. 



Legally Speaking is a regular column by **Albert Mushai** from the school of Economics and Business Sciences, University of the Witwatersrand. Mushai holds a master's degree from the City University, London, and was the head of the insurance department at the National University of Science and Technology in Zimbabwe before joining the University of the Witwatersrand as a lecturer in insurance.

JUMPING WITHOUT A 'CHUTE?

WHY DO SOME EMPLOYERS FAIL TO MANAGE OCCUPATIONAL HEALTH AND SAFETY (OHS) RISKS?

General Colin Powell is a retired United States (US) Army general and former US National Security Advisor. He narrates how on one occasion, during an airborne training session, they were preparing to parachute from a helicopter on a rainy night:

"I yelled for the men to recheck their hookups one last time. Then like a fussy old woman, I started checking each line myself, pushing my way through the crowded bodies, running my hand along the cable and up to each man's chute. To my alarm, one hook belonging to a sergeant was loose. I shoved the dangling line in his face, and he gasped. It was a triple failure. He was supposed to check it. The jumpmaster was supposed to check it. This man would have stepped out of the door of the helo and dropped like a rock."

This excerpt from *My American Journey*, a book by Powell and Joseph E. Persico, left me fascinated! It is a great story that leads us to think of the modern-day workplace. Why are some employers failing to effectively manage safety risks at work?

POLICY STATEMENTS NOT ACTIONABLE

First and foremost, the policy statements are often not actionable and don't emphasise the overall OHS objectives,

or require a commitment to improving OHS performance within organisations.

The combined commitment and participation of the entire organisation is necessary to create and maintain an effective OHS culture. Every person in the organisation is responsible and accountable for preventing potential incidents.

The South African Occupational Health and Safety Amendment Act, No. 181 of 1993 (OHS Act), section 7; refers to the health and safety policy and reaffirms that the chief inspector may direct any employer in writing, and any category of employers, by notice in the Gazette, to prepare a written policy concerning the protection of the health and safety of his or her employees at work, including a description of the organisation and the arrangements for carrying out and reviewing that policy.

Despite the fact that health and safety is supposed to be a joint effort (as the policy states), the health and safety policy is often not communicated to all employees in such a way that they are aware of their responsibilities, roles and health and safety obligations.

On the other hand, some employers are not alarmed by the potential risks in their work environment. This is due to the fact that the OHS policies are not actionable, nor are



they viewed as a platform to which employers can show commitment in the minimising and preventing of ill health and injuries.

HAZARD IDENTIFICATION AND ASSESSMENT OF RISKS

The ISO 45001:2018 standard recognises that "hazards can include sources with the potential to cause harm or hazardous situations, or circumstances, with the potential for exposure leading to injury and ill health".

Identifying hazards and assessing risks, putting controls in place and checking they are effectively implemented and maintained, protects the well-being of personnel and property.

Some employers do not use their health and safety policies to influence the selection of people, equipment and

materials, the way work is done or how goods and services are provided.

A written statement on the arrangements for implementing and monitoring policy may show that hazards have been identified and risks assessed, eliminated or controlled. However, events causing injuries and illness may also damage property and interrupt production. When some employers do not take this into consideration, they fall short of managing health and safety effectively.

ROLES, RESPONSIBILITY AND AUTHORITY NOT DEFINED

The OHS Act requires every employer to provide and maintain (as far as is reasonably practicable) a working environment that is safe and without risk to the health of the employees. However, some employers do not clearly define roles, responsibilities and authority of personnel whose functions may influence the OHS performance of their organisations.

In order to ensure an effective management of health and safety at work, organisations must appoint a representative(s) with clearly defined OHS roles, responsibilities and authority. Few companies have dedicated OHS personnel on their sites and OHS functions often fall under any departmental head as directed by top management.

MEASUREMENT OF OHS PERFORMANCE

In order for health and safety to succeed, there is need for effective monitoring and measurement of health and safety programmes. In most organisations these systems are not in place, or are insufficient. Many employers tend to be more reactive, and are focused on compiling data once incidents or accidents have occurred in the workplace, rather than proactively identifying or preventing them from re-occurring.

There is often no monitoring of the employees' awareness and knowledge on OHS matters. Employees are not involved in reviewing the adequacy of health and safety procedures and there are no regular updates and forums to discuss OHS information.

With such an approach, employees shun OHS and become demotivated, because they do not see any commitment from their management to provide a safe and conducive work environment that is free from ill-health.

BUDGETARY CONSTRAINTS

The costs associated with the establishment of OHS programmes tend to discourage some employers from implementing them.

Despite the fact that employers are required by the law to provide a safe work environment, many employers are failing to manage OHS risks at work effectively. SM



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THE COMPENSATION CONUNDRUM

COMPENSATION CAN BE UTILISED TO INCENTIVISE FOR THE PREVENTION OF OCCUPATIONAL DISEASES AND INJURIES

The year 2018 has been a profoundly tragic one for occupational health and safety (OHS) in South Africa. Sadly, many workers have lost their lives, many more have been disabled and large numbers have contracted occupational diseases, including occupational cancers and mental-health problems. All of these problems are preventable and it is incumbent on us to value each and every human life in the spirit prescribed in our constitution.

Good OHS practices afford enormous opportunities for reduced illness, absenteeism and for more sustainable and happier workplaces. South African legislation provides for a risk-based approach to OHS, which informs how best to assess and mitigate the risks and what surveillance has to be done. Once a worker needs compensation, it is clear that the systems to protect OHS have failed.

The following quote from the Ernst and Young report on the future of OHS underscores the great need for a mindset change: "In many workplaces, safety is managed as a separate process, largely disconnected from the business imperatives of production and profit. However, health and safety is not a process in its own right, but an outcome of business decisions, strategy, culture and performance."

Internationally, Australia, Canada and the United States of America organise their good workmen's compensation schemes at state level. Most European countries have schemes that are integrated with their social security systems.

This works extremely well in countries such as Germany, where good social security systems combine with early preventive workplace interventions and very good rehabilitation systems. New Zealand and the Scandinavian countries have excellent schemes that provide national coverage for all injuries.

In South Africa, there are countless questions that surround our Compensation for Occupational Injuries and Diseases Act (COIDA) and the possibility of greater prevention in OHS...

Is the COIDA primarily an employers' insurance system? Are the premiums paid by employers commensurate to the workplace risk to workers' OHS? Is there real correlation between risk and insurance premiums paid?

Are the many compliant employers supporting non-compliant employers? Are benefits paid to sick workers proportionate to the risk to their OHS? What role can sick workers and their trade unions play in the system?

Can compensation benefits be risk based and proportionate to the harm done to workers' health? Can adequate benefits actually be received by sick workers within a fair turnaround time? Will an incentive for prevention be to make it expensive for those workplaces where workers get sick? What opportunities are there for rehabilitation and re-skilling?

The more modern perspective concerning "fault" is that it should not have a role in fair compensation systems. Can COIDA be preventive with the ongoing inclusion of Section 35?

Can we collectively explore the possibility of its removal as a means towards greater prevention and fairer compensation? Can we relook the "historic compromise" to help ensure we live up to the wonder of our constitution?

The International Commission for Occupational Health – an organisation that is more than 100-years old – has an Ethical Code for Occupational Health Professionals, which states: "The aim of occupational health practice is to protect and promote workers' health and well-being at work throughout their working lives."

Surely, we can make this possible in Africa.

Compensation for prevention: can we follow a more humanitarian approach?

Dare we believe that collectively we can stand on the threshold of a dream of better OHS and more sustainable workplaces and livelihoods?

It can be about our people and the innate human quest for a better life for all in the context of an enabling African reality or our common humanity, or about putting systems in place to improve working life and remuneration for all. It can be about the spirit of ubuntu that is prevalent all over Africa and that brings hope to so many.

Some suggestions towards compensation for prevention in the African context

A stronger articulation of prevention in OHS should be an ethical norm; while ethics and prevention should be enabling and supportive of good public health practice. There should be a priority on social dialogue; where employers, workers, OHS laws and regulations enacted by governments find common ground.

The inspectorate and OHS law enforcement needs to be further strengthened on an ongoing basis. At the same time,

we need to strengthen inclusive local, national, regional and international collaboration on good data collection, research and international best practice.

We need to support the sustainable development goals and, in particular, decent work, health, gender equality and sustainable economies and environments. The spirit of ubuntu in the world of work can help anchor us and catapult us towards zero risk and leaving no one behind at all workplaces.

Judge Albie Sachs reminded us about the law and our African heritage: "The secure and progressive development of our legal system demands that it draws the best from all the streams of justice in our country... Above all, however, it means giving long-overdue recognition to African law and legal thinking as a source of legal ideas, values and practice..."

