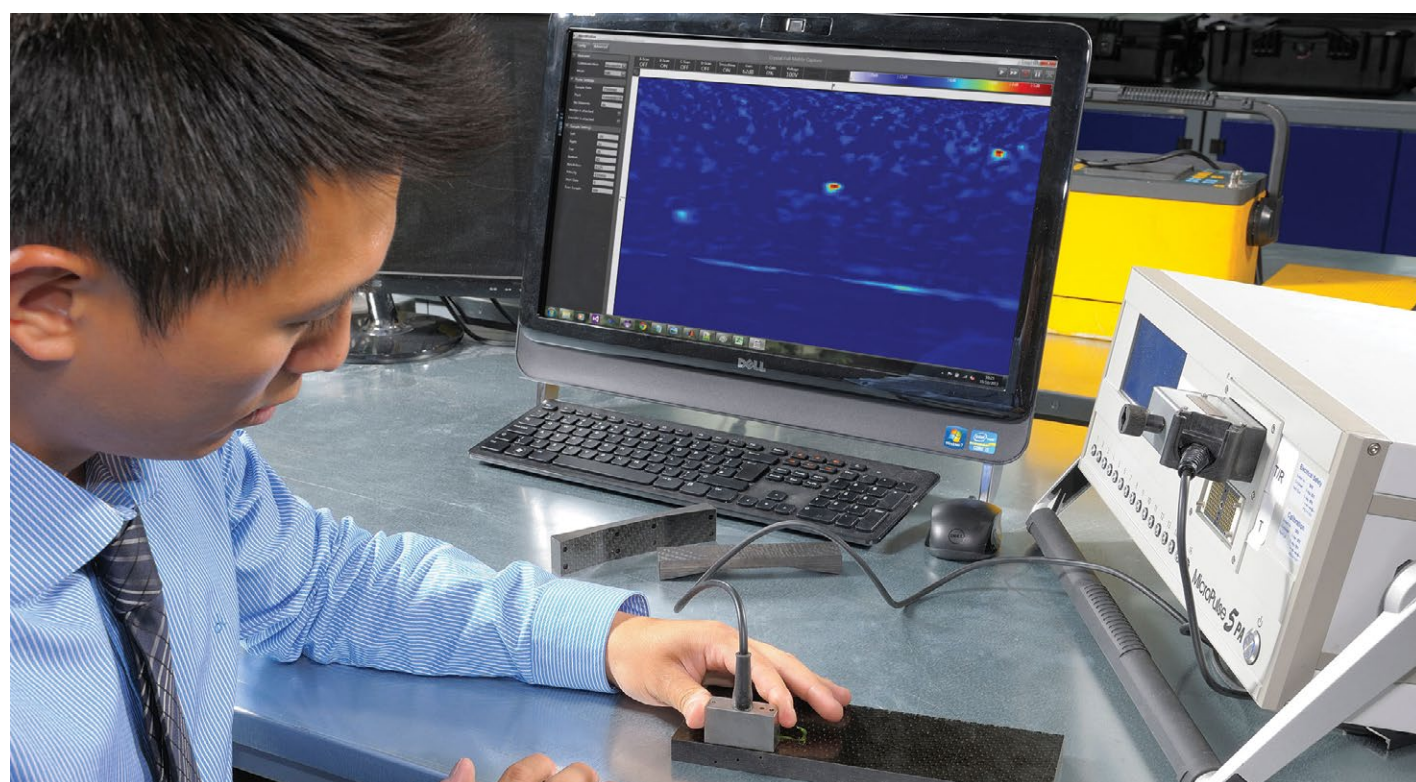


PRODUCT SELF-COMPLIANCE, A CHALLENGE TO THE REGULATORY PROCESS?



Established in 1945 in terms of the Standards Act, (Act No. 24 of 1945), the South African Bureau of Standards became one of the founder members of the International Organisation for Standardization (ISO) in 1947. SABS has always been actively involved in the development of international standards through the technical committees we represent. Active membership of the IEC (International Electrical Commission) eventually led to the adoption of selected IEC Standards applicable to electro-technical products, many of which were later declared compulsory.

The SABS has seen South Africa through many transitions with the application of standard protocols and pioneered many standards in support of the development of the South African Industry.

The development of a Type 5 Product Certification Scheme, based on International Best Practice, generally known as the SABS mark scheme, led to the promotion of compliance with national and international standards.

The SABS's policy to provide accessible test services for all products covered by the SABS Mark Scheme, enabled manufacturers to develop and produce compliant product under SABS supervision. In addition, the SABS Permit Conditions required manufacturers to implement in-house (1st party) test and inspection facilities and ongoing quality control, to ensure product compliance. Periodic test comparisons were conducted between SABS laboratories (3rd party) and manufacturer's testing (1st party) ensuring integrity of the scheme.

The Electrotechnical industry mainly covers consumer goods, such as domestic appliances, power tools audio visual equipment, etc., and on the other hand, electrical components used in fixed electrical installations subject to Certificates of Compliance (CoC's) (Ref. SANS 10142). These include products such as cables, socket outlets and adaptors, fixed commercial and industrial luminaires and their components, switch gear, transformers etc. Many of these products were manufactured under the SABS mark, ensuring continued compliance.

The State Tender Board gave a preference to SABS mark bearing products through Regulation R999 and made regular use of SABS technical consultants during the adjudication of tenders.

Regulation

Due to increasing imports of domestic appliances and other consumer products the need for regulation was identified, leading to the publication of Government Notice 466, for domestic appliances, published during 1981. This first compulsory specification set the regulatory process in motion.

CONTINUED ON PAGE 4

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Opinion piece: Field Services – beyond break-fix to invaluable organisational insight

Throughout the seasonal demand on production and manufacturing, many industries such as consumer packaged goods (CPG) use this time to shutdown for much-needed maintenance and repairs. Conversely, CPG organisations also ramp up production during the holidays and peak annual season such as Easter where the demand for consumer goods is high.

During these times, in-house production, maintenance, and technical teams must perform optimally as both scenarios go beyond the norm of daily operations. To this end, expert assistance can go a long way in supporting overtaxed in-house

teams particularly when operations are restarted or reach peak capacity.

A valuable partnership

An outsourced field services team can fill an important gap, assisting organisations not only during emergencies but also in critical scenarios such as providing spares, additional technical support and 24/7 callout availability, also in aligning maintenance schedule with planned intervention when there is a contract in place. These can provide peace of mind to operations running at full steam or emerging from a shut down.

Moreover, an OEM field services team with certified engineers will have valuable insight into the equipment and has likely worked in similar scenarios throughout the industries it operates in. These teams therefore provide problem-solving expertise that can save time and ultimately operational and manufacturing costs.

An outcome-based evolution

Historically, field services has been a reactive industry. As mentioned, when an issue arises the maintenance or site manager will require assistance and the field services team will repair or re-



Choene Ramotshela, Field Services Operation Director for Anglophone Africa at Schneider Electric.

place equipment or provide alternative solutions.

The move towards digital environments is becoming a major driving force behind field services. For example, most CPG organisations and other manufacturers generate an enormous amount of data. Armed with this information, organisations can take steps to improve daily operations and sufficiently prepare for increased production rates and maintenance periods.

Field services is then well positioned to meet these organisational needs by moving beyond traditional operations and maintenance to outcome-based services.

An outcome-based model entails servicing operational technology (OT) throughout the entire product lifecycle and using the resultant data to help organisations meet their goals.

Therefore, instead of calling on field services as problems arise, a company can partner with a services company to perform preventative maintenance, install connected products, monitor asset health, and make recommendations to optimise operations including modernisation

The move to digitisation

At the core of this outcome-based model lies digitisation. At Schneider Electric we've partnered with BASF to assist the organisation in achieving higher uptime and productivity at its substation in Texas in the US.

By remotely monitoring connected assets throughout the facility using our EcoStruxure Asset Advisor architecture, our services team have 24/7 visibility into the electrical distribution equipment's health and efficiency. With this data, we provide BASF with customised advice and proactive recommendations to help prevent equipment failure and optimise maintenance strategies, thus meeting their pre-determined business goals.

Since the beginning of our partnership, BASF has met its intended outcomes, including decreasing the mean time to repair equipment by 15 percent and increasing the mean time between planned outages by 20 percent.

Ultimately, field services isn't just a break-fix solution; it's now an industry that provides proactive and preventive strategies to help industries such as CPG meet their manufacturing and production goals.

By Choene Ramotshela, Field Services Operation Director for Anglophone Africa at Schneider Electric

Enquiries: www.se.com

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Text message marketing for tradespeople

For a small business or tradesperson, marketing often takes a back seat to simply getting the job done. Knowing where to start can be tricky, but with most of us spending half the day on our mobiles (often not work-related), text message marketing is underrated. It's an affordable marketing method and a winner for busy, on-the-go tradespeople.

Mobile phones have become a fifth limb. Most of us find it difficult to function without them and according to research, 62% of us can't even part with them at bedtime. While it's clear that we're obsessed, how does this help when it comes to marketing your trade or small business? Just look at this research:

- 98% of marketing texts are opened compared to just 20% for email marketing campaigns.
- 75% of people don't mind receiving texts from a business when they've opted-in.
- Texts are read, on average, in under five seconds, with 90% opened in that same time frame.
- 45% of marketing texts are responded to. This number is just 6% for email marketing.

Beyond the stats, text message marketing has plenty of other advantages for your business including:

- **It's spam-proof** – Unlike email marketing, your text won't wind up in the spam folder, never to be seen.
- **It's relatively cost-effective** – it only costs you the price of an SMS, which, depending on your phone plan, may already be included.
- **You're forced to be concise** – With a character limit, you'll have to get to the point quickly. Unlike emails, there's no space to be wordy.
- **Customers are genuinely interested** – Customers you're contacting have had to 'opt-in' to receive your messages. So instead of casting the net wide as with other types of marketing, you're engaging with customers who have a genuine interest in your business.

Implementing text messaging in your trade business

- **Appointment reminders** – Software like Tradify can be used to send automatic text reminders via SMS. Have Tradify send a text the day of, the day before, or two days before your scheduled visit.
- **Reminders to leave feedback** – Feedback and reviews are worth their weight in gold for small businesses and tradespeople. Once a job is complete, send a brief text to thank customers for their business – and ask for their feedback. Include a link to your chosen platform to make it super-easy.
- **Letting customers know you're in the neighbourhood** – If you're using a software to store customer data, it is easy to filter customers by location. If you've got a job in a specific area and are looking to drum up business, try sending other customers a brief text message to let them know you are in the neighbourhood and can stop by for quotes or small jobs.
- **Discounts and special offers** – If things are a little quiet, texting a special offer that existing customers can share or forward to their friends

is a great way to ramp things up. This could be something as simple as a discount on any jobs booked in a certain month.

Getting it right (legally)

Remember, your customers have given you their phone numbers so they can communicate with you about booked jobs. That isn't the same as agreeing to their details being used for marketing purposes.

It's important to be aware of the difference between the two and follow the right protocol for marketing messages including:

1. Identifying your business as the sender
2. Including your contact details
3. Giving customers an easy way to unsubscribe via text message.

Familiarise yourself with the POPI (Protection of Personal Information) Act at www.gov.za

Legal obligations aside, there are several things you should know before jumping into texting your customers:

- **Avoid text language** – You are communicating with customers, not friends, so it's important to be professional. Leave out unnecessary abbreviations and keep the message clear.
- **Keep to business hours unless it's urgent** – You shouldn't be firing off texts to your customers at 10 pm on a Sunday just because that's when you've gotten around to it. Generally, Monday to Friday within business hours are best, unless it's urgent.
- **Stick to one form of communication per message** – For example, if you've sent a reminder via email, don't send that same reminder in a text message. Doubling up can annoy customers and decrease the effectiveness.
- **Start your message with your name and business name** – Remember, unless you're programmed into their contacts, customers won't know who you are. Something as simple as "Hi, it's x from x" is all you need.
- **Proofread your communications** – Just like a business email, spelling errors and typos don't look great. Re-read all messages before you send them.
- **Don't overdo it** – Before you send that text, think about whether you need to. Sending the occasional reminder or special offer is fine, but if there are too many – you'll risk them being spam and a negative impact on your business.

Text messaging is an effective and simple way to communicate with and market to your customers. By keeping your communications professional and useful, you'll be providing your customers with an added level of service that will keep them coming back, showering you with positive reviews and best of all, recommending you to others. It won't feel like marketing at all.

Enquiries: www.tradifyhq.com



Did you know these 5 famous people worked as electricians?

Thomas Edison is known as the inventor of the electric light bulb. Lots of people assume he studied as an electrician, but he actually trained as a telegraph operator, and went on to become a world-famous inventor. Here is a list of people who worked as electricians before becoming famous for other things.

Albert Einstein

Believe it or not, the iconic scientist once worked as an electrician for his father's company. When Einstein was young, his father and uncle founded an electrical engineering company. They were one of the first companies to bring electricity to the city of Munich. One of Albert Einstein's first jobs was running cables and hanging lights at the first ever Oktoberfest to be lit with electric light via a steam generator. However, this clearly wasn't challenging enough for him as he shortly moved into general relativity theory and quantum physics.

Elvis Presley

Elvis is truly what the American Dream is all about but did you know that aside from being an iconic singer, he was also training to be an electrician? "I was training to be an electrician. I suppose I got wired the wrong way round somewhere along the line." Although, we're very glad that he didn't stick to his electrical career because can you imagine a world without the King of Rock n Roll?

Rowan Atkinson

When you see his face, do you think of anything else besides Mr Bean in his yellow Mini? Rowan Atkinson studied Electrical engineering at Newcastle University. He then continued to achieve a masters in the subject at The Queens College, Oxford in 1975. However, he never took his electrical career any further and swiftly

moved into writing and comedy, where all Mr Bean lovers will agree, he belongs.

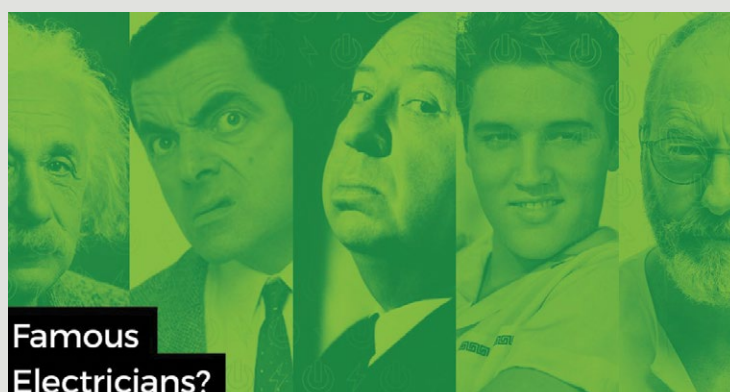
Alfred Hitchcock

There have been so many movies directed by Hitchcock, how does one even keep up? Besides being a widely regarded as one of the most influential filmmakers in the history of cinema, Alfred worked as an electrician's apprentice for a company that made electrical appliances.

Liam Cunningham

You may know him as Davos Seaworth, a landed knight who was in the service of Stannis Baratheon that later proclaims Jon Snow the King in the North. If you don't, then you have some serious Game of Thrones catching up to do. This well-known Irish actor was an electrician in the mid 80's. He later saw an ad for an acting school and he decided to give acting a try.