"All courts must promote the values of an open and democratic society based on freedom and equality. One of the values of an open and democratic society is precisely that the values of all sections of society must be taken into account and given due weight when matters of public import are being decided." SM



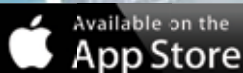
Dr. Sophia Kisting is an occupational medicine specialist with extensive clinical and preventive occupational health and safety experience at the national, regional and global level. She is the executive director of the National Institute for Occupational Health (NIOH) in South Africa. She was the head of the ILO's global programme on HIV/Aids and the World of Work for several years. Her clinical and academic service includes more than five years at Baragwaneth Hospital, the Soweto Community Health Centres and the School of Public Health at UCT for 12 years. In 2017 she was awarded the UCT President of the Convocation medal in recognition of having made "a significant contribution to the common good".

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SHEQ
MANAGEMENT



SAIOSH ATTENDS IOSH 2018

FOR THE FIRST TIME, SAIOSH WAS INVITED TO ATTEND THE ANNUAL CONFERENCE OF THE INSTITUTION OF OCCUPATIONAL SAFETY AND HEALTH IN THE UNITED KINGDOM (UK). SAIOSH CEO, NEELS NORTJE, REPRESENTED THE LOCAL INSTITUTE

Saiosh attended the IOSH 2018 Conference that took place on September 17 and 18 at the ICC, Birmingham, England.

The IOSH 2018 conference offered an exciting, relevant, up-to-the-minute insight on the world of work from both national and global perspectives. It was aimed not only at occupational safety and health (OSH) professionals, but was also invaluable to all those who endeavour to create a safer, healthier and better world in which to work.

The programme covered a wide range of topics including:

soon as possible, part of which must involve the construction industry having the same sense of care for those using buildings as it does for those involved in constructing them.

"When I looked from the outside into standards in the built environment, what I encountered was truly shocking. The system for fire safety in high-rise and complex buildings was weak and ineffective. Companies were looking to do things as cheaply as possible, and are focused on getting around the rules.

"Unless we fix the system, we have no way of



ABOVE LEFT: At the IOSH dinner and awards function are Dr Vincent Ho, IOSH President Elect (left); and Neels Nortje, Saiosih CEO.

ABOVE RIGHT: From left: Craig Foyle IOSH president; Gillian Nortje, Saiosih Membership Manager; Neels Nortje, Saiosih CEO; and Dr Bill Gunnyeon, IOSH chair of the Board of Trustees.

- How to be an influential safety and health leader in multidisciplinary teams.
- How recent changes in legislation are impacting on businesses.
- Raising standards in worker protection by enhancing technical skills and capabilities.
- Enhancing and improving safety and health in an organisation to reflect the changing world of work.
- Networking with like-minded colleagues to share expertise and experiences.

Following the Grenfell Tower fire tragedy in London, Dame Judith Hackitt, stated in the opening address that she was "truly shocked" about standards in the built environment when she started her review following the incident.

She said it is vital that a culture change is implemented as

guaranteeing that there won't be another catastrophic event," she concluded.

A notable panel discussion was on asbestos management. This was very much related to the current situation in South Africa, as we currently have Draft Asbestos Abatement Regulations out for public comment.

The session aimed to present effective ways to reach and protect high-risk workers. This includes small businesses in trades from roofing and plumbing to construction, as well as young people entering work. SM

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CONFERENCE





South African Institute of
Occupational Safety and Health



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RISE OF BIODEGRADABLE THE END OF PLASTIC?

PLASTIC IS HAZARDOUS TO THE ENVIRONMENT AND CONSUMERS ARE TAKING A STAND - WITH PLASTIC STRAWS BEING THE LATEST VILLAIN. AS A RESULT, VARIOUS ECO-FRIENDLY ALTERNATIVES HAVE SURFACED. MARISKA MORRIS INVESTIGATES BIODEGRADABLE ALTERNATIVES AND THEIR IMPACT

In 2015, marine biologist Christine Figgenger posted a video of a plastic straw stuck in a sea turtle's nose. Her team came across the animal while on an expedition off the coast of Costa Rica to collect parasites living on sea creatures. The team removed the straw from the turtle with great effort as the animal sneezed, squealed and bled.

Three years later, the video has gone viral and inspired many global movements that encourage consumers to live a plastic-free lifestyle. Consumers are now putting pressure on international conglomerates to ban plastic straws.

In South Africa, selected stores, like Cape Town-based Nude Foods, offer customers a plastic-free shopping experience, while some restaurants no longer offer straws, or use bamboo alternatives. Some bars in Johannesburg, like Tonic in Linden, use steel straws for their cocktails.

Environmental activist Auri Jackson promotes reusable, travel-size cutlery that consumers can carry and use in place of disposable plastic products. This push from consumers for more environmentally friendly alternatives has escalated into other industries as well.

In an article for *Time* magazine, Sophia Rosenbaum points out that straws make up only four percent of the nine-million tonnes of plastic pollution washing into the oceans and onto shorelines annually.

"The drinking utensils are often referred to by environmental activists and groups, including the Plastic Pollution Coalition, as 'gateway plastics' that ease people into single-use items," Rosenbaum writes. An industry particularly affected by this new demand for plastic-free products is the food and beverage industry – particularly the packaging sector.

In some instances, plastic can be the better alternative, as is the case with the reusable, plastic boxes offered by Sheet Plastic, which look similar to cardboard boxes, but are more durable and thus can be reused. With many smaller plastic containers, bags and bottles, this is not the case.

CHOOSING THE BIODEGRADABLE ALTERNATIVE

In an article for the website *Innovative Excellence*, Shelly Greenway suggests a few alternatives for packaging, including plant-based plastics, mushroom root, bagasse (a by-product of sugarcane processing), seaweed water bubbles, or stone alternatives.

Greenway writes: "Bioplastics are made from a variety of sources, such as corn; which is broken down into PLA, or polylactic acid. This is incredibly sustainable to produce as it's made from the waste produced during the production of corn. With mycelium (mushroom roots), packaging is literally grown.

"Ecovative Design (an advanced-materials company) gathers agricultural waste, mixes it with the mycelium in moulds and then the packaging, quite literally, grows. A United Kingdom start up, Ooho, has created an edible (and by default, biodegradable) water bubble made from seaweed, which can replace plastic bottles."

The process of producing these seaweed bubbles uses nine times less energy and produces five times less carbon emissions than polyethylene terephthalate (PET) production. Stone can also be used to make plastic or paper products, which is printable, recyclable and waterproof.

It is made from calcium carbonate – one of the most abundant resources with a lower carbon footprint and a more energy-efficient production process that uses less

water. Other alternatives include using bamboo-based products, palm leaves, wood pulp and prawn shells.

ECO IS NOT ALWAYS FRIENDLIER

Anton Hanekom, executive director of PlasticsSA, warns against companies that see the plastic-ban movement as an opportunity to gain PR points. He says: "Some retailers and brand owners were quick to respond by introducing alternatives to paper bags and piloting a compostable

These alternatives could end up at a landfill, which is not an ideal composting environment, or in the recycling stream where it can contaminate an entire stream and render more material unrecyclable.

THE IMPORTANT CHOICE

If an organisation commits to plastic-free production, it is important to ensure that the alternatives used are sustainable and fully degradable. Organisations can also ensure proper recycling avenues for their plastic waste and material to reduce their impact on the environment if no suitable alternative is available.

South Africa has a rich recycling industry with more than 313 700 t of plastic recycled in 2017. It is important for organisations to consider the impact of their decisions on the environment, if a solution to the problem is to be found. 

LEFT: Sea life is at high risk of being affected by plastic pollution in the oceans.

BELOW: Packaging made from mycelium (mushroom roots) is literally grown in moulds.

“Straws make up only four percent of the nine-million tonnes of plastic pollution washing into the oceans and onto shorelines annually.

bag made from starches, cellulose, vegetable oils and combinations.”

“To the uninformed this might seem an excellent and practical solution to solve an irritating problem. The reality is, unfortunately, far from the truth,” he adds.

Hanekom explains that many of the plastic alternatives saturating the market have not been properly evaluated and certified as biodegradable. Some of these products will not degrade in the standard suburban compost heap, but only in properly managed composting facilities.

“According to the internationally accepted standard for compostability (EN 13432), the packaging has to be mixed with organic waste, and also has to be maintained under test scale composting conditions for 12 weeks. If not kept under ideal conditions, these bags will not degrade,” Hanekom states.



WATCH HOW MUSHROOM ROOT-BASED PACKAGING IS MADE BY ECOVATIVE DESIGN

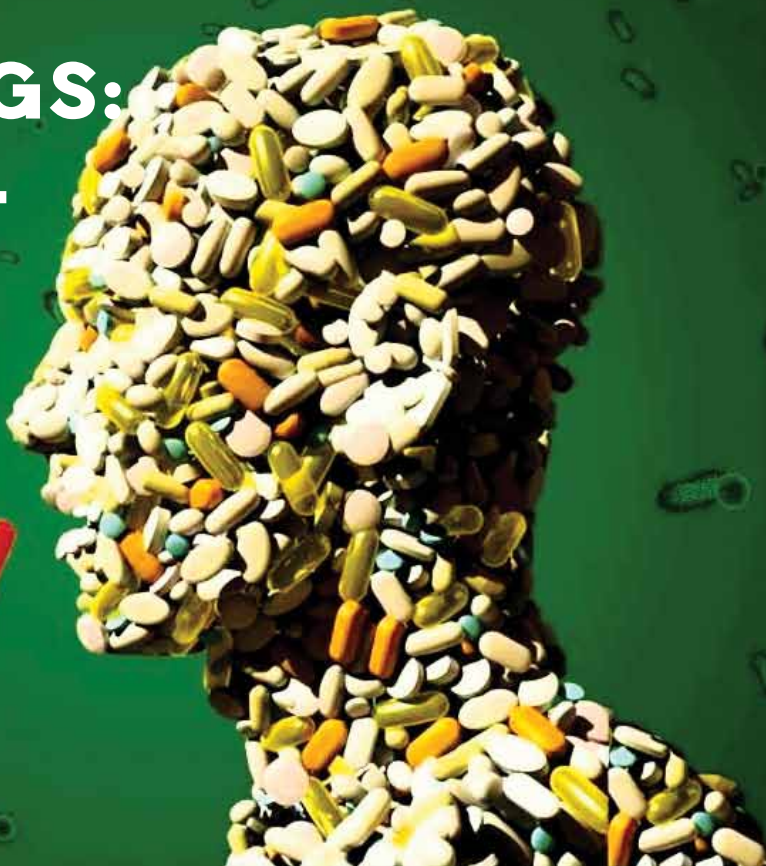


WATCH THE ORIGINAL FILM OF A STRAW BEING REMOVED FROM A TURTLE THAT SPARKED THE GLOBAL MOVEMENT AGAINST PLASTIC STRAWS INCLUDING #STOPSUCKING AND #REFUSETHESTRAW



SUPERBUGS: A GLOBAL PROBLEM

WHAT IS A SUPERBUG EXACTLY? HOW DO THEY SPREAD? WHAT MAKES THEM SO DEADLY, AND WHAT CAN BE DONE TO PROTECT HEALTH EMPLOYEES AND THEIR PATIENTS? GARETH GREATHEAD REPORTS



In 2012, a superbug by the name of carbapenem-resistant enterobacteriaceae (CRE), also known as the "nightmare bacteria", found its way from the United States of America to South Africa.

This event brought superbugs into the headlines as seemingly healthy people were booked into hospital for routine procedures and spent weeks there before being released, if they were that lucky.

Since then the proliferation of several types of superbugs has caused healthcare professionals to ask what can be done to prevent their spread.

WHAT IS A SUPERBUG?

"Superbug" is a general term used to describe multi-drug-resistant bacteria (MDR).

The truth is superbugs are nothing new, but more people are being infected and the infections are getting harder to treat.

MDR bacteria currently cause an estimated 700 000 deaths worldwide. The World Bank estimates that a growing number of antibiotic-resistant bacteria and other resistant germs may cause ten-million deaths a year by 2050.

Some of the common ones are CRE, methicillin-resistant staphylococcus aureus (MRSA), carbapenem-resistant klebsiella, multi-drug-resistant tuberculosis, pseudomonas aeruginosa, acinetobacter baumannii and antibiotic-resistant gonorrhea.

People with weak immune systems are most at risk when it comes contracting superbugs. This includes newborn babies, the elderly, the sickly, burn victims as well as patients who spend an extended amount of time at care facilities.

WHAT CAUSES SUPERBUGS TO SPREAD?

Marc Mendelson, professor of Infectious Diseases and head of the Division of Infectious Diseases and HIV Medicine at the University of Cape Town and Groote Schuur Hospital, says: "In South Africa, antibiotic resistance is being driven

by the incorrect use of antibiotics."

He goes on to explain that some ill-informed doctors have been using antibiotics to treat viral infections like the common cold. On the other hand, in an attempt to speed up recovery, some patients request antibiotics from their doctors without knowing the ramifications.

Either way, the use of antibiotics is likely to do harm because it kills off the good bacteria as well as the bad, weakening a person's immune system.

A problem is also created when people are prescribed a course of antibiotics and stop taking them once they start to feel better. In this instance, the good bacteria and those less resilient to antibiotics are killed off leaving the worst to thrive.

As a member state of the World Health Organisation, South Africa has an antibiotic-resistance strategy in place that was published in May 2014. It aims to limit the use of antibiotics for treatment of infections that have proved resilient to alternative forms of treatment.

HOW TO PREVENT THE SPREAD

Mendelson says: "Infection control is critical to reduce transmission of the bug."

Guy Richards, professor and academic head of Critical Care at Wits University, elaborates: "Good infection control means washing hands between patients, ensuring stethoscopes and pens are washed between patients, and making sure doctors wear disposable aprons."

In a surgical setting, preventing the spread of dangerous microorganisms from one patient to another relies on proper sterilisation of surgical instruments and other medical supplies.

Superbug-causing bacteria can dwell in hospitals. As such, disinfecting surfaces and general cleanliness remain an important aspect of control. To supplement its existing disinfection routine, Netcare has been experimenting with a specialised fleet of robots in its hospitals.

The robots, made by Xenex, use pulsed high-intensity xenon ultraviolet light to destroy viruses, bacteria and fungal spores.

SUPERBUGS IN 2018

Klebsiella is a common bacterium that lives in the gut, often without causing any issues. A problem is created when it gets into other areas of a person's body where the bacteria become difficult to treat with regular antibiotics.

As an infectious disease it is spread through contact, especially improperly sanitised ventilation tubes. It can give a patient pneumonia, infect wounds or blood and cause other serious problems.

Between July and September this year, 11 babies caught klebsiella pneumonia and six died at the Thelle Mogoerane Regional Hospital in the East Rand.

Jack Bloom, Democratic Alliance MEC on Health in the Gauteng Provincial Legislature, has blamed poor hospital management, overcrowding and understaffing for what he calls, "filthy conditions in the baby ward of death".

When commenting on the situation, Richards did not dispute that infection-control procedures were probably inadequate. At the same time he said that there would not be a hospital in South Africa that didn't have the increasingly common antibiotic-resistant klebsiella bacteria.

"The problem is not just with klebsiella, but a group of organisms that fall into the same class. There are a growing number of bacteria that are resistant to

antibiotics – it's a global emergency," says Richards.


LIABILITY

If it can be proved that a hospital is negligent in its efforts to contain the spread of superbugs this could result in claims for compensation.

When responding to the latest klebsiella outbreak, the South African Human Rights Commission spokesman, Buang Jones, said the commission was in contact with the families who had lost babies in an attempt to aid them in launching a civil claim against the department.

"We have offered to mediate between families and the department to reach a settlement and prevent a drawn-out court battle," said Jones. Should mediation be refused by the Gauteng Health Department, the commission has expressed its willingness to offer the mothers legal assistance in court.

The Gauteng Health Department has more than R21 billion in medical negligence suits against it, according to a Gauteng legislature reply by MEC of Health, Gwen Ramokgopa, earlier this year. "A lot of the claims are related to injuries that babies and mothers suffer during labour," said Ramokgopa.

Superbugs are nothing new, but present a new threat within a society where our reliance on medication has made us more susceptible to illness. As superbugs are difficult to treat and seem to be impossible to eradicate, for now the only hope lies in awareness and effective infection control. 

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MOPPING UP OFFICE HYGIENE



WHILE IT MIGHT SEEM LIKE A SMALL PART OF THE DAILY ACTIVITIES OF A BUSINESS, OFFICE HYGIENE CAN PLAY AN IMPORTANT PART IN ENSURING EMPLOYEE SATISFACTION AND PRODUCTIVITY. SHEQ MANAGEMENT LEARNS MORE

While office hygiene plays an important part in the health and safety of employees, many employers give it very little thought. Good office hygiene can prevent the spread of bacteria and keep pests at bay.

Bacteria spreads quickly in an office environment and can result in lost productivity as employees fall ill and take leave. The spread of illnesses like the flu (influenza) can also lead to death. According to Dr Pete Vincent at Netcare Group, 6 000 to 11 000 South Africans die annually due to flu-related complications such as pneumonia.

The Australian economy suffers an estimated A\$ 34.1 billion (R353 billion) in lost productivity due to sick leave and the spread of disease in the workplace.

Office hygiene also prevents sick building syndrome (SBS). Leigh-Anne Parsons, national emergency medical service manager for Life Employee Healthcare Solutions, notes that SBS is caused by the ergonomics, work environment (cleanliness of the office) and psychological factors (such as whether employees feel safe).