Enquiries: www.citiqprepaid.co.za

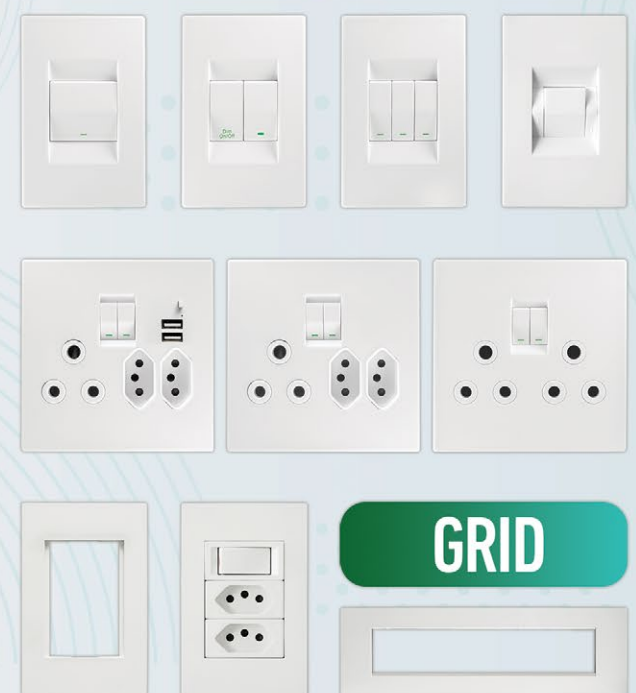


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Low-maintenance option for SA's ageing mini substations

As South Africa's many thousands of oil-cooled mini substations reach the end of their operating lives, there is scope to replace them with a safer and more economical option, according to Trafo Power Solutions managing director David Claassen.

"These mini substations are located all along our urban streets, in shopping centres and around industrial areas – in close proximity to growing numbers of people," says Claassen. "As municipalities struggle to maintain these properly, they pose an increasing safety risk and become more expensive to service and repair as they get older."

He points out that oil-cooled transformers require regular testing and maintenance, including monitoring and replacement of oil at regular intervals to ensure effective cooling of the unit. Without this maintenance, the risk of failure or even explosion is raised.

"Dry-type transformers do not contain oil, being cooled by air moving over the components," he says. "This is one of the factors

behind the significantly lower maintenance required by dry-type transformers, which of course translates into substantial cost savings over time."

The absence of oil makes dry-type transformers considerably safer, he explains, as indicated by these units' F1 fire rating. This means that they are resistant to flammability, are flame retardant and generate no harmful emissions.

Having no oil as a coolant also makes dry-type transformers less risky to the environment. The risk of oil spilling from an oil-cooled transformer – which can lead to the contamination of land and water – requires the construction of a bund wall. The dry-type option needs little of this kind of additional infrastructure, and so is more cost-effective to install.

"Trafo Power Solutions has worked extensively with developers of high-traffic infrastructure like shopping centres, ensuring the highest level of safety in mini substations located in high-density areas," he says. "We are well positioned to supply public utilities with the same benefits."

He notes that municipalities' financial resources to service and maintain substations are often severely stretched, so it makes sense for them to seek more economical alternatives. Dry-type transformers are almost maintenance-free, he explains, taking a considerable load off the owners' maintenance duties.

"We custom-design our solutions for dry-type miniature substations to meet customers' exacting requirements," says Claassen. "This includes any variation of medium voltage (MV) and low voltage (LV) needs and specific switchgear as well as customised control and protection options."

Trafo Power Solutions supplies miniature substations from 200 kVA to 2500 kVA – ranging from 3,3 kV to 33 kV on the MV side, and from 400 V to 1000 V on the LV side. These substations are rated up to IP65 ingress protection.

Enquiries: www.trafo.co.za



CONTINUED FROM PAGE 1

Product self-compliance, a challenge to the regulatory process?

With SABS policy covering Monitoring, Verification and Enforcement (MVE), technical SABS staff were registered as technical inspectors, covering market surveillance and product sampling at retail outlets and manufacturers premises. While SABS had a comprehensive scope of technical test facilities and skills, it was ideally positioned to conduct product surveillance testing which formed a major part of the regulatory system that was being implemented.

SABS restructuring

SABS restructuring during the early 2000's led to the formation of the NRCS (National Regulator for Compulsory Specifications) in terms of NRCS Act 5 of 2008, with the mandate to protect the health and safety of the public and the environment against unsafe/hazardous products.

A NRCS regulatory model based on the evaluation of 3rd party Type Test reports supported by a Letter of Authority (LOA) was developed and implemented. From the onset the NRCS placed its entire focus on surveillance inspections without any significant sampling and surveillance testing. The inspections were conducted at retail outlets and later at ports of entry, to 'lock-out' non-compliant products.

The new NRCS regulatory has eventually become a purely administrative model which can be categorized as Type 1a approval/certification system (Ref. ISO/IEC17067), as it does not include any significant market surveillance testing.

As electrotechnical product compliance can only be determined through testing and analysis, the absence of a structured surveillance test program has always been contended by industry members and casts serious doubts on the effectiveness and integrity of the NRCS's regulatory model.

The claims by NRCS that the model is in line with international best practice, being based on 3rd party type test report, is a serious misconception which resulted in the NRCS's failure to fulfil its mandate to protect consumers and the environment. Research has shown that most other countries apply regulatory models based on self-compliance, under supervision of the respective regulatory authorities, or in combination with Type 5 product certification schemes, depending on the level of product safety risk. The NRCS model is unique and is practiced nowhere else in the world.

Despite various approaches by industry members and associations, over the past two decades, there has been no political will to review the regulatory model. (Continued on next page).

Reigniting the Riken brand

You know the Riken name. It is a brand synonymous with quality in the electrical industry. However, you may not have heard the name in a while ...

Well, Riken is back with a bang. You will be hearing more and more about Riken in the coming months as this top brand is reignited to reclaim its position as one of South Africa's most respected suppliers of low voltage electrical products.

Riken is under new ownership. The new owner and CEO, Brendyn Meyer, is excited about the future. He brings with him a dynamic management team, who are more than ready to put Riken back on the map. "My team has a wealth of knowledge and expertise, and many years of experience in this industry. Together, we aim to bring our customers the quality they expect from the Riken name backed by excellent service."

Riken was founded by Hartley Gregor, who was very successful in building Riken into a brand with a solid

reputation. Hartley has now made the decision to pass over the reins to Brendyn. In the past, Riken was renowned for its motor control product range. As part of the brand reignition strategy, the entire product range is being overhauled to ensure that Riken is at the forefront of innovation. "You can expect the introduction of some innovative new products in the near future," says Meyer. "This is a big part of our reignition strategy. Rather than a shotgun approach where we try to be all things to all people, we want to position ourselves in such a way that we can provide a tailored offering to select customers."

The first step in reigniting the Riken brand was to update and refresh the logo. The Riken colours have been changed to navy and green. The green is symbolic of growth, revitalisation and energy, all of which are relevant to the new brand. Prepare to see the sparks as this brand reignites.

Enquiries: www.riken.co.za



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AS WE
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NRCS's insignificant allocation of funding for surveillance testing is reflected in NRCS Annual Reports and shows a testing and sampling allocation of less than 1% of Levy and LOA Approval income.

Technical infrastructure degeneration

SABS Test facilities: Since the implementation of the NRCS regulatory model in 2008 the technical infrastructure required for surveillance testing has suffered greatly. The impact on the SABS mark scheme, which has not been recognised by the NRCS as proof of compliance, has led to the degeneration of testing services at the SABS.

The SABS technical staff complement has declined to around 20% of that before re-structuring and funding for maintenance and upgrading of test equipment and the sustainability of accreditation of testing services are under serious threat.

The ban on partial testing which SABS introduced attempting to increase test income has impacted on local manufacturers, because partial testing is a critical component in product development. This partial test ban had the opposite effect and resulted in a significant reduction in the SABS's client base.

Manufacturer's test facilities: Fortunately, some manufacturer's facilities for in-house testing (1st party) are still available and reputable local manufacturers that are still operating under the SABS Mark scheme, have maintained their facilities to ensure continued product compliance. Although several private accredited laboratories (3rd party) have been established, manufacturer's own 1st party test expansion and development creates the opportunity towards the gradual implementation of Self-Compliance formally known as Supplier's Declaration of Conformity (SDOC) model (SANS 17050) which is widely used in other countries and is the model on which the European CE mark is based. This gradual transition will take time but will increase consumer confidence in products supplied by such companies.

Self-compliance

The formation of the SAFEhouse Association was aimed at counteracting the proliferation of non-compliant electrotechnical products in the South African market by introducing a Code of Conduct for its members that commit to the supply of products complying with the applicable national or international standards and/or compulsory specifications.

The SAFEhouse Association recognizes the need for an effective regulatory system and has shown its commitment in engaging with the regulatory authorities to raise industry concerns on specification development and MVE matters. Due to limited progress in these engagements, the need of electrical contractors and the public in general to enable the selection of compliant product has been recognised, which can only be resolved by a focus shift to Self-Compliance.

SAFEhouse members are strongly advised to implement appropriate procedures such as: product selection based on manufacturer supplied data; incoming goods inspections; verification/routine testing; handling of complaints; and corrective action procedures, etc.



Safety testing.



Photometric testing.

The SAFEhouse Peer Review System which has been successfully implemented, gives effect to continued self-compliance. If non-conforming products are reported, confirmation is sought through partial testing and, in such cases, the member is obliged to take appropriate corrective action.

Verification testing initiated by SAFEhouse is conducted by independent accredited local test laboratories that are prepared to conduct partial testing.

While many products used in fixed electrical installations are 'regulated' through the requirements of SANS 10142, the Self-Compliance model could be very effective and will enhance consumer confidence.

Customer expectations

The increased focus on Self-Compliance arises from ongoing com-

plaints from industry associations and their members spanning a broad range of issues. These include deficiencies in the current legislative framework as well as the implementation agencies, the regulatory and compliance model and approach, inadequate Monitoring, Verification and Enforcement required to ensure compliance across industries, unsustainable costs associated with product testing, limited number of certified testing agencies, etc.

It is envisaged that more companies will follow the Self-Compliance Approach through their industry associations, and thereby re-establish a 'fair-trading' environment, where the consumer can rely on product compliance supplied by those identifiable industry association members.

Enquiries: info@safehousesa.co.za



OUR GOAL IS TO ENSURE SAFE & COMPLIANT PRODUCTS IN SOUTH AFRICA



The SAFEhouse Association is a non-profit, industry organisation committed to the fight against sub-standard, unsafe electrical products and services imported and manufactured in South Africa.

PROUD MEMBERS OF THE SAFEHOUSE ASSOCIATION







































































For more information contact: connie.jonker@safehousesa.co.za | barry.oleary@safehousesa.co.za | safehousesa.co.za



Empower your maintenance workforce with training courses

The condition monitoring sector is one that is constantly evolving and developing to incorporate innovation and boost efficiency. It is for this reason that ongoing training is essential to keep the maintenance crew at the forefront of technological advancements within the industry.

WearCheck's technical manager, Steven Lumley, who oversees the company's training programme, believes that companies where staff are not well trained in the latest maintenance techniques will be hampered by diminishing effectiveness of their condition monitoring programme.

Says Lumley, "We urge companies operating in all industries to invest in training their staff to optimise their return on investment in condition monitoring. All WearCheck's courses comply with lockdown regulations to ensure the safety of delegates and staff. Please contact us to confirm whether the courses will be held at a venue or online, as we strive to comply with pandemic regulations."

The oil analysis and condition monitoring training courses are targeted at maintenance practitioners operating at various levels within an organisation. Many of these courses earn valuable CPD (continuing professional development) points for delegates.



WearCheck training consultant Jan Backer (second from left) recently conducted oil analysis training courses in Klipspruit for delegates from Moolmans.

Customer training courses run by WearCheck, and the duration:

Course	Days
• Precision Shaft Alignment	2, incl. practical
• Precision Balancing	2
• Vibration Analysis ISO CAT I	5, incl. exam
• Vibration Analysis ISO CAT II	5, incl. exam
• Vibration Analysis ISO CAT III	5, incl. exam
• Asset Reliability Practitioner - advocate (ARP-A)	3, incl. exam
• Asset Reliability Practitioner - engineer (ARP-E)	5, incl. exam
• Asset Reliability Practitioner - leader (ARP-L)	5, incl. exam
• Oil Analysis 1	2
• Oil Analysis 2	1
• WearCheck Practical (English / Zulu)	½
• WearCheck Customised	2
• Asset Reliability Practitioner (3 courses)	6 months

2022 WearCheck training course dates:

	Oil Analysis 1: Understanding oil and its analysis	Oil Analysis 2: Report interpretation
Course length:	Two day workshop	One day workshop
Port Elisabeth	May 24, 25	May 26
Rustenburg	May 10, 11	May 12
Kathu	June 7, 8	June 9
East London	June 21, 22	June 23
Bloemfontein	July 19, 20	July 21
Durban	August 16, 17	August 18
Johannesburg	September 13, 14	September 15
Kathu	October 18, 19	October 20
Namibia	November 8, 8	November 10

Course	Wind Turbine Oil Analysis (2 day workshop):
Cape Town	15-16 November
East London	25-26 October
Port Elisabeth	20-21 September

For more details on course content and prices, visit www.wearcheck.co.za. To book one of the above courses, contact Michelle van Dyk on training@wearcheck.co.za



Boniface Yuwama (second from left) handles sales and technical support for WearCheck Zambia. He conducted training for delegates from Unitrans in Zambia recently.

WorldSkills Africa collaborates with Festo to host the 2022 competitions

WorldSkills is a global competition organisation that raises the profile of skilled individuals worldwide. This organisation also demonstrates how skills are essential in achieving economic growth. Its competitions are a leading platform for international benchmarking in education. Festo, a leading supplier of Industrial Automation and technical education, has been a global industry partner of WorldSkills for over 30 years. The company has been providing the competition organisation with state-of-the-art learning systems. The collaboration started in 1991 with a request for Festo to design and equip a new competition discipline titled Mechatronics. It has since expanded to many other disciplines, including Industrial Mechanics, Water Technology, Industrial Control, Renewable Energy and Industry 4.0.

Platinum sponsor virtual signing ceremony

Each year Festo enthusiastically supports this competition globally and locally: as an employer, training company, equipment provider and promoter of the dual apprenticeship system for vocational training. These two organisations recently had a virtual signing ceremony to officially declare Festo as a platinum sponsor for WorldSkills Africa. The prestigious ceremony was attended by San-Quei Lin, one of WorldSkills International's board members, Muvatera Ndoze-Siririka, the acting CEO of the Namibia Training Authority and Brett Wallace, the managing director of Festo South Africa. Speaking in unison, all parties agreed that the upcoming competitions will help the world drive economic and social sustainability through skills.

Festo state-of-the-art equipment for WorldSkills 2022

The biannual WorldSkills International championships attracts over 1600 of the world's best young industry professionals. Before the global competition, national and regional contests are held to select the individuals that will be competing at the interna-

tional level. Festo supports these competitions with equipment and skills. After the national competitions, 12 African countries will be selected to compete at WorldSkills Africa 2022 in Swakopmund 28 March-2 April. These countries are Ethiopia, Ghana, Kenya, DRC, Madagascar, Mauritius, Morocco, Namibia, Rwanda, South Africa, Tanzania, Zambia.