The syndrome can cause employees to suffer from sinusitis, coughing, headaches, eye discomfort, fatigue, skin disorders and flu-like symptoms (particularly out of season).

Pests like rats, flies, cockroaches and ants are also carriers of harmful diseases and bacteria.

Companies that experience a high employee turnover rate need to find more ways in which to secure employee satisfaction and a hygienic office can play an important role. Libby Sander, assistant Professor of organisational behaviour at the Bond Business School at Bond University, Australia, notes that cleanliness in an office correlates with employee satisfaction.

Quality cleaning services also reduce illness. Sander notes that cleaner offices resulted in a decrease of 12.5 percent of sick days with improved productivity. Improving office hygiene doesn't have to be an expensive exercise. Companies can simply implement a few good hygiene practices.

EMPLOYEE HYGIENE

Although office hygiene is the responsibility of the company, it starts with the employees as they are the biggest carriers of disease and bacteria. It is important to encourage employees to practice good hygiene from rinsing out cups and wiping down desks to personal hygiene.

Hand hygiene is arguably the most important aspect of employee hygiene. Workplace hygiene programmes that include education on the use of hand sanitisers reduced hygiene-related healthcare claims by 20 percent.

Employers can play an important role by providing employees with hand wash in the kitchen and bathroom, or hand-sanitiser bottles or stations. It is also useful to put up signage to remind employees to practice good hand hygiene.

Employers should address any employee who fails to practice good personal hygiene. While the employer can't force the employee to shower, for example, they can assist the employee through education and support. It is worthwhile for an employer to establish company policies on personal hygiene.

DESKTOP HYGIENE

It is important to clean the office and worktops regularly.

also have the opportunity to invest in a deep clean from commercial cleaners a few times a year to ensure all bacteria is killed.

FIGHTING THE INVISIBLE SPACES

According to Parsons, one of the important factors to SBS is the work environment, which includes the quality of the air. An office space should have natural, fresh air and light. If not, it is important to ensure that the indoor air quality is of a high standard.

An air-conditioning system that isn't serviced and cleaned frequently, for example, can contaminate the air with dust and other particles, which can cause illness or spread disease. Air and water filtration systems can also assist in keeping employees healthy.

KITCHEN AND BREAKROOM

The desk is considered one of the dirtiest places in the



The frequency of cleaning required depends on the office layout and season. In winter months, when employees are more likely to fall ill with contagious diseases like the flu, it is worthwhile to clean the office and worktops more often.

Open plan or shared-desk office layouts are also more at risk of spreading diseases. Sander states that open plan and shared-desk workplaces suffer 62-percent more incidents of sickness and absence than those with private or cellular offices.

Although many organisations encourage employees to wipe down desks, equipment and phones when they have finished using them, very few do. Offices with an open layout should thus be cleaned daily.

It is important to employ well-trained cleaning staff and provide them with quality cleaning products. Companies

office and employees are encouraged to not eat at their desk. It is, therefore, important to provide employees with a clean kitchen and/or breakroom where they can eat their lunch. Keeping the kitchen clean can be a challenge, especially for companies with part-time cleaning staff.

Dirty kitchenware and food can attract pests. It is important to keep staples in the office, like coffee and sugar, in sealed containers and encourage employees to keep the kitchen clean by wiping down surfaces and cleaning spills.

Wet or sticky spots on the floor can result in employees slipping and falling. Employers can also encourage employees to bring their own cutlery or cups. Public Health England found that cups in the workplace are a big health hazard, with around 90 percent of mugs in the office kitchen coated in germs. SM



STYLISHLY ZAPPING FLIES WITH THE LUMNIA ULTIMATE

CARRYING OVER 200 PATHOGENS, A FLY INFESTATION CAN BE DANGEROUS FOR CONSUMERS AND DEVASTATING TO COMPANIES. WITH THE RENTOKIL LUMNIA ULTIMATE, FLIES WILL DISAPPEAR DISCREETLY

Flies are carriers of various pathogens like salmonella, shigellosis, E. Coli and Myiasis – the infestation of human or animal tissue with fly larvae. A fly infestation could thus harm consumers, but also cause a lot of damage to companies. Nathalie Leblond, marketing communication manager at Rentokil Initial, notes that the impact on a business is two-fold.

"There is the financial implication of having to get rid of contaminated products and potentially pay for legal costs or damages and the reputational damage that is caused by contaminated food. This also comes with the financial cost of lost earnings," she says. Companies manufacturing and handling food can spend around US\$ 9 000 (R138 208) a year to deal with flies and fly infestations.

Rentokil Initial, however, has the optimal solution with its sleek Lumnia Ultimate. The high-tech, modern fly trap uses LED lights to attract flies and discreetly captures them in the unit. It has a flip cover at the front for easy cleaning and maintenance.

Mario Pluke, technical manager for Rentokil Sub-Saharan Africa, explains the benefits of the LED lighting. "The two main benefits of using LED lights are that it allows for an estimated energy consumption reduction of, on average, 60 percent. This means there is significantly lower electricity costs for Rentokil customers. LED lights are also environmentally friendly; contain no toxic chemicals; are 100-percent recyclable; and produce close to no ultraviolet (UV) emissions," he says.

The Lumnia Ultimate uses encapsulating technology to ensure that no fly fragments contaminate the area. Pluke explains: "Traditional fly units eliminate flies by electrocuting them. When a fly gets zapped, it explodes and small particles can be projected into the air, which are then inhaled by people, or land on clean surfaces or food."

"The Lumnia range of electric fly killers uses adhesive

film encapsulation or glue boards, to avoid the problem of insect-fragment contamination. Extensive testing was carried out to ensure the Lumnia fly control units are highly effective," he adds.

Rentokil tested the technology by releasing house flies into a room and recording the number of flies captured during regular intervals. This process was repeated several times. The test indicated that an adhesive Lumnia surface unit caught flies twice as fast as the equivalent electrified grid unit.

"This translates to a big reduction in the risk of contamination and potential spread of disease. Encapsulation units, like Lumnia and Lumnia Ultimate, capture flies in an adhesive rolling film; hygienically sealing in fly fragments. Another advantage is that the catch surface is routinely refreshed, reducing problems in dusty conditions," Pluke explains.

While the unit is aimed particularly at food and beverage manufacturers, where contamination can cause the most damage, it is also beneficial to any big sites struggling with flies; such as supermarkets, pharmaceutical manufacturers, poultry farms and warehouses.

Leblond notes that simply implementing a fly trap, is not enough. She says: "In order for fly control to be truly effective, one must take an integrated approach." Along with implementing devices such as the Lumnia Ultimate, it is also important for businesses to restrict the fly population by preventing breeding externally.

Leblond states: "Rentokil offers a unique fly bait box that is designed to effectively control flying insects around external refuse areas, targeting the flies' breeding sites. The unit needs no electricity to work and is highly flexible in its deployment." The fly bait box will reduce the number of flies entering the premises, which makes the Lumnia Ultimate even more effective. SM

POURING KNOWLEDGE AT FDT

VARIOUS SECTORS OF THE FOOD AND BEVERAGE INDUSTRY GATHERED AT FOOD & DRINK TECHNOLOGY (FDT) AFRICA TO DISCUSS HEALTH AND SAFETY, INNOVATIONS AND LEGISLATION. MARISKA MORRIS REPORTS

The FDT Africa exhibition and conference was held at the Gallagher Convention Centre in Midrand, Gauteng, from September 4 to 6 and hosted various exhibits from all the sectors in the food and beverage industry. The Speakers Corner hosted presentations from industry specialists.

Vera Fritsche, from the VDMA, spoke about how technology has contributed to saving water and energy in beverage production, food processing and packaging.

The exhibitors ranged from labelling and packaging companies to quality-assurance and legislation-compliance organisations.

EcoLab is a global service provider of water, hygiene and energy technologies in the food and beverage, energy, healthcare, industrial and hospitality

supplier, featured its array of labelling technology and disposable personal protective equipment (PPE) over two stands. The company specialises in disposable, recyclable PPE, which is ideal for the food and beverage industry. Products range from hair nets and masks, to overalls and gloves.

SERR Synergy, a business-management consultancy firm, attended FTD Africa to present its various legislation-



industry. The company was in attendance to showcase the wide range of services it offers; from water sterilisation and waste management to pest control, sanitation programmes and food-safety audits.

Molapo Stanford Sewela, lab analyst at EcoLab, noted the company's involvement in assisting South African food manufacturers to test and treat their sites for listeriosis. He said: "Micro-organisms adapt like some viruses and become immune to antibiotics. Listeriosis can adapt and become immune to cleaning products. For this reason companies need to change their cleaning products frequently."

Sewela stated that EcoLab regularly enhances its sterilisation programmes to ensure its clients manage food safety effectively.

Future Packing, a packaging, cleaning and machinery

related services with a main focus on the Protection of Personal Information (PoPI) Act, which is aimed at protecting corporate and personal information. SERR Synergy encouraged organisations to comply with the Act prior to its implementation at the end of the year.