After the regional competitions, the goal is WorldSkills International in Shanghai, where the 46th competition will be held in October 2022 to celebrate the world champions.

Mechatronics

This multi-disciplinary skill is key to mastering the technologies of factory automation, troubleshooting and improving productivity. A typical example of mechatronics is the maintenance and programming of industrial robots in the automotive sector. Competitors use the Modular Production System for mechatronics from Festo to showcase their abilities in this category. It brings factory technology into classroom-sized learning systems, with real industrial components in software and hardware. Thus ensuring the step from the classroom to the factory floor is quick.

Water Technology

The impact of water scarcity on the environment and livelihoods is a growing concern worldwide. At the same time, technology is advancing rapidly in water and wastewater treatment plants. Thus, skills development and well-trained technologists are in global need. For this reason, Festo Didactic and WorldSkills introduced the Water Technology discipline in 2015. The discipline continues to grow and gain popularity worldwide.

Competitors use the Environmental Discovery System (EDS) for water management from Festo. It is a modular learning system that allows hands-on learning of the core processes in water and wastewater treatment plants with practical exercises and experiments that enable the precise, as well as detailed,

analysis of individual processes in the water cycle.

Industry 4.0

The fourth industrial revolution is evident in the digitalisation of the workplace. It offers numerous new channels of information and communication, with topics such as remote diagnostics, digital twin, industrial Internet-of-Things and more. To assist the workforce in mastering these new skills and create the benchmarking needed to establish global education standards, Festo has introduced Industry 4.0 on the list of competition disciplines that they will be equipping with their state-of-the-art learning systems this year. Participants will use the Cyber-Physical Learning System known as the CP-Lab, including PLC, HMI programming and managing a Manufacturing Execution System, within a small smart factory.

The partnership between WorldSkills and Festo helps address the growing skills shortages in technical disciplines across Africa. It further develops modern, industry-relevant curricula for vocational colleges and universities that are key to employability. The company looks forward to seeing the top competitors in action at WorldSkills Africa Swakopmund 2022.

Enquiries: marketing.za@festo.com



Diversity and inclusion are critical to business success

ABB's commitment to solving some of the most significant global challenges is only made possible due to its exceptional workforce. A culture of diversity, inclusion and equal opportunity is critical for business success. In celebration of International Women's Day (IWD) on 8 March, we spoke to an ABB engineer to hear her thoughts.

"A business is people working cohesively towards a single goal, with different goals assigned to each individual," says Samantha Zitha, Tenders & Quotations Specialist, Electrification Business Distribution Solutions, Secondary Switchgear. "One of my greatest accomplishments has been mentoring young engineers, imparting knowledge and practical experience to aid them with skills that will contribute to the business positively."

Zitha has been employed in her current role for five years, offering feasible and market-friendly solutions to customers, in addition to customer relations and project management. "Regarding gender equality, the engineering industry remains a male-dominated one. There are conscious efforts to bring more females into the company and industry in general, which is a step in the right direction."

She adds: "We are still at a stage where women need to be afforded a fair opportunity at entering the business world and a fair chance at career progression. We need to continue educating the industry that gender cannot be a limiting factor in career progression." Her advice to young women contemplating a similar career path is never to do themselves the disservice of diminishing their capabilities and talents to appease their male counterparts. They must put their best foot forward. Women need to stand up and step out of their comfort zones to achieve their goals.

Enquiries: www.abb.com

Record number of national standards published in 2021

The South African Bureau of Standards (SABS) has published 414 national standards in the financial year that ended 31 March 2021. The publication of standards includes new standards, adopted, amended and/or revised standards. 127 new standards were published. In 2020, 359 national standards were published and 241 in 2019.

Information contained in South African National Standards (SANS) are fundamental to the economic and industrial optimisation of the country. With approximately 7 400 SANS available, South African organisations have access to technical specifications of almost every product, service and management system in the South African market.

SANS are developed and published through technical committees. Technical committees are constituted by members of the public and includes industry stakeholders, academics, students, regulators and any interested person. Technical committees are run by an elected chairperson and there is no financial or monetary gain for any member of the committee.

"The time to develop and publish each standard varies, as every new or amended standard requires public participation. Technical committees take into account every comment or concern raised in the participation process and in some cases further amendments and consultations with the public are required before a SANS can be concluded and published," explains Sadhvir Bisson, Divisional Head of SABS Standards.

Bisson attributes the record number of SANS published in 2021 to better functioning technical committees and committed members, increased participation from regulators and Departments and efficiencies from virtual platforms as well as within the SABS.

SANS evolve over the years to reflect technological and regulatory changes and it is imperative that all organisations become familiar with SANS, apply and comply to SANS and take the next step to ensure that compliance is verified through an independent body. Institutions that require assistance with identifying relevant SANS can contact the SABS. SABS can also provide customised training to create awareness and understanding of the collection of standards pertaining to an organisation. SANS are available via the SABS webstore <https://store.sabs.co.za>.

Compact emergency stop button from Bernstein

Two years ago, Bernstein AG introduced its new safety rope limit switch (SRO), adding an extra layer of safety to the operation of machines and conveyor belts. Now in 2022, Bernstein has brought out a smaller version of the SRO offering greater space saving and versatility to the market. Bernstein has focused on developing the best electrical safety products to protect machine and process operators for over 70 years. The product family of safety rope pull switches is no exception.

More safety on the production line.

The SRO provides an additional safety function for machine operators. It is designed to be installed on machines as a supplementary safety device to existing safety devices. The rope pull switch comes into play if other measures stop working or the operator is unable to conduct a normal stop for whatever reason.

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

The SRO emergency stop device has an ISO13850 rating. Its compact design is useful for narrow spaces, with a maximum rope length of 30 metres. The housing comes in either metal or thermoplastic or as a combination of both. The SRO combines two different devices in one: an emergency stop activated by pulling a rope and an integrated emergency stop button on the device. Customers can choose either the simple rope pull or the rope pull with stop button.

Applications in which the SRO can be used include packaging machines; wood-working machines; intra-logistic systems; printing and paper machines; textile machines and automation systems.

Bernstein AG is able to offer a reliable and proven solution for specific customer applications.

Enquiries: info@angloallied.co.za



Drive-based solutions enhance operational efficiency and safety of machines

BMG's NORD predictive maintenance solutions offer fast, efficient and comprehensive evaluation of analogue and digital data, to enhance the operational efficiency and safety of machines. The intelligent PLC in NORD drive technology forms the basis for condition monitoring and predictive maintenance.

"BMG specialists use predictive maintenance as a methodical continuation of condition maintenance, with the prime objective of proactively maintaining machinery and equipment and detecting operational changes. Our NORD status-oriented maintenance system replaces traditional time-based maintenance to enhance the performance of the gear unit, electric motor and frequency inverter, for increased efficiency of the entire plant, as well as reduced downtime," explains Deon Crous, National Product Specialist, NORD Drive Systems, Electromechanical Drives division, BMG.

"BMG's NORD drives for condition monitoring are based on intelligent algorithms and software in an Industrial Internet of Things (IIoT) environment, where networked drive units collect condition data in the inverter's integrated Programmable Logic Controller (PLC) and pre-

process it, together with data of connected sensors and actuators.

"An important advantage of this system is it offers our customers dependable data analysis, rather than merely data reading. Results of pre-processing or complete data can be optionally transmitted to an edge device, from which the data of all subsystems is managed and evaluated. This information is then available as pre-selected and edited smart data for further use and clear visualisation."

A common application example is the sensorless determination of the optimum oil change time, based on the oil temperature – which is the key factor for oil ageing in gear units. This information is used in conjunction with gear unit parameters and specific operational parameters, to precisely calculate the appropriate oil change time, without the need for a physical temperature sensor. NORD DRIVESYSTEMS – developed by Getriebebau Nord and assembled locally by BMG – comprise optimum drive configurations, to ensure high-performance of mechanical speed control for specific applications, in almost every industry.

Enquiries: www.bmgworld.net

Steinmüller Africa creates up to 2 400 new jobs with four-year Eskom Contract



(Left to right) Steinmüller Africa Executive Directors: Moso Bolofo, Bodo Haar and Mohamed Khan.

Steinmüller Africa, a specialist in the design and maintenance of power plants, has become the successful tender of Eskom's four-year contract, effective 1 January 2022. Steinmüller Africa will provide maintenance and repair services for the Arnot, Camden, Duvha, Kriel, Majuba, Hendrina, Kendal, and Kusile Power Stations. This contract will retain 600 jobs and create approximately 2 400 new jobs.

Steinmüller Africa was the successful bidder against several local and international companies. "Steinmüller Africa is immensely pleased to have secured business with its largest customer. We have proven our expertise by fulfilling Eskom's stringent requirements," says Moso Bolofo, Director, Steinmüller Africa.

Thirty percent of the contract value will support local businesses through sub-contracting. Steinmüller Africa aims to empower EMEs,

QSEs, Youth- and Disabled-owned businesses through the support of their services, including accommodation, transport, and other consumables. The bulk of Steinmüller Africa's services will be carried out at the eight power station sites, with fabrication of some components at its 30 000 m² Pretoria based facility. The company offers comprehensive expertise for boiler pressure parts, high temperature and pressure steam pipes, as well as in heat exchangers, plants. Services include automated welding, pipe bending, pipe and tube manipulation, plant lifetime extension plans, and project management services. Steinmüller Africa has been Eskom's service provider of choice for the maintenance and servicing of its power plants for almost 60 years.

Enquiries: www.steinemuller.bilfinger.com/

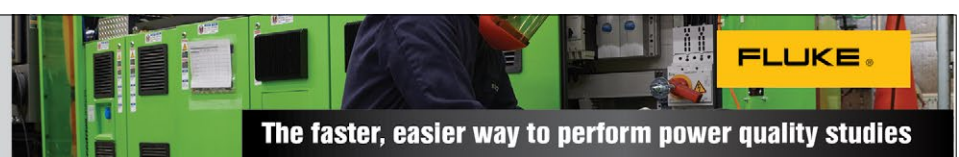


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MANUFACTURERS	CONTACTS	OUTDOOR DECORATIVE LIGHTING	FLAMEPROOF/HAZARDOUS AREA LIGHTING
<p>ABB South Africa</p> <p>Aurora Lighting Africa</p> <p>Ausma</p> <p>BEKA Schröder</p> <p>Caco Trading</p> <p>Eaton Electric</p> <p>Electroweb</p> <p>Fonroche Lighting</p> <p>Genlux Lighting</p> <p>HellermannTyton</p> <p>Krilux</p> <p>LEDVANCE</p> <p>Legrand</p> <p>Marechal Electric Africa</p> <p>Matelec</p> <p>Nordland Lighting</p> <p>Shuttle Lighting</p> <p>Spazio Lighting</p> <p>Superlume</p> <p>Visionware</p>	<p>MCE Electric</p> <p>Sales</p> <p>Megalight Electrical</p> <p>Sales</p> <p>Nordland Lighting</p> <p>Johann Lamprecht</p> <p>Power Panels and Electrical</p> <p>Freddie</p> <p>Radiant Lighting</p> <p>Alfred Weldon</p> <p>Riken South Africa</p> <p>Franza Van Den Heever</p> <p>Shuttle Lighting</p> <p>Tracey Smith</p> <p>Spazio Lighting</p> <p>Sales</p> <p>Superlume</p> <p>Willie Garbers</p> <p>Unique Lighting</p> <p>Michael Smith</p> <p>Visionware</p> <p>Werner Benade</p> <p>Voltex</p> <p>Hugh Ward</p> <p>Voltex Lighting</p> <p>Mark Storer/Mark Rudman</p> <p>Voltex Smart Solutions</p> <p>Juanita Kanagan</p> <p>Waco</p> <p>Jaco Coetzee</p>	<p>Electrahertz</p> <p>Full range of outdoor decorative lighting</p> <p>Electroweb</p> <p>Full range of outdoor decorative lighting</p> <p>Eurolux</p> <p>Full range of outdoor decorative lighting</p> <p>Genlux Lighting</p> <p>Outdoor lights; bulkheads; flood and security lights; solar lights</p> <p>HellermannTyton</p> <p>Gel-filled cable joints for easy and time-saving applications (Relight and Relifix) and two-component gel (Religel)</p> <p>Khanyisa</p> <p>Full range of outdoor decorative lighting</p> <p>K. Light</p> <p>Full range of outdoor decorative lighting</p> <p>Krilux</p> <p>PAR38 LED colour lamps available (red, blue, green, yellow)</p> <p>Lamps Electrical Distributor</p> <p>Full range of outdoor decorative lighting</p> <p>LEDVANCE</p> <p>Full range of outdoor decorative lighting</p> <p>Legrand</p> <p>Weatherproof and vandal resistant bulkhead lights</p> <p>Major Tech</p> <p>Full range of LED garden lights, wall lights ideal for office, home and hotels</p> <p>Matelec</p> <p>Centurion Bulkheads (LED, CFL); Mirage Bulkheads (LED, CFL); PAR 38 (single and double)</p> <p>MCE Electric</p> <p>O-lite outdoor LED aluminium fittings; O-lite outdoor E27 aluminium fittings; O-lite outdoor recessed step light; O-Lite bulkhead fittings</p> <p>Megalight Electrical</p> <p>Full range of outdoor decorative lighting</p> <p>Nordland Lighting</p> <p>Full range of outdoor decorative lighting</p> <p>Power Panels and Electrical</p> <p>Full range of outdoor decorative lighting</p> <p>Radiant Lighting</p> <p>Full range of outdoor decorative lighting</p> <p>Spazio Lighting</p> <p>Full range of outdoor decorative lighting</p> <p>Superlume</p> <p>A wide range of decorative outdoor lighting.</p> <p>Unique Lighting</p> <p>Full range of outdoor decorative lighting</p> <p>Visionware</p> <p>Full range of outdoor decorative lighting</p> <p>Voltex</p> <p>Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED</p> <p>Voltex Lighting</p> <p>Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED</p> <p>Waco</p> <p>Solar street lights, flood lights, bulkheads, sensor lights with conventional control gears; energy efficient and LED</p>	<p>BEKA Schröder</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Bellco</p> <p>Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor</p> <p>Citilec</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Eaton Electric</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Electrahertz</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Eurolux</p> <p>Partial range of flameproof/hazardous area lighting</p> <p>Genlux Lighting</p> <p>Full range of flameproof/hazardous area lighting</p> <p>HellermannTyton</p> <p>Gel-filled cable joints for easy and time-saving applications (Relight and Relifix) and two-component gel (Religel)</p> <p>Khanyisa</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Lamps Electrical Distributor</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Marechal Electric Africa</p> <p>TECHNOR ITALSMEA: Full Range of Ex/ Atex: Fluorescent, LED, Wellglass and Floodlights</p> <p>Matelec</p> <p>Norland agent for Western Cape</p> <p>MCE Electric</p> <p>O-lite LED Floodlights</p> <p>Megalight Electrical</p> <p>Full range of floodlights</p> <p>Nordland Lighting</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Power Panels and Electrical</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Superlume</p> <p>A wide range of zone rated lighting fixtures</p> <p>Unique Lighting</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Visionware</p> <p>Full range of flameproof/hazardous area lighting</p> <p>Voltex</p> <p>Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor</p> <p>Voltex Lighting</p> <p>Distributors of Zone 1, 2 and 22 specialised lighting for indoor and outdoor</p>
DISTRIBUTORS		INDOOR DECORATIVE LIGHTING	ENTERTAINMENT LIGHTING
<p>ACDC Dynamics</p> <p>Aberdare Cables</p> <p>ACTOM Electrical Products</p> <p>ARB Electrical Wholesalers</p> <p>Atlas Group</p> <p>Aurora Lighting</p> <p>Ausma</p> <p>BEKA Schröder</p> <p>Bellco</p> <p>Citilec</p> <p>Crabtree South Africa</p> <p>Denver Technical Products</p> <p>Eaton Electric</p> <p>Electrahertz</p> <p>ElectroMechanica</p> <p>Electroweb</p> <p>Eurolux</p> <p>Genlux Lighting</p> <p>HellermannTyton</p> <p>Khanyisa</p> <p>K. Light</p> <p>Lamps Electrical Distributor</p> <p>LS Lighting Structures</p> <p>Lumax Lighting</p> <p>Major Tech</p> <p>Matelec</p> <p>MCE Electric</p> <p>Megalight Electrical</p> <p>Power Panels and Electrical</p> <p>Radiant Lighting</p> <p>Riken South Africa</p> <p>Spazio Lighting</p> <p>Superlume</p> <p>Unique Lighting</p> <p>Voltex</p> <p>Voltex Lighting</p> <p>Voltex Smart Solutions</p> <p>Waco</p>	<p>MCE Electric</p> <p>Full range of indoor decorative lighting</p> <p>BEKA Schröder</p> <p>Full range of indoor decorative lighting luminaires</p> <p>Bellco</p> <p>Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED</p> <p>Caco Trading</p> <p>Full range of indoor decorative lighting</p> <p>Citilec</p> <p>Full range of indoor decorative lighting</p> <p>Crabtree South Africa</p> <p>Acrylic diffuser with conical light control prisms (single; double – new Econo narrow body; and wide body decorative)</p> <p>Electrahertz</p> <p>Full range of indoor decorative lighting</p> <p>Electroweb</p> <p>Full range of indoor decorative lighting</p> <p>Eurolux</p> <p>Full range of indoor decorative lighting</p> <p>Genlux Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Khanyisa</p> <p>Full range of indoor decorative lighting</p> <p>K. Light</p> <p>Full range of indoor decorative lighting</p> <p>Krilux</p> <p>Extensive range of LED filament lamps available (G125, G95, ST64, PEAR, A60, C37, G45)</p> <p>Lamps Electrical Distributor</p> <p>Full range of indoor decorative lighting</p> <p>LEDVANCE</p> <p>Full range of indoor decorative lighting</p> <p>Lumax Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Major Tech</p> <p>Full range of LED wall lights, picture and mirror lights, step lights and ceiling lights ideal for office, home, hotels and general lighting applications</p> <p>MCE Electric</p> <p>O-lite LED candle bulbs, globes and lamps; O-Lite LED Cyclops panel lights; O-Lite LED downlights with built-in drivers</p> <p>Megalight Electrical</p> <p>Full range of indoor decorative lighting</p> <p>Power Panels and Electrical</p> <p>Full range of indoor decorative lighting</p> <p>Radiant Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Shuttle Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Spazio Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Superlume</p> <p>A new Elor Decorative Indoor lighting range and new Bathroom lighting range.</p> <p>Unique Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Visionware</p> <p>Full range of indoor decorative lighting</p> <p>Voltex</p> <p>Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED</p> <p>Voltex Lighting</p> <p>Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED</p> <p>Waco</p> <p>Distributor of a wide variety of reputable brands, designs and specifications,for example, energy saving and LED</p>	<p>ABB South Africa</p> <p>Full range of emergency lighting</p> <p>ACDC Dynamics</p> <p>Full range of emergency lighting: wall mount, double-sided, legends, bulkhead and Eco Lights ranging from IP42 to IP65</p> <p>ARB Electrical Wholesalers</p> <p>Full range of emergency lighting</p> <p>Atlas Group</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Aurora Lighting Africa</p> <p>Full range of emergency lighting</p> <p>Ausma</p> <p>Full range of emergency lighting</p> <p>BEKA Schröder</p> <p>Full range of emergency lighting</p> <p>Bellco</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Citilec</p> <p>Full range of emergency lighting</p> <p>Denver Technical Products</p> <p>Mains fail safety lighting; track mounted lights</p> <p>Eaton Electric</p> <p>Full range of emergency lighting</p> <p>Electrahertz</p> <p>Full range of emergency lighting</p> <p>Electroweb</p> <p>Full range of emergency lighting</p> <p>Genlux Lighting</p> <p>Full range of emergency lighting</p> <p>HellermannTyton</p> <p>Adjustable LED Torch LED (HEADLIGHTPRO)</p> <p>Khanyisa</p> <p>Full range of emergency lighting</p> <p>LEDVANCE</p> <p>Full range of emergency lighting</p> <p>Legrand</p> <p>Full range of emergency lighting units ranging from fluorescent to LED, with or without battery backup</p> <p>Major Tech</p> <p>Full range of portable lighting – in LED and fluorescent – ideal for power outages, camping, fishing, hiking, hotel, office and warehouse applications</p> <p>Megalight Electrical</p> <p>Full range of emergency lighting</p> <p>Nordland Lighting</p> <p>Full range of emergency lighting</p> <p>Power Panels and Electrical</p> <p>Full range of emergency lighting</p> <p>Radiant Lighting</p> <p>Full range of emergency lighting</p> <p>Riken South Africa</p> <p>Full range of emergency lighting</p> <p>Spazio Lighting</p> <p>Full range of emergency lighting</p> <p>Superlume</p> <p>A wide range of emergency lighting</p> <p>Unique Lighting</p> <p>Full range of emergency lighting</p> <p>Visionware</p> <p>Full range of emergency lighting</p> <p>Voltex</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Voltex Lighting</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Waco</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p>	<p>ACDC Dynamics</p> <p>Full range of entertainment lighting: flexible and rigid LED strip lighting, LED bar lights (IP65), LED border lights (IP65), disco lights, stage flood lights, lasers and mini laser lights, colour changing LED strip lights, high power LED lights and various Christmas/festive lighting</p> <p>ACTOM Electrical Products</p> <p>Distributors of Opple and OSRAM brand entertainment lighting</p> <p>ARB Electrical Wholesalers</p> <p>Full range of entertainment lighting</p> <p>Atlas Group</p> <p>Available on request, e.g. spotlights, follow spots and strobe lights</p> <p>Aurora Lighting Africa</p> <p>Aurora Lighting and Enlite Lighting entertainment lighting</p> <p>Bellco</p> <p>Available on request, e.g. spotlights, follow spots and strobe lights</p> <p>Electrahertz</p> <p>Full range of entertainment lighting</p> <p>Eurolux</p> <p>Partial range of entertainment lighting</p> <p>Genlux Lighting</p> <p>Full range of entertainment lighting</p> <p>HellermannTyton</p> <p>Gel-filled cable joints for easy and time-saving applications (Relight and Relifix) and two-component gel (Religel)</p> <p>Khanyisa</p> <p>Full range of entertainment lighting</p> <p>MCE Electric</p> <p>O-lite LED strip and rope lights; O-lite LED plinth, cabinet and reading lights</p> <p>Megalight Electrical</p> <p>Full range of entertainment lighting</p> <p>Power Panels and Electrical</p> <p>Full range of entertainment lighting</p> <p>Radiant Lighting</p> <p>Full range of entertainment lighting</p> <p>Shuttle Lighting</p> <p>Full range of entertainment lighting</p> <p>Voltex</p> <p>Available on request, e.g. spotlights, follow spots and strobe lights</p>
CONTACTS		EMERGENCY LIGHTING	STREET LIGHTING
<p>ABB South Africa</p> <p>Claudeen Forbes</p> <p>Aberdare Cables</p> <p>Jyosthie Dhunes</p> <p>ACDC Dynamics</p> <p>Elmari Erasmus/Dirk Klynsmith</p> <p>ACTOM Electrical Products</p> <p>Millicent Mabote</p> <p>ARB Electrical Wholesalers</p> <p>Sales</p> <p>Atlas Group</p> <p>Annie Storer/Imran Gaffoor</p> <p>Aurora Lighting Africa</p> <p>Olivia Tait</p> <p>Ausma</p> <p>Ares</p> <p>BEKA Schröder</p> <p>Grant Combrink</p> <p>Bellco</p> <p>Shiraj Wentzel</p> <p>Caco Trading</p> <p>Christopher Hinckley</p> <p>Citilec</p> <p>Geoffrey Bower</p> <p>Crabtree South Africa</p> <p>Sales</p> <p>Denver Technical Products</p> <p>Mervyn Stocks</p> <p>Eaton Electric</p> <p>Marlene Coetzee</p> <p>Eurolux</p> <p>Sales</p> <p>Electrahertz</p> <p>Frank Proude (Pta) Peet Lourens (Jhb)</p> <p>ElectraMechanica</p> <p>Vinson Moore</p> <p>Electroweb</p> <p>Deon van Vuuren</p> <p>Fonroche Lighting</p> <p>Fredrik Hagelberg</p> <p>Genlux Lighting</p> <p>Glen Hill</p> <p>HellermannTyton</p> <p>Ingrid Nicolaus</p> <p>Khanyisa</p> <p>Dominic Kalil</p> <p>K. Light</p> <p>Eli Kalmi</p> <p>Krilux</p> <p>Krisem</p> <p>Lamps Electrical Distributor</p> <p>Shaun</p> <p>LEDVANCE</p> <p>LEDVANCE Head office</p> <p>Legrand</p> <p>Johan Bosch</p> <p>LS Lighting Structures</p> <p>Juanita Kanagan</p> <p>Lumax Lighting</p> <p>Sales</p> <p>Major Tech</p> <p>Werner Grobbelaar</p> <p>Marechal Electric Africa</p> <p>Sales</p> <p>Matelec</p> <p>Yann Leclezio</p>	<p>MCE Electric</p> <p>Full range of indoor decorative lighting</p> <p>BEKA Schröder</p> <p>Full range of indoor decorative lighting luminaires</p> <p>Bellco</p> <p>Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED</p> <p>Caco Trading</p> <p>Full range of indoor decorative lighting</p> <p>Citilec</p> <p>Full range of indoor decorative lighting</p> <p>Crabtree South Africa</p> <p>Acrylic diffuser with conical light control prisms (single; double – new Econo narrow body; and wide body decorative)</p> <p>Electrahertz</p> <p>Full range of indoor decorative lighting</p> <p>Electroweb</p> <p>Full range of indoor decorative lighting</p> <p>Eurolux</p> <p>Full range of indoor decorative lighting</p> <p>Genlux Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Khanyisa</p> <p>Full range of indoor decorative lighting</p> <p>K. Light</p> <p>Full range of indoor decorative lighting</p> <p>Krilux</p> <p>Extensive range of LED filament lamps available (G125, G95, ST64, PEAR, A60, C37, G45)</p> <p>Lamps Electrical Distributor</p> <p>Full range of indoor decorative lighting</p> <p>LEDVANCE</p> <p>Full range of indoor decorative lighting</p> <p>Lumax Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Major Tech</p> <p>Full range of LED wall lights, picture and mirror lights, step lights and ceiling lights ideal for office, home, hotels and general lighting applications</p> <p>MCE Electric</p> <p>O-lite LED candle bulbs, globes and lamps; O-Lite LED Cyclops panel lights; O-Lite LED downlights with built-in drivers</p> <p>Megalight Electrical</p> <p>Full range of indoor decorative lighting</p> <p>Power Panels and Electrical</p> <p>Full range of indoor decorative lighting</p> <p>Radiant Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Shuttle Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Spazio Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Superlume</p> <p>A new Elor Decorative Indoor lighting range and new Bathroom lighting range.</p> <p>Unique Lighting</p> <p>Full range of indoor decorative lighting</p> <p>Visionware</p> <p>Full range of indoor decorative lighting</p> <p>Voltex</p> <p>Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED</p> <p>Voltex Lighting</p> <p>Distributor of a wide variety of reputable brands, designs and specifications e.g. energy saving and LED</p> <p>Waco</p> <p>Distributor of a wide variety of reputable brands, designs and specifications,for example, energy saving and LED</p>	<p>ABB South Africa</p> <p>Full range of emergency lighting</p> <p>ACDC Dynamics</p> <p>Full range of emergency lighting: wall mount, double-sided, legends, bulkhead and Eco Lights ranging from IP42 to IP65</p> <p>ARB Electrical Wholesalers</p> <p>Full range of emergency lighting</p> <p>Atlas Group</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Aurora Lighting Africa</p> <p>Full range of emergency lighting</p> <p>Ausma</p> <p>Full range of emergency lighting</p> <p>BEKA Schröder</p> <p>Full range of emergency lighting</p> <p>Bellco</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Citilec</p> <p>Full range of emergency lighting</p> <p>Denver Technical Products</p> <p>Mains fail safety lighting; track mounted lights</p> <p>Eaton Electric</p> <p>Full range of emergency lighting</p> <p>Electrahertz</p> <p>Full range of emergency lighting</p> <p>Electroweb</p> <p>Full range of emergency lighting</p> <p>Genlux Lighting</p> <p>Full range of emergency lighting</p> <p>HellermannTyton</p> <p>Adjustable LED Torch LED (HEADLIGHTPRO)</p> <p>Khanyisa</p> <p>Full range of emergency lighting</p> <p>LEDVANCE</p> <p>Full range of emergency lighting</p> <p>Legrand</p> <p>Full range of emergency lighting units ranging from fluorescent to LED, with or without battery backup</p> <p>Major Tech</p> <p>Full range of portable lighting – in LED and fluorescent – ideal for power outages, camping, fishing, hiking, hotel, office and warehouse applications</p> <p>Megalight Electrical</p> <p>Full range of emergency lighting</p> <p>Nordland Lighting</p> <p>Full range of emergency lighting</p> <p>Power Panels and Electrical</p> <p>Full range of emergency lighting</p> <p>Radiant Lighting</p> <p>Full range of emergency lighting</p> <p>Riken South Africa</p> <p>Full range of emergency lighting</p> <p>Spazio Lighting</p> <p>Full range of emergency lighting</p> <p>Superlume</p> <p>A wide range of emergency lighting</p> <p>Unique Lighting</p> <p>Full range of emergency lighting</p> <p>Visionware</p> <p>Full range of emergency lighting</p> <p>Voltex</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Voltex Lighting</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p> <p>Waco</p> <p>Distributors of Voltex lighting: emergency and other signs; emergency control gear for fluorescent lights as specified in the OHS Act</p>	<p>ACDC Dynamics</p> <p>Full range of street lighting: solar lights, LED lights, traffic lights, high power LED street lights (IP65), high power single LED chip lights in die-cast aluminium and Technopolymer</p> <p>ACTOM Electrical Products</p> <p>Distributors Genlux brand imported and local manufactured product</p> <p>ARB Electrical Wholesalers</p> <p>Full range of street lighting luminaires</p> <p>Atlas Group</p> <p>Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear,energy efficient and LED</p> <p>BEKA Schröder</p> <p>Full range of street lighting luminaires</p> <p>Bellco</p> <p>Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear,energy efficient and LED</p> <p>Citilec</p> <p>Full range of street lighting</p> <p>Eaton Electric</p> <p>Full range of street lighting</p> <p>Electrahertz</p> <p>Full range of street lighting</p> <p>Electroweb</p> <p>Full range of street lighting</p> <p>Eurolux</p> <p>Partial range of street lighting</p> <p>Fonroche Lighting</p> <p>Full range of street lighting</p> <p>Genlux Lighting</p> <p>Full range of street lighting</p> <p>HellermannTyton</p> <p>Gel-filled cable joints for easy and time-saving applications (Relight and Relifix) and two-component gel (Religel)</p> <p>Khanyisa</p> <p>Full range of street lighting</p> <p>Krilux</p> <p>Full range of HID lamps available (metal halide, HPS, mercury vapour, blended)</p> <p>LEDVANCE</p> <p>Full range of street lighting</p> <p>LS Lighting Structures</p> <p>Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear,energy efficient and LED</p> <p>Lumax Lighting</p> <p>Full range of street lighting luminaires</p> <p>Matelec</p> <p>Nema Photocell</p> <p>Megalight Electrical</p> <p>Full range of street lighting</p> <p>Nordland Lighting</p> <p>Full range of street lighting</p>