In between all the exhibitions and speakers, the judges of the African Beer Awards also gathered to taste and crown the best beer.

FDT Africa boasted a total of 111 exhibitors and 1 600 participants from 81 countries over the three days.

The next FDT Africa Expo will take place in collaboration with Analytica Lab Africa and IFAT Africa, a trade fair for water, sewage, refuse and recycling. The combined Expo is planned for July 9 to 11, 2019, at the Gallagher Convention Centre.

Petra Westphal, exhibition group director of Messe München, noted: "Going forward, we will offer exhibitors and visitors of FDT Africa the opportunity to obtain even more comprehensive and cross-thematic information on trends and innovations from the environmental, beverage and food industries as well as analytics. Together, the co-located trade fairs ensure the best possible knowledge transfer for all industries." 



KNOWLEDGE SHARING AT NOSHCON

THE ANNUAL NOSA NOSHCON CONFERENCE HAS BEEN A MAINSTAY ON THE SOUTH AFRICAN OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENT CALENDAR FOR THE PAST 67 YEARS. THE 2018 EVENT, HELD ON SEPTEMBER 12, OFFERED THE EXPECTED MIX OF FOOD FOR THOUGHT. HERE ARE A FEW HIGHLIGHTS

Noshcon 2018 kicked off with a gripping presentation by venture capitalist and business speaker Vusi Thembekwayo.

"September 11 was a huge catalyst for change. Those that perpetrated (or disrupted) weren't playing by the rules of the United States of America," he began. "This happens every day in our businesses. Our disruptors don't play by our rules... As such we need to be able to identify risks we don't yet understand."

Thembekwayo commented that the world will experience a fundamental shift in the next five years, with the retail, mining and banking sectors specifically shedding hundreds of thousands of jobs.

"Most companies are stuck in 1998. The hyper-information revolution will advance companies – will yours be one of them?" he challenged. "When the context of our environment changes, we think our competencies will translate – in fact half of what we know becomes irrelevant. There are some organisations that understand how to manage this and others that don't."

As the global context is changing, said Thembekwayo, so, too, is that of South Africa. Teams and businesses need to know how they will respond.

"When change happens, what are you going to do? It's not going to wait for you... People in South Africa today are not willing to 'press the green button'. We need to be empowered to make a call when needed.

"Making critical decisions scares most of us. Getting it wrong can have huge consequences, getting it right brings massive rewards. Make the call, even if it's wrong. If you're looking to make the right decisions all the time, you'll never

make decisions. The worst that can happen is that you make the wrong decision, and get the chance to correct it," he concluded.

FOOD SAFETY

Venisha Bachlal, MD: Nosa Food Safety, discussed food safety within the context of the recent listeriosis outbreak.

According to the World Health Organisation, unsafe food caused more than 200 diseases in 2017. An estimated 600-million people fall ill every year from eating contaminated food (that's one in ten people in the world), with 420 000 deaths a year (125 000 of which are children under the age of five – who carry 40 percent of the disease burden from contaminated food).

"These statistics probably exclude South Africa, and those on listeriosis are also probably incorrect," says Bachlal, adding that the Department of Health was not proactive enough in acknowledging and tackling the situation, nor did it provide sufficient information about the disease to the public.

"Much more is known about food safety internationally; whereas in South Africa we are now starting to take notice following the listeriosis outbreak," commented Bachlal.

"What did we learn from the epidemic? We should have a broader knowledge of what's going on with the food we eat. *Listeria monocytogenes* (bacteria) are found everywhere, not just in Enterprise products – 90 percent of raw meat contains it. People need to be educated."

Bachlal then discussed the new R638 Regulations Governing General Hygiene Requirements for Food Premises, the Transport of Food and Related Matters, which replaced the previous R962 on June 22.

"If any country experiences an outbreak of infectious disease, the government should implement new/stricter food regulations immediately. These new regulations ensure only minimum legal requirements; the previous critical points are worse now. It's a joke," she commented.

Among other things, the new regulation addresses the issues of Certificates of Acceptability, the duties of the person in charge, standards for food premises, standards for storage and fines for contravention.

However, it's not all criticism. "The word 'shall' has been replaced with either 'must' or 'may not'. This is very good as it removes any grey areas!" Bachlal said.

ISO 45001

In what was possibly the most well-attended session of the day, Thea van Tonder, CEO of Wiseworks, discussed the new ISO 45001 standard and its advances over the outgoing ISO 18001.

"The biggest challenge with ISO 18001 was getting leadership to take responsibility. That was one of the main reasons for the change," she comments.

"The changes are quite significant. They are aligned to a new high-level structure, which means companies don't have to reinvent the wheel. It's easier to integrate systems and more cost-effective because of fewer audit mandates. Worker participation is also key," Van Tonder explained, adding that the standard no longer follows a one-size-fits-all approach.


The ISO 45001 standard is less prescriptive than before and prioritises the answers to meeting safety requirements, more than the processes to get there.

"Organisations must understand the internal and external influences on their health, safety and environmental issues. The standard states what needs to be done; how it's done depends on the context of the organisation. The standard must work for the organisation, not the other way around," she noted.

While the previous standard made it easy to delegate, the new standard ensures that the context of an organisation determines how roles and responsibilities are defined.

"Make people responsible to ensure the standard works. Those in leadership roles at different levels need to understand their risks and take responsibility. When things are not working it's because roles and responsibilities are not clearly defined," Van Tonder said.

In closing, Justin Hobday, sales and marketing director, Nosa, commented that Nosa will be launching its mobile app for ISO 45001, in addition to its other mobile solutions, such as the driver-assessment app used when conducting driver training, as explained by Andrew Hay, BD manager, Nosa Logistics.

Look out for our next issue, the inaugural SHEQ MANAGEMENT Handbook, for the 2018 winners of the Nosa Nascar awards. 



CLOCKWISE FROM ABOVE:

Nosa MD, Duncan Carlisle, opens the conference.
Saioh CEO, Neels Nortje, discusses professional registration for health and safety practitioners.
Regional awards were handed out during breakfast.

MINING POSSIBILITY

SHEQ MANAGEMENT WAS AT ELECTRA MINING AFRICA TO BRING YOU THIS YEAR'S HEALTH, SAFETY AND ENVIRONMENTAL HIGHLIGHTS

Local manufacturers and distributors of safety devices, personal protective equipment (PPE) and environmental-management solutions were out in full force.

There were more than 850 exhibitors at this year's show with many having been present before. When speaking to the exhibitors, a common theme soon became apparent. Exhibitors said they keep coming back to Electra Mining Africa because of the high calibre of visitors. This often translates directly into sales.

HEALTH AND SAFETY

In mining the objective is to reduce or eliminate sound, dust and other environmental dangers to a level where they do

Denver Berman-Jacob, executive director at Sweet-Orr, said: "In the past, women had to make do with using men's workwear. Despite being uncomfortable, it is dangerous to have loose-fitting clothes around machinery. We have done a lot of work to develop a product portfolio tailored specifically for women."

MECHANISATION AND AUTOMATION

During the show, much effort was made to promote the advancement of mechanisation, digitisation and automation. According to exhibitors, adopting modern technology is no longer a choice; it is needed to remain globally competitive. It can help address problems related to productivity, while improving labour relations and worker safety.



not pose a danger to workers. Within this context, much of the machinery on show had some element of safety consciousness built in.

During the show, I-CAT Environmental Solutions launched a misting system, specifically designed for fire and dust suppression on coal mines. The company demonstrated how the system is able to reduce dust emissions by as much as 90 percent at a coal mine in Mpumalanga.

On the other side of the spectrum, Aury Africa unveiled its fully automated dry-sorting technology – an environmentally friendly alternative to standard water-based sorters.


PPE

It wasn't long ago when safety equipment wasn't made with comfort in mind, and it wasn't uncommon for employees to throw their safety equipment aside in the interest of getting the job done.

Fabian Denson, product sourcing and quality director at Select PPE, said: "This is why the industry has moved to make safety equipment something employees want to wear rather than have to wear." The Select PPE stand looked like a festival of colour, which included pink helmets, colourful safety bibs and more. The goal is to make PPE more stylish, better fitting and easier to use.



TELEMATICS AND TRACKING

Telematics is used to track the movement of assets and keep tabs on operations, but it can also be used to track people as they move through their workspaces. In the mining industry, on top of improving productivity, if someone doesn't return to the surface, digital tracking can be used to locate and rescue them if necessary. 

START A HEART TODAY



LEARN HOW TO IDENTIFY THE SYMPTOMS OF SUDDEN CARDIAC ARREST (SCA) AND EMPOWER EMPLOYEES WITH THE EQUIPMENT AND SKILLS NEEDED TO TRANSFORM THEMSELVES FROM BYSTANDER TO LIFESAVER

According to the Heart and Stroke Foundation of South Africa, cardiovascular disease is the leading cause of death in South Africa after HIV/Aids. Without immediate medical attention a person suffering SCA has a 90-percent chance of dying.