STREET LIGHTING	OFFICE LIGHTING	STADIUM LIGHTING
<p>Power Panels and Electrical Full range of street lighting</p> <p>Riken South Africa Full range of street lighting</p> <p>Superlume A wide range of street lighting options from HID to LED</p> <p>Unique Lighting Full range of street lighting</p> <p>Visionware Full range of street lighting</p> <p>Voltex Full range of street lighting luminaires</p> <p>Voltex Smart Solutions Masts and poles available on request; solar street lights; floodlights; bulkheads; sensor lights with conventional control gear, energy efficient and LED</p>	<p>Electrahertz Full range of office lighting</p> <p>ElectroMechanica Slim LED Panel 600 x 600 – 15 W Recessed Downlights. Osram LEDVANCE products.</p> <p>Eurolux Full range of office lighting</p> <p>Genlux Lighting Full range of office lighting</p> <p>HellermannTyton Inspection camera - wireless image and video transmission via WiFi (Cable Scout Cam)</p> <p>Khanyisa Full range of office lighting</p> <p>K. Light Full range of office lighting</p> <p>Krilux Full range of LED lamps available (plastic+alu, LED filaments)</p> <p>Lamps Electrical Distributor Full range of office lighting</p> <p>LEDVANCE Full range of office lighting</p> <p>Lumax Lighting Full range of office lighting</p> <p>Major Tech Wide range of energy saving LED lighting products</p> <p>MCE Electric O-lite LED floodlights; O-lite LED panel lights; O-lite LED tubes and fittings</p> <p>Megalight Electrical Full range of office lighting</p> <p>Power Panels and Electrical Full range of office lighting</p> <p>Radiant Lighting Full range of office lighting luminaires</p> <p>Riken South Africa Full range of office lighting Shuttle Lighting</p> <p>Spazio Lighting Full range of office lighting</p> <p>Superlume A wide range of office lighting solutions, including a new 'Lighting Solutions for Business Parks' application on our website</p> <p>Unique Lighting Full range of office lighting</p> <p>Visionware Full range of office lighting</p> <p>Voltex Recessed and surface lighting for all applications; energy efficient and LED light sources</p> <p>Voltex Lighting Recessed and surface lighting for all applications; energy efficient and LED light sources</p> <p>Waco Recessed and surface lighting for all applications; energy efficient and LED light sources</p>	<p>ARB Electrical Wholesalers Full range of stadium lighting</p> <p>Atlas Group Floodlights; masts; poles for mounting</p> <p>Aurora Lighting Africa Full range of stadium lighting</p> <p>BEKA Schröder Full range of stadium lighting luminaires</p> <p>Bellco Floodlights; masts; poles for mounting</p> <p>Crabtree South Africa All-purpose energy saving floodlights</p> <p>Eaton Electric Full range of stadium lighting</p> <p>Electrahertz Full range of stadium lighting</p> <p>Electroweb Full range of stadium lighting</p> <p>Eurolux Full range of stadium lighting</p> <p>Genlux Lighting Full range of stadium lighting</p> <p>Khanyisa Full range of stadium lighting</p> <p>Krilux Full range of HID lamps available (metal halide, HPS, mercury vapour, blended)</p> <p>Lamps Electrical Distributor Full range of stadium lighting</p> <p>LEDVANCE Full range of stadium lighting</p> <p>LS Lighting Structures Floodlights; masts; poles for mounting</p> <p>Lumax Lighting Full range of stadium lighting</p> <p>Major Tech Range of high power LED floodlights</p> <p>Megalight Electrical Full range of stadium lighting</p> <p>Nordland Lighting Full range of stadium lighting</p> <p>Power Panels and Electrical Full range of stadium lighting</p> <p>Superlume A range of stadium floodlights</p> <p>Unique Lighting Full range of stadium lighting</p> <p>Visionware Full range of stadium lighting</p> <p>Voltex Floodlights; masts; poles for mounting</p>
INDUSTRIAL LIGHTING	RETAIL LIGHTING	EXHIBITION LIGHTING
<p>ACDC Dynamics Full range of industrial lighting: IP65 highbays, lowbays, bulkheads in aluminium and acrylic, surface-mounted and recessed fluorescent fittings, downlighting</p> <p>ACTOM Electrical Products Distributors of imported and local manufactured highbays, lowbays, bulkheads</p> <p>ARB Electrical Wholesalers Full range of industrial lighting</p> <p>Atlas Group Complete range available; bulkheads, floodlights and weatherproof; energy efficient high bays and low bays</p> <p>Aurora Lighting Africa Aurora Lighting and Enlite Lighting industrial lighting</p> <p>Ausma Full range of industrial lighting</p> <p>BEKA Schröder Full range of industrial lighting luminaires</p> <p>Bellco Full range of industrial lighting luminaires</p> <p>Caco Trading Full range of industrial lighting</p> <p>Citilec Full range of industrial lighting</p> <p>Crabtree South Africa Hi-bay luminaires</p> <p>Denver Technical Products Mains fail safety lighting</p> <p>Eaton Electric Full range of industrial lighting</p> <p>Electrahertz Full range of industrial lighting</p> <p>Electroweb Full range of industrial lighting</p> <p>ElectroMechanica IP65 4 ft Damp Proof and IP65 High Bay</p> <p>Eurolux Full range of industrial lighting</p> <p>Osram LEDVANCE products.</p> <p>Eurolux Full range of industrial lighting</p> <p>Genlux Lighting Full range of industrial lighting</p> <p>HellermannTyton Gel-filled cable joints for easy and time-saving applications (Relight and Relifix) and two-component gel (Religel). Inspection camera - wireless image and video transmission via WiFi (Cable Scout Cam)</p> <p>Khanyisa Full range of industrial lighting</p> <p>Krilux Full range of HID lamps available (metal halide, HPS, mercury vapour, blended)</p> <p>LEDVANCE Full range of industrial lighting Legrand</p> <p>Weatherproof bulkhead lights as well as vandal-resistant units</p> <p>Lumax Lighting Full range of industrial lighting</p> <p>Major Tech Range of high power LED floodlights</p> <p>Matelec Zodion Photocell Nema</p> <p>MCE Electric O-lite LED Floodlights; O-lite LED panel lights; O-lite LED tubes and fittings</p> <p>Megalight Electrical Full range of industrial lighting</p> <p>Nordland Lighting Full range of industrial lighting luminaires</p> <p>Power Panels and Electrical Full range of industrial lighting luminaires</p> <p>Radiant Lighting Full range of industrial lighting luminaires</p> <p>Riken South Africa Full range of industrial lighting</p> <p>Shuttle Lighting Full range of industrial lighting luminaires</p> <p>Spazio Lighting Full range of industrial lighting</p> <p>Superlume A wide range of industrial lighting options including LED, HID and fluorescent</p> <p>Unique Lighting Full range of industrial lighting luminaires</p> <p>Visionware Full range of industrial lighting luminaires</p> <p>Voltex Complete range available; bulkheads, floodlights and weatherproof; energy efficient high bays and low bays</p> <p>Voltex Lighting Complete range available; bulkheads, floodlights and weatherproof; energy efficient high bays and low bays</p>	<p>ACDC Dynamics Full range of retail lighting: downlights, LED flexible and rigid strip lighting, LED track lighting, under-counter LED fittings, LED single modules, light box high power LEDs, LED neon flex lights</p> <p>ACTOM Electrical Products Distributors of Opple LED lighting solutions</p> <p>ARB Electrical Wholesalers Full range of retail lighting</p> <p>Atlas Group Full range available; troffer fittings; track lights; downlights and spots</p> <p>Aurora Lighting Africa Aurora Lighting Africa retail lighting</p> <p>Ausma Full range of retail lighting</p> <p>BEKA Schröder Full range of retail lighting luminaires</p> <p>Bellco Full range available; troffer fittings; track lights; downlights and spots</p> <p>Caco Trading Full range of retail lighting</p> <p>Citilec Full range of retail lighting</p> <p>Denver Technical Products Mains fail safety lighting</p> <p>Eaton Electric Full range of retail lighting</p> <p>Electrahertz Full range of retail lighting</p> <p>Electroweb Full range of retail lighting</p> <p>Eurolux Full range of retail lighting</p> <p>Genlux Lighting Full range of retail lighting luminaires</p> <p>HellermannTyton Inspection camera - wireless image and video transmission via WiFi (Cable Scout Cam)</p> <p>Khanyisa Full range of retail lighting luminaires</p> <p>K. Light Full range of retail lighting</p> <p>Lamps Electrical Distributor Full range of retail lighting</p> <p>LEDVANCE Full range of retail lighting</p> <p>Lumax Lighting Full range of retail lighting</p> <p>Major Tech Wide range of LED lighting to meet retail applications</p> <p>Matelec Gladiator LED utility light (12 W)</p> <p>MCE Electric O-lite LED floodlights; O-lite LED panel lights; O-lite LED tubes and fittings</p> <p>Megalight Electrical Full range of retail lighting</p> <p>Power Panels and Electrical Full range of retail lighting</p> <p>Radiant Lighting Full range of retail lighting</p> <p>Shuttle Lighting Full range of retail lighting</p> <p>Spazio Lighting Full range of retail lighting</p> <p>Superlume Full range of retail lighting</p> <p>Riken South Africa Full range of retail lighting Unique Lighting</p> <p>Visionware Full range of retail lighting</p> <p>Voltex Full range available; troffer fittings; track lights; downlights and spots</p> <p>Voltex Lighting Full range available; troffer fittings; track lights; downlights and spots</p> <p>Waco Full range available; troffer fittings; track lights; downlights and spots</p>	<p>ACDC Dynamics ACDC supports exhibition stand builders with a wide range of lighting, spots, downlighting and floodlights</p> <p>ACTOM Electrical Products Distributors of LED lighting solutions</p> <p>ARB Electrical Wholesalers Full range of exhibition lighting</p> <p>Atlas Group Available on request to customer specifications</p> <p>Aurora Lighting Africa Full range of exhibition lighting</p> <p>Citilec Full range of exhibition lighting</p> <p>Eaton Electric Full range of exhibition lighting</p> <p>Electrahertz Full range of exhibition lighting</p> <p>Electroweb Full range of exhibition lighting</p> <p>Eurolux Full range of exhibition lighting</p> <p>Genlux Lighting Full range of exhibition lighting</p> <p>Khanyisa Full range of exhibition lighting</p> <p>Major Tech Wide range of LED lighting from spotlights, downlighting and floodlights</p> <p>MCE Electric O-lite LED Floodlights; O-lite LED panel lights; O-lite LED tubes and fittings; O-lite LED downlights; O-lite plinth and cabinet lights</p> <p>Megalight Electrical Full range of exhibition lighting</p> <p>Power Panels and Electrical Full range of exhibition lighting</p> <p>Radiant Lighting Full range of exhibition lighting</p>
SMART LIGHTING		
<p>Aurora Lighting Africa Full range of smart lighting</p> <p>BEKA Schröder Full range of smart lighting</p> <p>Electrahertz Full range of smart lighting</p> <p>Electroweb Full range of smart lighting</p> <p>Eurolux Partial range of smart lighting</p> <p>Fonroche Lighting Smart street lighting</p> <p>HellermannTyton Selection of Wi-Fi timers (TWSTM2and TWSR10) and relays to control all your lights remotely via an APP</p> <p>Krilux A60 and GU10 with built-in day/night sensor function</p> <p>LEDVANCE Full range of smart lighting</p> <p>Matelec Dimmable 12 W LED bulkhead</p> <p>Megalight Electrical Full range of smart lighting</p> <p>Power Panels and Electrical Full range of smart lighting</p> <p>Radiant Lighting Full range of smart lighting</p> <p>Superlume New range of Smart WiFi switches</p>		

STREET LIGHTING
<p>Aberdare Cables Surface decorative fittings – switch start and electronic; recessed – prismatic and low brightness – switch start and electronic</p> <p>ACDC Dynamics Full range of office lighting: CFL and LED and high power LED downlights, surface and recess wall lighting; bulkheads; T5 and T8 linear lights, bay lights, glare reducing LED lamps</p> <p>ACTOM Electrical Products Distributors of imported and local manufactured downlighters, fluorescent</p> <p>ARB Electrical Wholesalers Full range of office lighting luminaires</p> <p>Atlas Group Recessed and surface lighting for all applications; energy efficient and LED light sources</p> <p>Aurora Lighting Africa Aurora Lighting and Enlite Lighting office lighting</p> <p>Ausma Full range of office lighting</p> <p>BEKA Schröder Full range of office lighting luminaires</p> <p>Bellco Recessed and surface lighting for all applications; energy efficient and LED light sources</p> <p>Caco Trading Full range of office lighting</p> <p>Citilec Full range of office lighting</p> <p>Denver Technical Products Mains fail safety lighting</p> <p>Eaton Electric Full range of office lighting</p>
OFFICE LIGHTING
<p>ACDC Dynamics Full range of stadium lighting, including Gewiss Horus and Titano floodlights</p> <p>ACTOM Electrical Products Distributors of imported and local manufactured product</p>
STADIUM LIGHTING
<p>ACDC Dynamics Full range of stadium lighting, including Gewiss Horus and Titano floodlights</p> <p>ACTOM Electrical Products Distributors of imported and local manufactured product</p>



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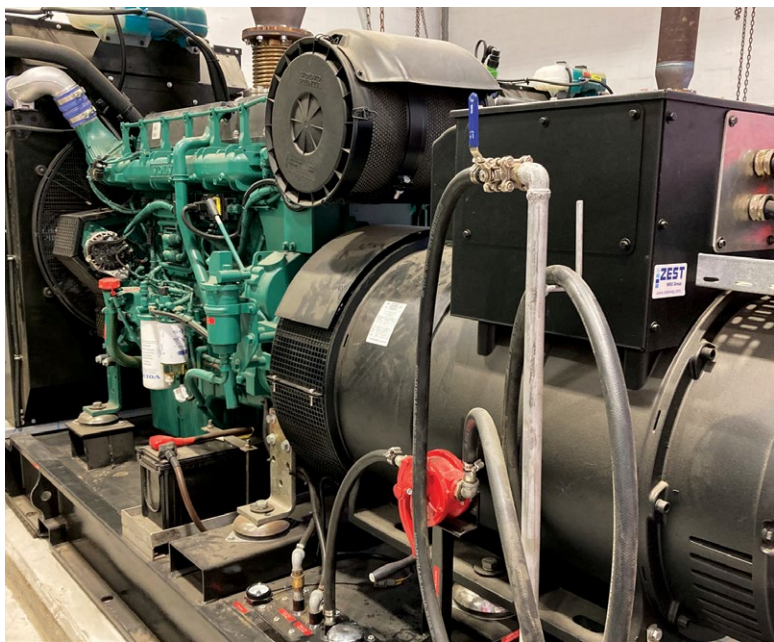


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Seamless plant switchovers on Zest WEG genset solutions



The 550 kVA gensets in the generator plant room on-site.