Dr. Kreyan Kasvalu, CEO of Medical Emergency Training and Services (METS), says: "Chances of survival can be increased by as much as 80 percent if an automated external defibrillator (AED) is used to resuscitate a patient within the first two minutes of sudden cardiac arrest."

WHAT IS AN AED

An AED is a battery-operated, computerised, electronic medical device no bigger than a shoe box. AEDs are designed to be used by bystanders with no experience, but first-aid training, including the administration of cardiopulmonary resuscitation (CPR), is advantageous.

When turned on, most AEDs will instruct the user through each step with voice commands. Upon opening the device, one will notice white pads. These have electrodes and removable adhesive protectors, which reveal a sticky surface to be stuck on the patient's chest.

"Sensors in the pads pick up if a heart is fibrillating, or shooting off irregular electric impulses. Only if an abnormal heart rate is detected will the device deliver an electric shock in an attempt to restore a normal rhythm," says Kasvalu.

WHEN TO USE AN AED

It is important to note that an AED is used only to treat SCA and not victims of gunshot wounds, or other medical emergencies as seen on television. "SCA is usually caused by ventricular fibrillation (VF) and ventricular tachycardia (VT).

Put very simply, SCA is a condition in which the heart suddenly and unexpectedly stops beating normally. This prevents the proper flow of blood to vital organs and the person collapses to the ground and becomes unresponsive," says Kasvalu.

Doug Smit, head of cardiac emergency response planning at Sere-med, says: "Sudden cardiac arrest can happen to anyone, anywhere, at any time. Unlike a heart attack or stroke, when one suffers cardiac arrest, the victim has between four and six minutes to be treated in order to have any chance of survival."

WHY USE AN AED

Smit says: "Over 100 000 people die annually in South Africa from SCA. More than 80 percent of these incidents occur outside of a medical facility. An AED helps ordinary people to provide defibrillation quickly."

While training is not required, it does provide people with the knowledge of how to react when an emergency occurs. "All METS training courses include an AED component which is of international standard. METS also offers an AED implementation programme for workplaces or companies that are looking at introducing AEDs into their working environment. This will ensure that an AED doesn't remain a decoration on the wall when needed," concludes Kasvalu.

South Africa lags behind First World countries when it comes to the provision of AEDs in the workplace. When recognising that, in the case of SCA, time is of essence, and the only way to return a patient's heart rate to normal rhythm is by using an AED, it becomes a worthwhile investment for any company. SM



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AT THE HEART OF THE MATTER



BLAKE GRACE, DIRECTOR OF VENTRIA, A COMPANY THAT DELIVERS AN ALL-IN-ONE MANAGED AUTOMATED EXTERNAL DEFIBRILLATOR (AED) SOLUTION, DISCUSSES SUDDEN CARDIAC ARREST (SCA) AND THE IMPORTANCE OF HAVING AN AED CLOSE AT HAND

Sudden cardiac arrest is caused by an acute and unexpected malfunction of the heart. In most cases, an erratic heart rhythm called ventricular fibrillation is diagnosed. The heart stops pumping blood, the person loses consciousness and stops breathing.

If the patient is not immediately treated with early defibrillation (a rapid shock to the person's heart), their chance of survival is very low. The emergency services usually arrive too late to administer life-saving techniques, so early defibrillation by people already at the scene can be what saves a life.

An AED helps ordinary people to provide defibrillation quickly.

Why is it important to implement an AED programme?

The window to provide defibrillation is very small, which is why even in built-up cities globally, where emergency services are readily available, AEDs are being put in places that are easily accessible to the public.

The American Heart Association notes that for every minute that defibrillation is delayed, the chance for survival decreases by about ten percent. After ten minutes without defibrillation there is almost no realistic chance of survival; but there is up to a 75-percent chance of survival with immediate defibrillation.

An efficient programme of public access defibrillators (PAD) would optimally be able to achieve a three-minute response time from collapse of the patient to arrival on-scene of the AED with a trained responder.

What are the benefits of having the Ventria AED solution?

If an organisation is equipped with an AED from Ventria, anyone would be able to help save a life. First-responders should be able to rely on the device and trust that the technology will deliver that for which it has been designed.

Ventria takes this responsibility very seriously, which is why the company has chosen to market the Philips HeartStart defibrillator that is made for people who have never used a defibrillator. They are easy to set up

and include automatic life-guidance features (like voice prompts and CPR coaching) to help guide the first-responder through the treatment of SCA.

The Philips HeartStart also features SMART analysis. This automatically assesses the victim's heart rhythm. Whether the victim is a man, woman, or child, it delivers the right amount of therapy and only if it is needed. Even if the shock button is pressed, the device will only deliver therapy if the heart rhythm is determined to be shockable.



What goes into owning an AED?

Committing to being prepared for sudden cardiac arrests is not only about acquisition and installation of an AED; a key responsibility is delivering continuous access and ensured readiness.

Setting up, operating and maintaining an AED programme is complex. Keeping track of key areas will help keep AEDs ready. These include: battery and electronic function, condition of electrode pads, physical condition of the AED, the lifecycle/age of the AED, and tools that can track and manage all the details.

The Resuscitation Council (United Kingdom) and the British Heart Foundation (Guide to AEDs, April 2017)

advise that those owning an AED should have a process in place for it to be checked regularly and frequently, ideally daily.

It may make the difference between life and death!


How does Ventria overcome the current barriers to owning an AED?

Managing an AED comes with responsibility. In order to comply with the recommendations of the Resuscitation Council and the British Heart Foundation, Ventria offers a revolutionary remote-monitoring tool called SmartLink.

This automatically monitors the status of the AED every day, notifying Ventria when an error occurs and ensuring all defibrillators are under control – in a building, public areas, farms and worldwide.

Does Ventria help in cases of emergency?

SmartLink has an option to allow a hands-free voice connection for live dispatch support. This is really helpful if there are few people around. It allows the first-responder to make a call to emergency services directly from the AED, assisting them to confidently help save a life.

The removal alarm and the hands-free voice connection automatically start a pre-defined rescue chain, optimising response time and quick therapy delivery. 

MOST COMMON CAUSES NOT SURVIVING SUDDEN CARDIAC ARREST

Unfortunately, studies and real-life stories show that in number of cases AEDs were either not available or accessible, or even that AED failures occurred in the time of need.

The most common causes of not surviving sudden cardiac arrest are:

- No AED available in near vicinity;
- No access or quick access to AED;
- Battery power issues;
- Problems with pads; and
- Failing attempt to charge and deliver shock.

VIEW REFERENCES ON THE INFORMATION PROVIDED
AND FIND OUT HOW VENTRIA CAN HELP YOUR
COMPANY WITH AN ALL-IN-ONE MANAGED AED
SOLUTION



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WITH THE RIGHT
EQUIPMENT AND SUPPORT,
EVERYONE CAN HELP
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The Philips HeartStart are made for people who have never used a defibrillator before. They are easy to set-up and includes automatic Life Guidance features like voice prompts and CPR coaching to help guide you. The HeartStart will only deliver therapy if the rhythm is determined to be shockable.

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 **VENTRIA**
THE HEART OF LIFE

OPERATING ON A CANNABIS HIGH

THE HIGHEST COURT IN THE LAND HAS RULED IN THE INTEREST OF PERSONAL LIBERTY, STATING THAT PEOPLE SHOULD BE ALLOWED TO GROW, POSSESS AND SMOKE CANNABIS IN THE PRIVACY OF THEIR OWN HOME. WHAT DOES THIS MEAN FOR HEALTH AND SAFETY IN THE WORKPLACE, DANGEROUS ENVIRONMENTS, AND ROAD SAFETY? GARETH GREATHEAD TRIES TO FIND OUT...

The effects of cannabis consumption vary depending on method of consumption, quality and frequency of use. Effects can include highs such as euphoria, relaxation, and relief from stress and pain, to lows including increased appetite, impaired motor skills, confusion, loss of concentration and decreased motivation.

Withdrawal symptoms may include headaches, anxiety, depression, and sleep disturbance.

The effects normally reach their peak within 30 minutes and can last up to three hours or more if eaten.

Cannabis can be detected in urine between three and five days after occasional consumption, up to 15 days for heavy users, and up to 30 days for chronic users. Currently, tetrahydrocannabinol (THC) can be detected in blood, urine and saliva tests.

However, unlike alcohol, one cannot determine a level of impairment based on test results.

USING MEDICAL CANNABIS

Alwyn Viljoen, transport editor at the *The Witness* in KwaZulu-Natal, and advocate at the Cannabis Development Council of South Africa, sees the ruling as a victory.