A Zest WEG genset powered by a Volvo engine.

As power outages and loadshedding continue to plague the optimal performance of industrial and mining process plants, Zest WEG is providing standby power solutions that ensure no power loss when these disruptions strike.

According to Damian Schutte, electrical engineering team leader at Zest WEG, many plants face complex and lengthy restart routines if there is a power failure on the main grid and this severely compromises plant efficiencies.

"With our design and manufacturing experience, we can provide genset solutions that can be started up prior to an outage, so that the plant can continue operating seamlessly while switching from utility to standby power, and back again to the utility," says Schutte.

Adding to this, he highlights that Zest WEG's customer-focused approach means that it responds positively to the challenges that companies face in scheduling and implementing these backup systems. In a recent project in the Western Cape, the Zest WEG team provided a plant to a customer in the marine sector with a customised genset solution to suit its specific needs and also help the customer face unexpected circumstances.

The plant was experiencing considerable downtime due to loadshedding by the national utility, as it would take some time to bring the plant back to operation. The engineered solution includes six 550 kVA generators, two 11 kV transformers, medium-voltage (MV) switchgear, and breakers for synchronis-

ing between generators themselves and also with the utility.

"The smaller size of generator provides flexibility and was a cost saving, as some units can be switched off depending on the site load requirement," he says.

When frequent loadshedding was suddenly announced by the utility, the customer asked Zest WEG for an urgent temporary solution while continuing to implement the project. The team brought three of the gensets on-stream to keep the plant functional until the planned solution was in place.

Bradley van der Spreng, business development consultant at Zest WEG, notes that all major components for power plant solutions such as these can be manufactured and assembled by Zest WEG and Brazil based parent company, WEG. The company can, however, accommodate a client's specifications should they refer to a nominated supplier, allowing the gensets to be built for easier on-site installation.

"Our extensive engineering and programming on these systems makes it vital that they are fully tested before being delivered to site," says van der Spreng. "Whatever we specify in the contract can usually be tested in-house at our advanced facility in Cape Town."

Customers are invited to attend the factory acceptance test (FAT), which includes load testing of the generators at different loads up to 110%, synchronisation checks, and MV tests if this is part of the scope.

Enquiries: www.zestweg.com

Hitachi Energy achieves 100% fossil free electricity in own operations



The Zhongshan factory in China generates nearly 20% of its total energy consumption from solar panels.

Hitachi Energy has announced that it has achieved the first-step target set out in its Sustainability 2030 plan – the use of 100% fossil-free electricity in its own operations. The company is driving towards being carbon-neutral in its own operations by 2030, in line with its Purpose, 'Advancing a sustainable energy future for all'.

"By achieving 100% fossil-free electricity in our own operations, we have reduced our CO₂ equivalent emissions by over 50% compared to 2019," says Claudio Facchin, CEO of Hitachi Energy. He continued, "The Net Zero challenge is global and it's about acting now, innovating and collaborating across countries, industries and societies. Together with customers, partners, and all stakeholders, we are advancing the world's energy system to be more sustainable, flexible and secure."

The targeted 50% reduction achieved ahead of plan will amount to approximately 175 kilo tons of CO₂e per year, equivalent to removing over 35 000 passenger cars off the road.

To achieve 100% fossil-free electricity in its own operations – and in support of the Hitachi Group's carbon-neutrality goal – the company has pursued a number of pathways including supporting projects to generate its own fossil-free electricity, such as installing solar roof panels combined with e-mesh™ digital solutions for distributed energy resources maximizing energy efficiency and minimising CO₂ emissions. In its Zhongshan factory in China, the company is generating nearly 20% of its total energy consumption from solar panels. In its first year of operation, the power generated at the factory is expected to reach 1 510 megawatt hours (MWh), contributing to the reduction in annual carbon emissions by more than 1 000 tons.

To achieve 100% fossil-free electricity, Hitachi Energy has also switched to green tariffs, bought Energy Attribute Certificates

(EACs), and signed Power Purchase Agreements (PPAs) across its operations and facilities in 90 countries.

Looking ahead, Hitachi Energy is continuing to invest in its journey towards carbon-neutrality by further increasing energy efficiency, as well as electrifying its own operations. In Ludvika, Sweden, the company is now using 100% renewable electricity generated from hydropower and from solar panels to support its operations. Ludvika, which is one of Hitachi Energy's largest production facilities, has gone beyond tackling its electricity supply and is now close to removing the use of all fossil fuels from the whole of its operations.

The company has a track record of implementing its own technologies in its operations to enable the integration of renewable energy. For example, in 2015 its South Africa operations installed a 750 kW rooftop photovoltaic plant and a 1 MVA/380 kWh battery-based PowerStore™ for enhancing the use of renewables and providing a continuous supply of power.

Through its Sustainability 2030 plan and targets, the company reinforces its commitment to accelerating actions driving business in a sustainable way. Based around four pillars – Planet, People, Peace, and Partnerships – the strategy draws from the UN's Sustainable Development Goals (SDGs), with specific focus on the following eight: 3 (Good health and well-being), 4 (Quality education), 5 (Gender equality), 6 (Clean water and sanitation), 7 (Affordable and clean energy), 12 (Responsible consumption and production), 16 (Peace, justice and strong institutions); and 17 (Partnerships for the Goals). In line with these SDGs, each pillar has corresponding targets that drive the business to contribute social, environmental, and economic value.

Enquiries: www.hitachienergy.com

Siemens joins forces with LG Energy Solution: towards more intelligent, leaner and cleaner battery production

Siemens and LG Energy Solution (LGES), a leading global battery manufacturer signed a Memorandum of Understanding (MoU) to increase cooperation in the field of battery manufacturing, particularly the digitization of production process. Under the terms of the agreement, which was signed by Cedrik Neike, Member of the Managing Board of Siemens AG and CEO Digital Industries and Young Soo Kwon, CEO of LG Energy Solution and at LGES's headquarters in Seoul, the two companies plan to take steps to promote the process of battery manufacturing intelligence at LGES production facilities worldwide.

"We believe the partnership with Siemens AG will efficiently promote LG Energy Solution's digitized manufacturing processes, ultimately enabling LGES to provide the finest services to our clients," said Young Soo Kwon, CEO of LG Energy Solution. "The process of manufacturing intelligence in producing batteries is becoming a critical factor, especially as LGES continues to advance the quality of its products while expanding production base worldwide."

"The future of carbon-neutral mobility requires high-performing batteries. They are at the heart of the electric vehicle market. Siemens and LG ES will work on quantum leap in battery manufacturing. We are proud that technology from Siemens enables this momentous transformation", said Cedrik Neike, Member of the Managing Board of Siemens AG and CEO Digital Industries. "With this cooperation, we underscore Siemens' positioning as a focused technology company. Joining forces with the world's

leading battery manufacturer allows us to showcase our deep domain know-how in the battery market."

Through this strategic collaboration, LGES will be able to implement smart battery manufacturing processes at global factories. The partnerships' first line of collaboration will be realized at Ultium Cells LLC, a joint venture of LG Energy Solution and General Motors, located in Tennessee, which is expected to begin production in 2023. Furthermore, the collaboration will allow LGES to cut back on Carbon footprint in its entire supply chain management, as it aims to boost sustainability in its business operations.

As a leading supplier in the field of automation and industrial software, Siemens offers a comprehensive digital enterprise portfolio and domain knowledge in the battery industry. This allows LGES to accelerate its digital transformation strategy. In addition, Siemens AG will contribute to the development of the rapid growing battery industry by solidifying its position as a technology partner for the advancement and efficiency of battery manufacturing technology.

The companies will also collaborate on building a digital twin roadmap to ensure stable operations at facilities to offer first-rate quality products at the right time. Together, the companies will also develop training programs within the Institute of Battery Technology (IBT) for academic students set to work for LGES.

Enquiries: www.siemens.com



Three-phase power quality analysers eliminate complexities

Power quality measurements can be complex to set up and frustrating when critical events are missed.

Comtest, Fluke's Local Channel Partner, has introduced the new Fluke 1770 Series that captures more than 500 power quality parameters by default so critical power quality events are never missed – from fast transients up to 8 kV, harmonics up to 30 kHz, and dips and swells, as well as the voltage, current, and power measurements that enable technicians to characterize electrical systems.

"The Fluke 1770 Series walks technicians through the whole set up to eliminate any measurement errors and ensuring all the correct parameters are selected," said Frank Healy, Product Manager. "The 1770 Series helps technicians identify issues faster and in a clearer manner to ensure the right data is always collected."

The 1770 Series features:

Automatic measurement of power and power quality parameters: Critical power quality data is captured as soon as a session is started, without extensive setup or selections.

Intuitive user interface: The streamlined user interface makes it easy to navigate between measurement parameters

like V/A/Hz, power, dips and swells, harmonics, unbalance, or PQ health at the push of a button.

High-speed voltage transient capture: Capture damaging high-speed, high magnitude transients to mitigate their effects before equipment fails.

Capture, troubleshoot, and mitigate voltage transients

Voltage transients negatively impact otherwise healthy systems every day, and their potential to damage equipment can't be underestimated. Fluke 1775 and 1777 capture high-speed transients faster than ever before by leveraging the power of the latest Intel Cyclone FPGA. With a sample rate of 20MS/s users can effectively capture, troubleshoot, and mitigate the most damaging power quality issues.

Powerfully simple reporting

Fluke 1770 Series Power Quality Analysers come standard with the powerful Fluke Energy Analyse Plus software, designed to analyse power quality data right out of the box without extensive training. It enables technicians to quickly compare results to historical values, benchmark against industry



norms, compares measured data to local conditions, and create a more complete picture of what's occurring across the facility – even as the data is still being collected.

With Fluke Energy Analyse Plus, technicians can create customized reports or lev-

erage built-in one-click reporting to industry standards like EN 50160, IEEE 519, and GOST 33073.

Enquiries: sales@comtest.co.za. Read more about the product: <https://bit.ly/3FVeu7j>

Enel Green Power committed to educating future generations

In South Africa, where unemployment is at an all-time high and school-leavers are struggling to pursue studies at tertiary institutions due to a lack of finances, the contribution from the private sector, in the form of granting bursaries, is helping the youth realise their aspirations of studying further and becoming more employable. One example of this is the Enel Green Power South Africa (EGP RSA) Bursary Programme.

Education is fundamental to building a successful life, yet too many youths miss out on being able to obtain a qualification from a tertiary institution. When EGP RSA conducted research in the communities it operates in, the company discovered the urgent need for access to education, and made a commitment to offering assistance.

Globally, Enel Green Power generates electricity from renewable sources, including geothermal energy, hydropower, solar energy and wind power. In South Africa, it manages 12 wind and solar plants. It is here that the company feels it can best contribute to education ... within its host communities.

"Young people being unable to further their studies due to financial constraints is the biggest social challenge of our time," says Lizeka Dlepu, Head of Sustainability at EGP RSA. "Our aim, therefore, is to provide deserving students with funds to attend tertiary education institutions to give them the chance of a brighter future."

"The bursary programme took root when we conducted a community needs assessment and asset mapping study. During the focus group discussion, we discovered that a lot of talented youth were sitting at home after matriculating due to a lack of financial resources. Some were working as seasonal workers on the farms surrounding their hometowns," adds Dlepu.

The fund looks at sponsoring fees, accommodation and providing an allowance for a select group of students. So far, approximately 35 students have benefitted from the bursary programme. The criteria for eligibility for the bursary include:

- Youths who reside within a 50km radius of or within the same district in which the EGP RSA plants are located
- Families with an income that does not exceed R350 000 per annum
- Woman-, child- or pensioner-headed families
- School-leavers who qualify to enter an institution of higher learning



Lizeka Dlepu, Head of Sustainability at EGP RSA.

EGP RSA believes the value of the bursary programme extends beyond the granting of actual bursaries. Dlepu says, "We believe it will help increase the number of educated people who can then act as role models within their communities. It also aids in decreasing South Africa's skills gap and makes young people more employable."

The company asserts that education is key in creating a viable future for humanity and is the most effective weapon in eradicating poverty. It is for this reason that EGP RSA's focus is on helping the next generation acquire skills that are essential for meeting the opportunities that lie ahead of them.

"To us, sustainability means value-creation, which is developed by using a model that integrates economic, environmental, social and governance goals into our business plan, thereby creating long-term value for all stakeholders, including our host communities," says Dlepu.

In the future, EGP RSA plans to encourage its prior beneficiaries to contribute to a monthly fund to pay it forward to fellow members of the community. Until then, eligible students are encouraged to apply to the bursary fund and begin the journey of obtaining the necessary qualifications to pursue a worthwhile career.

Enquiries: www.enelgreenpower.com

EPC Practitioners Skills Programme delivers first official EPC for VKB

Delta Carbon Interns are the first to convert an Energy Performance Certificate (EPC) assignment to a verified EPC for VKB Head Office in Reitz. The Interns are part of the EPC Practitioner Skills Programme, a registered qualification with the Quality Council for Trades and Occupations (QCTO) specifically aligned to meet the demand for skills required to implement the requirements of EPCs for buildings in South Africa in accordance with the EPC Regulation.

VKB is an agricultural enterprise headquartered in Reitz in an office building that now sports a prominent Energy Performance Rating of "B".

The Regulation for the Mandatory Display and Submission of EPCs was Gazetted for implementation by 7 December 2022. The Regulation requires EPC to be verified and signed by South African National Accreditation System (SANAS) EPC Inspection Bodies, of which Energy Management and Validation Services of Cape Town is the first EPC Inspection Body accredited to issue EPCs to building owners, and also the signatory of the VKB certificate, as the organisation verifying the information collected by the EPC Practitioners in training under mentorship of Delta Carbon.

JP Spangenberg, Director of Delta Carbon says; "Delta Carbon is proud and honoured to have participated in the EPC Practitioners Skills Programme in conjunction with the South African National Energy Development Institute

(SANEDI) and the Institute of Energy Professionals Africa (IEPA), to enhance the EPC skills of the youth throughout their journey within Delta Carbon."