Viljoen started using cannabis two years ago when going through a severe case of gout. "I did some research and found out how to make myself some oil. I rubbed it on my foot and literally watched the swelling go down."

Surprised with the result he started using it to treat a number of ailments he was experiencing at the time.

"After the topical oil I started whole-plant micro-dosing and got relief from the pain experienced with rheumatoid arthritis. Not long after that I was elated to find out that a previously diagnosed melanoma had vanished," exclaims Viljoen. He adds that people who want to use medicinal cannabis should grow their own plants and stay away from the stronger strands.

"Marijuana plants are known to rejuvenate the soil in which they grow," adds Viljoen.

CANNABIS IN THE WORKPLACE

Jan du Toit, senior consultant at SA Labour Guide, says: "Many citizens and employees will undoubtedly welcome the Constitutional Court's judgement, but this may leave employers confused and concerned.

"Although an employee may now claim to have a legal right to private consumption of cannabis, does that imply that workplace policies in this regard have become null and void? Can an employee raise the Constitutional Court judgement as defence and as such expect to be exonerated from any wrongdoing? The short and simple answer to this question is no," Du Toit says.

As per the Mine Health and Safety Act of 1996, no person that is in a state of intoxication may be allowed access to a mine. In addition, the General Safety Regulation 2A, of the Occupational Health and Safety Act, stipulates that an employer may not allow any person who is, or who appears to be, under the influence of an intoxicating substance, access to the workplace.

"Based on the requirements of the aforementioned legislation, it is reasonable to conclude that the Constitutional Court judgement will not offer any protection to employees against disciplinary action should they act in contravention of company policy.

"Employees are warned that unlike alcohol, which will not be detectable 12 hours after the last drink, the Sunday-afternoon joint may well result in dismissal for intoxication in the workplace up to 30 days later," informs Du Toit.

OPERATING ON A HIGH

The MD of MasterDrive, Eugene Herbert, says: "Last year the Central Drug Authority stated that cannabis use could



double the number of crashes on South African roads. As it stands, South Africa is not well equipped to tackle the increase of cannabis use on the roads."

Rhys Evans, director at ALCO-Safe, says that testing for marijuana intoxication is a lot more complex than simply doing a breathalyser. "The problem is THC remains in a user's system for much longer and this makes it tricky to establish limits and laws around marijuana use.

"In theory, any person caught with traces of marijuana in their system whilst driving can be arrested and prosecuted. It is essential that regulations are drawn and parameters set, to avoid a spike in intoxication-related traffic incidents and ensure that our roads remain safe," says Evans.

WILL ANYTHING CHANGE?


According to the website drugaware.co.za, in the early 1990s, mine managers in South Africa turned a blind eye to the use of cannabis due to a perception that it made employees work harder and decreased their propensity to complain.

Viljoen says: "The reality is that there are already people driving (and working) under the influence and those who use cannabis will continue to do so. I highly doubt that the relaxation of legislation

is going to contribute to the 'greening' of the city."

Viljoen explains that there is a big difference between being high and being stoned, which requires the activation of THC in the plant. "If someone is stoned their spatial awareness and memory are impaired. Conversely, being high puts you into an enhanced state of being. Your senses come alive and you can, hear, feel and see things better."

Currently, physical appearance and testing for confirmation is the only way to judge if an employee or driver is under the influence of cannabis. In the interest of safety and progression, more will need to be done to prove intoxication without infringing on an employee's right to use.

It will be interesting to see how the legislation will find the balance... 

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NEW!

GETTING HACKED...

A SLEW OF RECENT HIGH-PROFILE DATA BREACHES HAS CAST LIGHT ONTO THE PROTECTION OF PERSONAL INFORMATION (POPI) ACT, WHICH COMES INTO EFFECT AT THE END OF THIS YEAR. WE TAKE A LOOK AT SOME OF THESE BREACHES AND HOW TO PROTECT PERSONAL INFORMATION



British Airways (BA) and Liberty have been among the high-profile companies to have experienced significant criminal data breaches in the current year, while Absa recently blundered when it released the names of credit defaulters as part of its submission to the Bellville Magistrates Court.

In all three cases, personal information of these companies' clients found its way into the public domain.

The case of BA was arguably the most severe. Between August 21 and September 5, the personal and financial details of some 380 000 customers making or changing bookings on the BA website and app were compromised.

The personal information compromised included customers' full names, billing addresses, email addresses and payment-card information including the card number, expiry date and CVV number. All the information the hackers would need to conduct fraudulent transactions...

In the case of Liberty, hackers gained access to its

e-mail server and stole "unstructured data", consisting mainly of e-mails and attachments that were said to include thousands of Liberty investors' financial details. Approximately 40 TB of data was stolen.

The Absa blunder involved a list of credit defaulters, which included the names and addresses of 13 people not related to the matter. These names had not been censored for publication by Absa's attorneys, Norton-Lambrianos.

HOW DID THE COMPANIES RESPOND?

On September 7, BA issued a communique to its customers providing them with further information about the breach. In it the company advised: "British Airways has taken steps to prevent any further data theft. The website is working normally, and we are working with the authorities to investigate how this theft occurred.

"We'll reimburse our customers who have suffered

financial losses as a direct result of the theft of their payment-card details. We'll also offer credit-rating monitoring, provided by specialists in the field, to any affected customer who is concerned about an impact to their credit rating."

Liberty's group executive of group distribution and bancassurance, Johan Minnie, made a statement in July, a week after this company's data breach.

"We have still found no cases in which any of our customers have been impacted financially. We want to clarify that your policies and investments are secure.

"We are deeply distressed by the data breach that has taken place at Liberty. Please allow me to offer our sincere apologies for the anxiety that this may have caused. We can assure you that we have regained full control of our IT infrastructure and we have deployed additional security measures. The vulnerabilities have been addressed and we are working tirelessly to make sure this doesn't happen again.

"We have brought in an expert cyber-security team who are working around the clock to manage the breach and assist the authorities with this investigation."

Not much information is available on the Absa issue. *SheqAfrica.com* reports that Absa CEO, Maria Ramos, was been asked to respond to the allegations but, as of September 11, had not responded.

"She was also asked to issue a formal apology and do a formal investigation on how this breach of personal information, which people trust will be secure with the banks, was allowed. In terms of Absa's standard terms of agreement, a debtor only consents to the information being made available to registered credit bureaus," *SheqAfrica.com* states.

WHAT DID THEY SUGGEST?

Clients of BA, Liberty and Absa would have long been aware of the compromise to their personal information. Both BA and Liberty issued guidelines to their clients following their respective incidents.

BA stated: "We recommend that you contact your bank or credit-card provider immediately and follow their advice.

"We take the protection of your personal information very seriously and would encourage you to review the advice below:

- British Airways will never proactively contact you to request your personal or confidential information. If you ever receive an e-mail or call, claiming to be from us, requesting this information, please report it to us straight away.
- Review your credit-card or bank-account statements as soon as you can to check for unauthorised transactions or payments. If you suspect fraud, contact your bank immediately.
- Do not respond to, or follow any web links from untrusted sources."

Similarly, Liberty's Minnie stated: "If you've enabled online servicing, please do log onto the system to view your policy values and confirm this for your own peace of mind.

"We would like to inform you of the following to help you be vigilant in the protection of your data:

- Liberty will not send you an e-mail or link for you to change any of your passwords.
- It is always good practice to ensure you select strong passwords and change them on a regular basis.
- We also recommend that you monitor suspicious phishing e-mails and delete them from your e-mail box immediately.

“The personal and financial details of some 380 000 customers making or changing bookings on the BA website and app were compromised.


HOW CAN YOU PROTECT YOUR INFORMATION?

The PoPI act was created to ensure that individuals and juristic persons know exactly what is being done with their personal information. In cases such as these, it is the responsibility of the targeted companies to ensure adequate protection of their client's information, while the clients, too, need to consent to how their personal information may be used.

Look out for a full, in-depth feature on the PoPI act in a forthcoming edition of SHEQ MANAGEMENT.

Although there is little individuals can do to protect personal information from being stolen by hackers, it can be protected from being "phished". While spam, or phishing, e-mails are nothing new, many people continue to fall for increasingly well-disguised e-mails.

Following these steps can help to avoid falling prey to scams:

- Do not click on any links or attachments in suspicious e-mails.
- Do not respond to spam or phishing e-mails.
- Do not pay ransomware or extortionists.
- Update passwords regularly.
- Do not re-use passwords.
- Enable two-factor authentication for all online accounts that support it. 

WANT TO KNOW HOW TO SPOT A PHISHING EMAIL OR FAKE WEBSITE LANDING PAGE? SCAN HERE



PRESSING PLAY

HOW CAN INTERACTIVE LEARNING HELP WITH EFFECTIVE TRAINING OF EMPLOYEES? WE HIT THE STAGE TO FIND OUT

There can be no denying that people are more distracted than ever before. As our attention is pulled in a multitude of directions, we struggle to retain sometimes vital information as the brain filters out everything other than what is absolutely necessary at that moment.

In fact, a study conducted by researchers at the University of California-San Diego shows that people are inundated with the equivalent amount of 34 Gb of information – every day!

This means that to get a message across – and make it stick – can often be difficult to accomplish by traditional means. Over the past few years this has led to the rise of alternative types of education – which have become especially popular in the workplace.

One of these is corporate and industrial theatre – two of more than ten forms of applied drama that aims to promote interest, discussion, education, awareness and action among employees.

Tiro Venter, MD of StageFright Edu-tainment, explains the reasons for the success of corporate and industrial theatre:

encouraging, engaging, interactive, educational and entertaining, says Venter.

Another approach is that of gamification, whereby online training with mobile accessibility is used to replace traditional classrooms and manuals with the elements of game playing, point scoring and competing against others, in up-skilling and training staff.

Alan Ross, CEO of 1Huddle, a mobile-based training platform, explains that games have been positively proved to impact learning and retention.



LEFT AND ABOVE: Industrial theatre engages workers in a non-confrontational and impartial context.



"Some employees do not like to read, or they get bored listening to long and monotonous speeches, while others simply cannot read. Theatre becomes an effective tool as it engages them in a more personal and realistic form of communication.

"The actors perform a series of recognisable and relevant storylines and situations so that audiences will identify with themselves, their environment and their situations in a fun, non-confrontational and impartial context.

"The message delivered is still forthright, hard-hitting and direct. Fun, laughter, song and dance, as well as audience participation are key for communicating pressing issues," he comments.

These tailor-made shows are designed to be attractive,


"1Huddle takes existing training material and condenses it into training games that can be played anytime, anywhere, and on any device," he says.

Gamification can be applied to any industry and subject. "Generally there are five categories per game, with five questions per category, but the system can be customised to fit virtually any training need," Ross notes.

The benefits of gamification include the ability to monitor participation and performance through specifically generated analytics and reports.

"Capitalising on the inherently competitive nature of participants, single or multiplayer modules see trainees attempting not only to better their own scores, but also to beat their colleagues in the rankings. As an incentive, top performers can be rewarded after successfully completing modules," Ross comments.

Possibly the biggest drawback of both applied drama and gamification is that they can be customised to the clients' needs. In the case of gamification, the material can be changed or updated as required, ensuring that the most current and up-to-date information is communicated to employees immediately, while industrial and corporate theatre is scripted to the client's needs and approval.

Now wasn't that attention-grabbing stuff? 

Images by Natalie Field Photography

ASSURING THE BEST QUALITY

QUALITY ASSURANCE IS AN IMPORTANT ASPECT OF QUALITY MANAGEMENT, WHICH PLAYS A CRUCIAL ROLE IN ANY BUSINESS. SHEQ MANAGEMENT TAKES A LOOK AT HOW TO PREVENT PRODUCT DEFECTS THROUGH QUALITY ASSURANCE

According to the Global Quality Management 2018 Market Research Report, the global quality management market is expected to grow by more than US\$ 24 billion (R339 billion) between 2018 and 2025. More companies are realising the benefits of implementing quality-management systems as a method of lowering costs.

Effective quality-management systems can, ultimately, prevent defects, recalls and customer complaints, and assist in maintaining the reputation of an organisation. These systems include quality planning, assurance, control and improvements.

The Global Quality Management Report states: "Quality management is focused on product and service quality, as well as on the means to achieve it. It therefore uses quality assurance and control of processes and products to achieve more consistent quality."

Quality assurance and quality control are often used interchangeably, even though each refers to a different aspect of quality management. The latter is concerned with detection, while the former focuses on prevention. Quality assurance aims to provide management and customers with the confidence that quality expectations will be met.

Testing a product in a laboratory is an example of quality control. Implementing strict health and safety procedures for employees to avoid food contamination in the food and beverage industry is an example of quality assurance.

According to the World Health Organisation (WHO),


quality assurance includes systems for documentation, standard operating procedures, quality control samples and external quality assessment schemes. The goal is to put systems in place to ensure that the production line runs effectively with minimal quality deviations.

Brett Arthur, senior consultant for Dialog IT, an information technology service company in Australia, notes: "Quality assurance planning activities are quality plans, inspection and test plans, the selection of defect tracking tools and the training of people in the selected methods and processes. Its purpose is to prevent defects from entering the solution in the first place."

He believes that communication is the most important part of quality assurance: "Part of any risk-mitigation strategy is clear communication of both the risks and associated remedies to the team involved in the project." Employee training in health and safety is a good approach to communicating processes and their importance to workers.

Industries are vastly different and each company will have its own specific challenges in terms of quality assurance.

Organisations such as SGS assist companies to establish quality-management systems, provide assessments and assist with legal compliance. The ISO 9001:2015 is the internationally recognised standard for quality management.

Prevention is always better than reacting to an incident, or defect. With the correct quality assurance and management system, companies can save on recall costs and save face with customers who can enjoy a product of high quality. 

KEEPING BOTH FEET ON THE GROUND

PREVENTING FOOT INJURIES REQUIRES CREATING THE RIGHT ENVIRONMENT AND - YES - WEARING THE RIGHT SHOES

Twenty-six bones, 33 joints, and more than 100 tendons, muscles, and ligaments. That's what you'll find in each of your feet.

The American Orthopaedic Foot and Ankle Society claims that the average person takes approximately 10 000 steps per day, or three-million steps per year, and we carry approximately four to six times our body weight across the ankle joint when climbing stairs or steep inclines.

Considering the number and relative size of the components that make up human feet, and how much work they do for us without our realising it, it is critical that the appropriate type of footwear is used to prevent injury and make feet as comfortable as possible while in the workplace.

As with all types of injury prevention, the correct measures to take include having the correct processes and procedures in place, as well as ensuring the appropriate personal protective equipment (PPE) is provided and used.

MedicineNet, an online healthcare media publishing company, suggests the following to prevent landing up with a broken foot:

- The foot is placed under considerable stress on a daily basis, absorbing the pounding of walking, running and jumping. Poorly constructed and -cushioned shoes, as well as obesity, help contribute to stress fractures and general instability of the foot.
- Certain occupations increase the risk of foot injury. These include the construction trades in which weights may be dropped on a foot, or falls from height may occur.
- People with osteoporosis or peripheral neuropathy may have increased risk of foot injury. It is important for these people to decrease clutter to prevent an injury from falling. It is also helpful to limit the number of throw rugs on the floor that can cause a person to trip and fall.
- High-impact sports, that include twisting and direct blows to the feet, increase the risk of fracture. Appropriate

protective equipment will help decrease the risk of injury.

While PPE is an important line of defence, when it comes to footwear it has to be protective while being comfortable, and, increasingly, as stylish as possible. This is why Bronx Safety Footwear, distributed by BBF Safety Group, has released its latest range of footwear – which is designed to flow easily from work to play with a blend of style and durability, and safety-compliant protection and performance.

According to Peter Gerbrands, group marketing manager for BBF Safety Group: "Bronx Safety Footwear is committed to providing consumers with quality, comfort and durability while merging the always-ready-for-life approach to design with the safety that today's South African worker needs."


To address the specific needs of the modern consumer, Bronx performed in-depth consumer research and testing to develop the line. The result is a specialised range of men's safety footwear that offers protection in both casual and formal styles.

Each style features a rubber sole for high heat resistance, oil resistance, anti-slip and excellent durability; an anti-static top sock with heel pump and air channels to promote airflow; mesh inner-lining for comfort and breathability; and a padded heel shock absorber for added cushioning and energy absorption.

In addition, the eight different styles feature individual protective properties.

The range will be available through a mix of retailers and specialist safety-equipment distributors and resellers nationwide.

"Bronx Safety Footwear is designed for fashion-conscious individuals who want quality and comfort without compromising on style. While its safety footwear may be fashionable, it retains every aspect of functionality and safety certification," Gerbrands concludes.

Now that's some news you can put your feet up for. 

Introducing the only guide to SHEQ management you'll ever need!

SHEQ MANAGEMENT, the leading South African magazine in occupational health and safety (OHS), is launching the **SHEQ MANAGEMENT** 2019 Handbook!

The Handbook will offer crucial information on safety, health, environment and quality management in a variety of industries such as forestry, mining, agriculture, construction, food and beverage, manufacturing and engineering, pharmaceutical and healthcare, transport and petrochemicals.

It will include listings of relevant service providers; from personal protective equipment (PPE) to training and waste-management organisations – and everything in between.

The **SHEQ MANAGEMENT** 2019 Handbook is a must-have publication for every OHS manager and a great opportunity for service providers to advertise.



To participate or for general enquiries about the SHEQ MANAGEMENT 2019 Handbook, contact Barend van Wyk at 076 217 1883 or barend@charmont.co.za.

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