As the EPCs process is new to the country, and a prospective practice to be adopted in years to come, it is very important that these skills are taught and transferred through mentorship to the future labour force to support the Government's goals in energy transition to lower carbon emissions. Since young people often face limitations in accessing employment opportunities in the energy sector, supporting youth to be the force of tomorrow is very important. Which is why investing in the programmes like "EPC Practitioners Skills Programme" will assist in creating opportunities for youth to grow and thrive in the sector and become dynamic advocates for change.

Spangenberg concludes, "The Interns have developed adequate EPC knowledge and skills as they were strongly involved in the diverse aspects of the EPC Practitioners Skills Programme. It is imperative that opportunities like these are created for young people, since instilling those skills in youth, is like planting seeds of future leaders. We hope to be continuing with our quest of upbringing and preparing the future generation for success."

Enquiries: www.iepa.org.za/epc-practitioner/



PRATLEY® Aluminium Alloy Junction box

- Boxes are supplied with nickel plated Built-in cable glands (for SWA cable), earth terminal & inner seals
- Available in 2, 3 & 4 way configurations, in M20, M25 & M32 entry sizes
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www.pratleyelectrical.com

Contactors – How to correctly select and apply them

Before we start, a few definitions:

A contactor is an electrically-controlled switch used for switching an electrical power circuit. 1/2/3/4 pole models are an option.

A contactor is typically controlled by a circuit which has a much lower power level than the switched circuit, such as a 24-volt coil electromagnet controlling a 230/400/525 V supply. Typical fixed voltage types are available in 12/24/48/60/110/220/400/525 V. The two main types are electrical hold/electrical latching. Electrical hold operates with an applied voltage or removal thereof, while latching types change status each time voltage is momentarily applied.

Contactors can indeed be considered the workhorses of the electrical industry, making and breaking contacts which switch loads in and out of use. This being done with relatively remote safety of a low control voltage and for many reliable operations, 1-3 million is the norm.

Even in the event that the selection is not absolutely correct the application may well perform for many thousands of operations given some impression of having been correct. The loss of operational life may still be acceptable. Herein lies some risk ... a selection based on a price-only decision means a cheaper model/brand is purchased with the client believing they have been supplied the correct selection model.

Selection process:

System voltage: The main contacts are required to be tested and approved to make and break under the test application conditions for the required times as specified. Applied standards include UL and EN/IEC etc.

Control voltage: Depending on the control voltage the contactor coil voltage needs to be selected. There is an enhanced safety using a lower than main voltage approach.

Load size: Most important as this directly gives the contactor size as the greater the load the bigger more robust it will be, normally indicated in kW or Amps.

Load type: Undoubtedly the second most important selection point as the load type determines the likely life of the contactor. Given as either a written format or a coded format, e.g., as motor type or heating element, but also in a coded format, AC1/AC3 etc.

Operational frequency: How often is the switching likely to be once a day/hourly/per shift etc.

There are over 50 or so indicated categories but these are the most popular:

Utilisation Category ac volts	Typical application
AC1	Non inductive loads, resistive elements/furnaces
AC2	Slip ring motors switching off
AC3	Squirrel cage motors, switching on off during running
AC4	Squirrel cage motors, starting, plugging, inching
AC14/15	Control of small ac electro-magnetic loads, aux circuits
dc volts	
DC1	Non inductive loads, resistive elements/furnaces
DC3	Shunt motors, starting, plugging, inching
DC5	Series motors, starting, plugging, inching
DC6	Switching of incandescent lamps



Power contactor



Relay contactor

Additional aux contacts: The minimum additional auxiliary contacts required to operate the contactor.

Contact break medium: Mostly the contact operation is done in air but there are some specialised contactor types which can offer vacuum medium breaks. Breaks done in the vacuum offer some important benefits but come at a steep cost.

Based on the information above, select the correct contactor from the manufacturer/supplier data base.

Relay contactors

Of special mention is a range of contactors whose sole purpose is to offer signal options. As such, they can have many additional contacts and these can

be NO/NC as well as early make or break giving accurate process status.

Mostly these are quite low voltages and currents being switched, but in recent years some manufacturers have load break capabilities of 10-15 A at 400 V which, whilst being indicated as a relay, are more power relay types.

Also, very low currents and voltages, ≤ 12 V may need to have multi break contact sets and be gold plated to remove any chance of contact resistance hindering the contact status.

Maintenance

Under optimal conditions contactors/relays will give many, many years of reliable service. Generally,

the working environment should be clean and dry as the contactors are quite open for dust ingress.

The contact area can be inspected for contact wear and possible replacement of the contacts. Any harsh buzzing may indicate a foreign body clamped between the pole faces and should be cleared. Expect rapid wear in the contact area due to high closing currents and short circuits, even to the point of contact welding. Coils can also be replaced or exchanged for alternative voltages if needed.

Generally, all smaller sizes are not very actively maintained and should simply be replaced. Larger versions do have spares but do not expect these to be available beyond 10 years +. Generally, most manufacturers will not give recommended use beyond the 10 years in service levels.

Warning: TYPE 2 co-ordination contactor setups will require manufacturer specified combinations. Contact the manufacturer if in doubt.

Vacuum types

The selected vacuum tube versions which offer contact breaks in a closed/vacuum during use are quite popular at 1000-11 kV levels on active motors. Wear is extremely controlled in the vacuum and there is no likelihood of oxidation taking place.

Tubes will wear with aging and there are set marking points that are used for evaluation. These indicate when the tubes need replacing. Should a tube be damaged in a single-phase short circuit it can be replaced but general all round wear will require all phase bottles be replaced. This replacement is better done under controlled manufacturer conditions.

Check the manufacturer's data or the rather minuscule printing on most contactor bodies.

Summary

Contactors can provide many years of enduring reliability if correctly specified at minimal maintenance costs and are truly the industry workhorses.

By Kevin Flack

Flack has recently retired from industry and believes he still has valuable in-depth knowledge of the South African electrical landscape due to wide experiences gained in his 45+ years working career. In these trying COVID-19 times, Flack can provide online training to keep your staff up to date on all aspects of circuit breaker deployment. Email kevin.flack@outlook.com

Future-proofed gateway

With the LB PROFINET gateway, Pepperl+Fuchs is connecting LB remote I/O systems to the PROFINET world. End-to-end communication also ensures optimal use of existing intelligence in the field, representing a crucial step toward making plants suitable for future requirements and Industry 4.0.

The LB PROFINET gateway delivers not only conventional PROFINET functionality but also full access to all connected HART devices. In practical terms, this will give users access to HART auxiliary variables as a second measuring value in addition to process variables. Furthermore, the diagnostic data from the field devices can be read out via HART-IP, thus significantly increasing transparency and plant availability. The gateway also offers maximum flexibility since different protocols can run via the same cordset (e.g., PROFINET and HART-IP), and, of course, it represents a high-performance solution: up to 80 field devices can be connected to a fully occupied remote I/O system. These devices communicate without a time delay.

Maximum safety and easy handling

Another highlight of the gateway is the intelligent redundancy concept. An integrated switch ensures the functionality of the network at all times based on the medium redundancy protocol (MRP). If a

line fails, the ring network is reconfigured to send the data packets via the alternative route. Since the potential for hazards increases as a result of big data being used alongside increased networking of industrial plants, the new PROFINET gateway also fulfills the appropriate safety requirements. The large display, the largest available on the market for this device type, is another highlight that makes the new gateway from Pepperl+Fuchs easy to use. The device status and additional diagnostic data can be read at a glance via RGB LEDs.

Enquiries: www.pepperl-fuchs.com



Solving the skills challenge around renewable energy projects in South Africa

With yet another round of load shedding currently in effect, it is more clear than ever that South Africa needs renewable energy. Government has opened up the power sector, with various bid windows of the Renewable Independent Power Producer Programme (REIPPP) as well as new regulations permitting private companies to generate up to 100MW of power. However, implementing renewable power requires specialist skills, and while there may be qualified people available, the newness of the sector in the country means that there is a significant lack of experience around these skills.

Not just about skills, but experience

With new power solutions come new skills. In order to deliver the REIPPP as well as make private power generation feasible in South Africa, electrical engineers, managers and technicians, particularly around solar and wind technology, will be in high demand. There is a clear need for skills and training in the energy sector.

However, the gap is not just around skills but around experience. There are people in the country who have the qualifications and certifications on paper to fulfil the required roles, but there is a distinct lack of real-world exposure. Hiring skilled and experienced staff from overseas is not a cost effective or feasible option either.

It has become essential to empower certified but inexperienced people to learn on the job from those

who have the experience. This will not only facilitate skills transfer and development, but also to meet local content and economic development obligations to ultimately enhance preferential procurement obligations.

Beyond the immediate

The real challenge, other than ensuring that skills are



Barend Mathee, National Projects Director at Workforce Staffing.

Highly efficient home automation solutions improve safety, enhance energy efficiency and increase the value of smart homes

Homeowners all over the world are looking for simple and cost-efficient ways to have a perfectly connected home. The investment in a home is one of our greatest commitments, which is why it's important to enhance the value of our property by maximising comfort and improving security at home.

According to Legrand specialists, smart homes are no longer an intimidating and unaffordable luxury, but with the advancement of user-friendly technology, home automation is now easily attainable. Through 'Arteor with Netatmo', which is easy to install, configure and use, Legrand has made smart homes a reality for South African homeowners.

Legrand's 'Arteor with Netatmo' is a collection of connected switches and socket outlets that make home automation effortless. This convenient system adds comfort, simplicity and safety to daily life, at the same time ensuring energy savings to combat escalating electricity costs.

'Arteor with Netatmo' is a radio technology and Wi-Fi enabled solution which simplifies usage, by making complex functions in home automation easy to use. This home automation system offers homeowners and electricians the freedom to create a connected, customised home by combining controls and features, to manage scenarios, create centralised functions and allow remote-control of individual functions – to suit exact requirements. Users are impressed at how many useful functions can be implemented in the installation, using a few simple components.

Legrand's voice-control technology makes it even easier and more hygienic to control the home, by minimising the need to touch surfaces. Users simply need to give uncomplicated voice commands to Siri, Google Assistant or Alexa, to manage lights and home appliances, without lifting a finger. It's as easy as saying: "OK Google, turn off my bedroom lights" – Google Home; "Hi Alexa, open my blinds to 50%" – Amazon Alexa and "Hey Siri, turn on my kitchen socket."

This flexible system is easily integrated into

existing installations, requiring no additional wiring, as it uses the existing electrical infrastructure. To upgrade or extend an installation, 'Arteor with Netatmo' wireless connected controls can be paired with wired devices. Selected scenarios can be modified and upgraded at any time, according to changing needs. By using wireless switches, users have their controls always exactly where they want them.

If furniture is re-arranged or small children need to be able to reach a switch, the wireless switches can be repositioned easily at any time. All functions can also be used in the traditional way via switches on the wall.

'Arteor with Netatmo' creates central control of lights, curtains and roller blinds and also manages scenarios in and away from the home. A single press of a button turns off the lights and closes curtains and shutters, as the user leaves home. A scenario can be set to switch off lights and socket outlets when users go to bed and in the morning they can enjoy the 'wake up' scenario, where a soft light comes on and curtains automatically open. It is also possible to simulate presence when no one is at home.

In the event of a power failure, fire alarm signal or safety siren while users are away, the app gives an automatic alert so appropriate action can be taken. Greater energy efficiency is achieved by checking real-time energy consumption and doing in-depth analysis.

Legrand's Netatmo smart range encompasses connected security, energy, weather and air care products. Netatmo smart security systems include security cameras, alarms, window and door sensors, sirens and smoke alarms, that offer total peace of mind. With Netatmo security products, users are alerted wherever they are, via the Netatmo App.

Smart thermostats and radiator valves, which can be used in conjunction with existing heating systems, are designed to save energy, while enhancing comfort in the home.

The Netatmo smart home weather station, rain gauge and anemometer, efficiently measure and analyse the indoor and outdoor environment, while smart indoor air quality monitors ensure the best noise level for sound

sleeping or the correct humidity levels for a child with asthma. This smart monitor, with advanced sensors, highlights potential problems and advises on how to fix them.

Luxul wireless routers also form part of connected home solutions by combining wired router functionality, with extended coverage, dual-band wireless technology.

Legrand is committed to making smart connected homes easily accessible for South African homeowners and continues to develop new products and upgrade existing systems, to ensure the best smart home experience. The company's team of home automation experts offers a technical advisory and support service throughout the country.

Enquiries: legrand.south-africa@legrand.co.za



available to help REIPPP projects and private power get off the ground, is in creating a long-lasting and positive economic impact in communities. These big projects will create short-term employment opportunities in local communities that are typically both rural and underserved, but once the plant is completed, available employment will be dramatically reduced.

To create long-term economic growth and development, skills development needs to be broader than simply specialist skills. Business skills, communication skills, entrepreneurship, finance skills, and more importantly mentoring, will empower individuals to create and grow their own economic footprint within their communities. This will not only help to uplift the communities, it will also create potential locally-based preferential procurement partners for the power producers to help them meet their obligations in the long term.

Sustainable solutions

For South Africa to benefit from true sustainability, not only in terms of power generation but economic development, a long-term view is essential. It needs to be approached from a holistic perspective, and skills development needs a strategic view to become more than just a tick box exercise.

Partnering with an employment and skills development provider with a local presence in the rural areas where plants are being built, who understands the local content and economic development obligations, and has experience in similar projects, is critical. It is also essential to ensure that your people partner has the right infrastructure and financial stability to support these new projects, and is both compliant and has transparent business ethics. The right partner will be able to support various functions throughout projects, from start to finish and beyond, delivering benefits to business and communities in the long term.

Enquiries: info@workforce.co.za

A smarter way of managing electricity

South Africans looking for a more user-friendly and transparent way of managing their energy consumption are embracing smart meter technology. These are deployed with a prepaid or smart wallet system to help people stay in control of their electricity expenditure. Consumption data is available on usage per time interval, so consumers can be more pro-active in identifying power-heavy appliances at home. But with millions of electricity consumers still needing to convert, there is massive untapped potential for smart meters in the country.

Benefits

Beyond the advantages for consumers, smart meters can have far-reaching benefits for landlords, managing agents, municipalities, and the environment.

Smart meters can help electricity service providers optimise their revenues by greatly assisting in remote metering and billing. Smart meters also make the implementation of peak- and off-peak tariffs far easier to apply while delivering demand-side management through demand response. This is crucial given how electricity service providers are looking at load generation balancing due to continued concerns around systems management and maintenance.

Improved service levels

The use of smart meters could eliminate queries relating to electricity billing while providing real-time outage detection which would enable electricity service providers to respond more quickly to faults in the field. Smart meters also have anti-tampering technology and tamper alerts which can be linked to a service provider's smart systems to report malfunctions and detect meter tampering. This reduces fraud which has always been a significant challenge. With smart meters in place, customers can also receive notifications of low credit balances by SMS, in-app notifications, and email.

Efficiency

Smart meters help to improve efficiency which is why most municipalities



across South Africa have already begun with smart meter roll outs. Most new developments come standard with smart meters especially at a time when the cost of electricity continue to rise.

Cost savings

While there has been some adoption in different markets, we will likely see an increase in adoption over the coming year as business looks to reduce electricity losses, promote energy efficiency, and enhance their billing and credit control systems while utility costs still outperform inflation.

There are multiple cost-savings examples in the property market where smart metering has changed the landscape of the consumer as well as the landlord while outperforming the desirable ROI on the project. The starting point, and easiest measurement of a project, is calculated and approved based on a desirable ROI. The more difficult measurements are the operational efficiency, consumer satisfaction, and the direct effect the smart meters have on the environment by creating an appetite with consumers to manage their consumption habits better and change their habits where necessary.

With the fast-changing environment and the shift to be more environmentally friendly and reduction of carbon footprint, one must consider transitioning to this way or you may be found lagging behind the adoption curve. Enquiries: www.remotemetering.net

LED retrofit lighting solution for De Aar Hospital

BEKA Schröder has supplied the LED retrofit lighting solution for the De Aar Hospital in the Northern Cape. With this new lighting installation, the hospital benefits from significant energy savings and better light levels.

Various products were installed for the interior and exterior of the hospital, all of which have been designed and manufactured in South Africa, taking the continent's harsh environmental conditions into account.

Hospital interior

The ECOBAY was chosen for the double volume areas inside the hospital, providing high-quality general area lighting. This LED lowbay and highbay offers substantial energy savings, high performance and is able to operate at high ambient temperatures. Thanks to its reliable performance, low dust accumulation and no need for relamping and regular maintenance, the ECOBAY was the luminaire of choice.

Outdoor passages

The BEKA VAPOURLINE has replaced the previous lighting installation in the outdoor passages. It offers a robust and efficient LED alternative for replacing fixtures fitted with T5/T8 fluorescent tubes.

Designed to provide a long-term solution for harsh industrial environments, the BEKA VAPOURLINE has a strong mechanical design that makes it highly resistant to shock and vibration while its IP rating makes it

ideal for dusty and wet locations.

This high-performing luminaire provides an energy-efficient lighting solution. With a lifetime five times longer than a fluorescent tube, this modern linear LED luminaire lowers the total cost of ownership of a lighting installation and eliminates the need for maintenance.

Building exteriors

The SERIES 300 has replaced the exterior bulkhead luminaires installed around the exterior of the buildings. This decorative and highly efficient LED bulkhead with its halo lighting effect is the ideal solution to beautify buildings and to provide area lighting. High-quality materials are used to ensure a high ingress protection and non-discolouring diffuser. This, together with the long lifetime of the LEDs, and an easy installation procedure, makes the SERIES 300 the bulkhead of choice.

General outdoor open areas

The KAZELLE LED post top luminaire has been installed in the general outdoor open areas. It is a cost-effective and efficient lighting solution for a quick return on investment. Reliable, efficient, discreet and vandal resistant, the KAZELLE luminaire emits a pleasant, glare-free light. It has been designed for easy installation. With virtually no maintenance required, the KAZELLE guarantees long-lasting performance and massive savings.

Perimeter security lighting

The LEDLUME XP 2 illuminates the perimeter of the hospital, assisting in increasing security levels. The LEDLUME XP offers optimised photometric performance with a minimum total cost of ownership. It provides customers with the ideal tool to generate energy savings, improve lighting levels and reduce maintenance costs. The great variety of high-performance optics optimises the photometric distribution for each specific application to achieve minimum energy consumption.

BEKA Schröder locally develops and manufactures sustainable LED lighting products, designed and suitable for local conditions. The company is proud to be associated with Bigen Group's Electrical Engineers in providing an energy-efficient LED lighting solution for this project.

Enquiries: +27 (0)11 238 0056



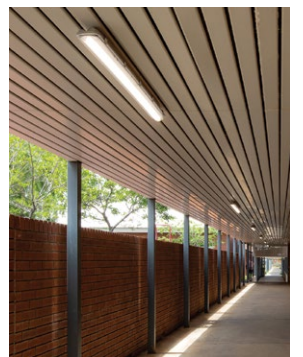
The decorative SERIES 300 LED bulkhead has been installed around the exterior of the buildings.



The ECOBAY provides high-quality general area lighting.



The KAZELLE has been installed in the general outdoor open areas.



The BEKA VAPOURLINE has replaced the previous lighting installation in the outdoor passages.



The LEDLUME XP illuminates the perimeter of the hospital, assisting in increasing security levels.

Spier Light Art scintillates your senses

The fourth edition of the celebrated annual Spier Light Art was presented from 18 March to 18 April 2022. Visitors were able to experience an evocative world of light, sound and video art at the historic Stellenbosch Wine Farm.

"We have used this opportunity during the global pandemic to look within, connect with loved ones and find joy in quiet moments of calm. But we have also sought ways to embrace the promises of the future. It would have been rash not to reflect on what has happened to us all, but it must be tempered with forward-looking positivity. The artworks showcased at Spier Light Art 2022 did just that; they asked us to glance back while looking ahead, learning from the past as we stride into the future," said the curators Jay Pather and Vaughn Sadie.

Pather and Sadie explained that while some of the works offer playful opportunities for fun others grapple with difficult themes such as social histories and our relationship with the planet.

narrative that science and technology, with their shiny light arcs and glassy interfaces, hold a place at the top of human creation. Instead, we should look at the holes in the ground from the lithium mining, the exploitation of the workers and the abuse of private data. As the participant walks through the reflective surfaces of 'Petrified', they will consider the ecological toll of our insatiable quest for technological development.

With one of the largest contemporary South African art collections in the country exhibited at Spier, it should come as no surprise that supporting high-quality art is as much a part of the Spier ethos as producing award-winning food and wine. Spier believes that the visual arts are a powerful tool for transformation that spark fresh insights and inspire us to engage with the world in imaginative ways. Spier supports local artists through projects that honour our African heritage and enrich our future.

Enquiries: www.spier.co.za



Fonroche Lighting wins new contract for 67 000 solar streetlights in Senegal



On 26 February 2022, the Senegalese Minister for Finance and the Budget signed a contract with Fonroche Lighting to supply and install 67 000 solar streetlights. Building on the success of Phase 1 of the project in 2018, when the company provided lighting for one-third of Senegal, Fonroche – the global leader in this sector – continues its upward trajectory with another major contract in Africa. These latest-generation off-grid streetlights manufactured in Agen, southwest France, will light roads, walkways and village squares in 265 of Senegal's most remote communities. Almost six million people will benefit. Installation will begin in October 2022 at an average rate of 1 200 streetlights a week and will complete in under three years.

A history of collaboration

In 2018, Fonroche Lighting won the

world's largest solar lighting contract, with 50 000 solar streetlights for Senegal. Installed in less than two years, these solar streetlights are now part of the country's landscape and have positively changed the lives of local people forever. A survey of more than 600 respondents showed:

- An 85% decrease in traffic accidents on the newly lit roads.
- Local residents feel safer, with 65% saying they now dare go out after dark.
- A boost for local businesses, with 60% of retailers saying income is up, due to later opening hours.

Fonroche Lighting has been operating locally in Senegal since 2019 and has hired and trained dozens of people at its Dakar facility to assemble and install solar streetlights. The company also has a monitoring centre in the country, which captures all data from its streetlight networks



SHEDDING LIGHT WITH PHILIP HAMMOND

Continuing the lighting journey

Oh, my word, we are a third of the way through 2022. The expression – “Time and tide wait for no man” was written by Geoffrey Chaucer (c. 1340s –25 October 1400), author of the well-known Canterbury Tales. He is often referred to as the father of English literature! We will continue our look at the Visual Functions of the human eye.

Brightness Response

When we enter a room or merely move our head in a known environment, the eye tends to seek a state of equilibrium which suits the general brightness conditions. This involves some photo-chemical action within the eye but it is most affected by the action of the iris in front of the lens. The iris opens as general brightness of the scene is low and closes when it is high. But there is a time lag in this re-adjustment, especially when there is a change from high levels of luminance to low (luminance is the physical or photometric correlation of the psychological sensation of brightness). This is an important aspect of lighting design, particularly in a mobile situation such as when driving a vehicle, because immediate dangers can occur without them being recognised when changing from a bright environment to a dark.

Colour Response

Colour is in the eye of the beholder. Nothing on this planet has any colour. You perceive colour through the wonder of the colour photoreceptors in your eyes. The eye is especially responsive to differences in colour under high levels of lighting where the cones in the eye are active, but it is deficient under low lighting levels when the rods alone are activated. It is important to understand the effect of light and colour on the visual scene. For example, colours are not interpreted identically on the retina of the eye. Some studies indicate that a green object is imaged clearly on the retina, a red object of the same size would be interpreted as being slightly larger behind the retina and a blue object

slightly smaller in front of the retina. This explains the psychological interpretation of warm colours appearing to advance and cool colours to recede and diminish in size. In some cases it may be important to take into account that 8% of men and 0,5% of women have alternative vision (previously known as colour blindness, which today is known to be untrue), the most common being the difference of the red and green sensitivity.

Effects of Glare

The visual response to brightness depends on how the light is distributed over the retina. When there are large differences in the brightness in the visual field at the same time, the greater excitation of a portion of the retina can inhibit the performance of other areas. When this does occur interpretation of lower brightness detail can be seriously impaired. This condition can vary from total disability when, for example, a bright car headlight is shining directly into the eye, to discomfort where the background to the object we are viewing is substantially brighter than the object itself, for example, black printing on glossy white paper.

Detection of Movement

Our eyes are very sensitive to movement in the peripheral area of our vision. These areas are outside the focal cone of our vision but any movement, flicker or changes in intensity will be immediately perceived. Such vision is therefore of extreme use to an individual to maintain a sense of general orientation and relationship to the dynamic activities in the eye in front of and to the sides of his position. This is extremely important for example, when crossing a roadway and the need to be aware of any approaching vehicle from the side and where moving machinery occurs in a work situation.

Next month I will cover the topics of “The ageing Eye”, “The Visual Field”, and “The Fundamental Factors of Vision”. Whilst the magazine features lighting, if anyone who is remotely involved in lighting does



not know about the topics that we have and will cover, they will not successfully complete lighting design or lighting projects.

I am prepared to assist any of the readers and give basic advice about lighting to minimise their risk of non-compliance. Until the next episode in the fascinating journey into light and lighting next month, stay safe!

Enquiries: www.bhaschooloflighting.co.za

and checks they're performing optimally, in partnership with the contracting authority.

Further international endorsement for Fonroche

This latest programme was initiated by Senegal's National Agency for Renewable Energies (ANER) under the supervision of the Ministry of Petroleum and Energy with the aim of rolling out solar public lighting to the entire country.

After successfully completing Phase 1 of the project, Fonroche Lighting will now manage Phase 2, which includes the supply and installation of a further 67 000 solar streetlights. For this new project, which has a budget of more than €121 million, the Senegalese government has financial backing from Bpifrance Finance-ment and Société Générale.

"It's a tremendous new achievement for Fonroche Lighting, which has a busy year ahead — with a lot of projects," says Laurent Lubrano, Managing Director of Fonroche Lighting. "This major new programme builds on several years of business and investment in Senegal. Once again, the competitiveness of our lighting solutions and the technical expertise of our teams have made all the difference. The contract also gives us months of visibility, both industrially and economically, which will help us consolidate our investments and expand our teams."

- Senegal Phase 2 at a glance:
- 67 000 solar streetlights.
- €121 million investment.
- 265 communities in Senegal.
- Work starts in October 2022.

Rollout gathering pace in France

Fonroche Lighting is providing solutions for 600 new local authorities every year in France, reflecting a real transformation in the public lighting landscape. Opting for sustainable, energy-efficient lighting is the new norm for the country's towns, cities and villages. Completely off-grid and offering powerful illumination, Fonroche solar streetlights are being chosen for an average of 1 400 new projects in France every year – and this number is constantly growing.

Fonroche Lighting is about to officially launch a dedicated service to help local authorities upgrade their public lighting. It includes a detailed local survey, which will enable authorities to make significant savings.

Enquiries: +27 (0)21 001 3418

This year's trends in lighting

Read more about five of Eurolux's favourite 2022 lighting trends:

Slimline floor lamps

Slimline floor lamps are one of the most notable trends this year. From a practicality standpoint, they're the ideal fixture for compact spaces, especially those with tricky-to-illuminate corners that can sometimes be neglected and resigned to a pool of darkness. In terms of form, their sleek design and slender shape make them an elegant addition to a room. Slimline floor lamps in marble and metallic finishes, in particular, are gaining traction this year.

Art deco shapes

Art deco lighting with its signature silhouette, materials and colours continues to trend this year. And given how it has maintained its position on the trends list over the decades, we could probably start referring to it as a classic decor look. This year, though, the trend is pared back. Crystal details and chrome will always have their place in art deco lighting design, but in 2022 the subtle details from the 1930s are at the forefront. Think soft scalloped edges, hints of marble and muted bronze and gold finishes. Adding an element of nostalgia to any space immediately

injects it with warmth, and an Art Deco fixture will certainly create a welcoming ambience.

Architectural chandeliers

The word 'chandelier' may evoke images of a curvy brass frame dripping with glitzy crystal droplets, but in recent years, the definition has changed, and so has the look. While traditionally-shaped designs with century-old detail still have their place, there is now a plethora of contemporary options available that boast a modern silhouette. 2022 is all about the architectural chandelier. Interesting shapes and bold designs make for fixtures that attract the eye and act as a focal point in the room. It's important to remember that an architectural chandelier should never be the main light source in a room and should therefore never have to bear the burden of pure functionality. By supplementing with wall sconces, lamps and other types of fixtures, the architectural chandelier gets to fulfil its dual role of both light source and suspended sculpture.

Smart lighting

The smart lighting market has become highly competitive over recent years, with more people looking for convenient and cost-effective ways to illuminate

their homes at the touch of a button. The EGLO Connect range comprises a variety of fixtures and bulbs that can all be controlled and programmed individually or in groups, using a remote control or smartphone app. Installation is simple and quick, the network is protected and control is not dependent on internet access. One of the biggest selling points is that it offers a range of 16 million shades, and 50,000 whites and can be dimmed to create the desired ambience. The EGLO Connect range also uses energy-efficient technology.

Architectural accent lighting

Eurolux's final trend to watch is a technique, as opposed to a type of design. This year we're seeing an emphasis on accent lighting to create architectural features. Accent lighting is typically described as a layer of lighting used to highlight a certain feature, from bookshelves to wall art and so much more. In 2022, the focus is on positioning lights in an upward direction to illuminate the likes of ceilings, roofs and staircases. The goal is to draw the eye in an upward direction and add dimension to architectural features in the home.

Enquiries: www.eurolux.co.za





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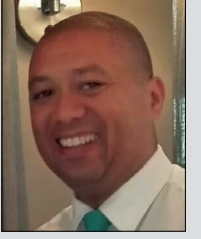
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BRIGHT SPARK

PILE-UP

At the bottom of a large hill, more than 40 cars are involved in an accident. Some of the cars are overturned and others are resting on top of other cars. The pile-up is so large that a few military vehicles and a fire truck are also involved in the crash. What happened to cause this big wreck?

APRIL SOLUTION

The woman's keys were taken away from her by a concerned friend when she began to be inebriated earlier that night. The woman called and hired a driver to take her home, but did not have her keys to unlock the doors.

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- Tools of the Trade
- Lighting

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- Tools of the Trade

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- Standby and Emergency Power
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