

## SIGNIFY'S GM IS LOOKING FORWARD TO INDUSTRY GROWTH IN 2024

Mohammed Sali-Ameen has been lighting and electrical giant Signify's Market Leader Sub-Saharan Africa for just under a year, and in that time he has helped steer the brand towards a strong new year. "We are expecting to grow at about 12% in 2024. We have seen the industry growing at about 8%, but we think that we can do a little bit better," says Signify's General Manager. "We are opening new markets today, it will be organic business that we are going to capture in these markets."

### Business & geographical reach

Sub-Saharan Africa is a large area with many countries, says Sali-Ameen. "If you look in terms of geography, we have got presence in Nigeria, Ghana, Kenya, Zambia and South Africa. Then we have other additional adjacent economies like Angola and Botswana, Tanzania and Uganda. We have key distribution points in these countries, and we are pushing towards a big year ahead in these spaces."

Signify is not a small brand – it was formerly known as Philips Lighting NV, the lighting division of Dutch conglomerate Philips. Signify was 'founded' in 2016 as a spin-off of the Philips business unit and internationally had a revenue of €7.51 billion (R154 billion) in 2022. That success is a driving force for Sali-Ameen, who says, "We have three divisions in the business (in South Africa), and we have got about four or five channels in those divisions. That would be conventional products, digital products and solutions. The bigger projects fall into the solutions category and that is about 60% of our business."

In terms of the channels in Signify's business model, there is the consumer channel, which incorporates off-the-shelf products. There are the original equipment manufacturers (OEMs), who utilise Signify's OEM components in the production of fixtures and luminaires. Rounding up the channels are the consumers, and the professional channel where system integrators sign up. "For the systems integrators, they go out and do large-scale connected projects. We also have the professional trades; these are people who would sell to DIY contractors and the like. They just move the box, whereas the systems integrator would open the box, take out the luminaire and add value to it," explains Sali-Ameen.

Under his watch, Signify has expanded segment coverage to include complex projects in Stadiums and Hospitality. This division also handles city beautification projects, and if we have a global account with a hotel chain, if they are setting up in South Africa, then our in-house Specifications and Design division would look after them," says the General Manager.

### Hands-on approach

Signify's Market Leader executive has a hands-on approach towards business, and he has the knowledge and experience in the boardroom and on the jobsite to back himself. He qualified as an electrical engineer in the late '90s, and attained his MBA (Masters in Business Administration) specialising in Strategy in 2011. This has allowed Sali-Ameen to have a holistic approach to the company's business as he knows what is going on behind closed doors and on the ground, too.

"I have visited our factories. I maintain a close network in our internal operations to ensure our orders have been



Mohammed Sali-Ameen (above), Signify's Market Leader Sub-Saharan Africa.

received and that they are being fulfilled correctly to meet and improve lead times" he says. "Post Covid, our factories have improved and our Kaizen is geared to drive continuous improvement at the highest level, and they deliver on schedule without hassle. We need to deliver, and we run a tight ship."

The current situation in South Africa's ports, where containers are waiting weeks if not months to be offloaded from ships, is quite a problem, says the businessman. "We check our estimated time of arrival from the ships on a daily basis. This is a major problem for business around the country – it is a waiting game, and we have to be patient. But in the end, these issues are going to filter down to the consumer. There is nothing that businesses can do at the moment."

What all businesses can do, and control, is brand positioning, with Signify heading towards a 'connected' future, says Sali-Ameen. "We are putting power in the consumer's hands through technology, through our interconnected devices. Our products allow you to set the mode and tone of your lighting from an app. This does not apply just to homes but now also to large-scale projects, too."

He adds that the Signify app is able to monitor consumption and users are

able to customise and optimise energy utilisation. "That optimisation and control of energy use is what we are promoting with our interconnected range of products. We have also launched our EcoLink portfolio in the last quarter of 2023, but that will take on its full form only in the first and second quarter of 2024," says the GM. "We also offer our lighting designers as consultants in the pre-sales cycle, where they will go to the client as very skilled Lighting Engineers. We get clients into our training programmes and make sure that they are aware of the products and solutions that we are able to offer them."

### Green lights

When it comes to clean energy, Signify is at the head of the pack, explains the GM. "As a company, we have done a tremendous amount of research and development with our products. The lighting industry evolves on a constant basis and one of Signify's key pillars is sustainability. We are busy phasing out conventional products. So by design, you will find a lot of people saying that 'Philips is too expensive'.

"But when you scratch a little deeper beneath the surface, you will see that we are steering customers to newer

technologies that yield less running costs. For example, our interconnected devices and systems, these solutions enable a more sustainable future."

He says that competition among energy-efficiency manufacturers is competitive in the best way. "This pushes companies to find better ways to protect the environment and be energy efficient. This is a global effort and while we in Sub-Saharan Africa are heading in the correct direction with our transition, it has been much slower than anywhere else in the world."

As for the business year ahead, Sali-Ameen predicts a busy period for Signify – and well into the future. "Our projection to grow 12% is based on new business expansions in countries like Botswana and Tanzania. An important area for us will be Mozambique with the incredible gas fields that they have found there. We are also looking at Ghana as a market that we will be driving. We will be going into public and government business; here we expect demand for solar lighting to pick up. So we will be looking in that direction for the future and we are hoping to make some significant strides and business impact," he concludes.

Enquiries: [www.signify.com/en-za](http://www.signify.com/en-za)

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## Navigating loadshedding woes: The rise of plug-n-play back-up units and solar solutions in South Africa

In recent years, South Africa has been grappling with a persistent issue that has disrupted the lives of its citizens: Loadshedding. Frequent power outages have become a common occurrence, impacting businesses, households and

essential services. As a response to this energy crisis, many South Africans are turning to plug-n-play back-up units, bigger back-up solutions or solar solutions to mitigate the effects of loadshedding and ensure a reliable power supply.

Mark Storer, Operations Manager of Voltex Wholesale Division, says, "Investing in reliable components and purchasing from reputable suppliers ensures the longevity and efficiency of the system, offering peace of mind in the long run when installing these kinds of systems."

The market has seen a surge in demand for plug-n-play back-up units, ranging from 300 watt-hours (kWh) and up. These compact and user-friendly systems offer a quick and easy solution to keep essential

appliances running during power outages, including home Wi-Fi networks, TVs, computers and select lights. Designed to be portable and convenient, these units are an ideal choice for those looking for a hassle-free back-up power source. They can also double-up as a power solution for outdoor activities.

For those seeking more substantial back-up power, options in the range of 3kWh up to 8kWh are popular. These mid-range back-up units provide enough power to sustain a household for a certain period, offering relief during loadshedding episodes. These systems often come with smart features, allowing users to monitor and control their power usage efficiently and remotely.

In a bid to achieve long-term energy independence and reduce reliance on the grid, many South Africans are turning to solar solutions. Combining solar panels with energy storage, these systems harness the power of the sun during daylight hours and store excess energy for use during loadshedding or night-time.

The impact of loadshedding is not limited to households; it extends to businesses and the agricultural sector, where consistent power is critical for day-to-day operations. Recognising the need for sustainable energy solutions, many businesses and farms in South Africa are turning to solar power.

While the initial cost of setting up a back-up or solar power system may seem significant, the long-term benefits often outweigh the investment. The cost depends on factors such as the capacity of the system, the quality of components, and installation fees. It is crucial to view it as an investment in uninterrupted power and reduced reliance on the grid.

### Things to consider when installing a solar system:

- **Energy consumption assessment:** Before investing in a solar system, assess your energy consumption patterns. This evaluation will help determine the appropriate capacity of the solar panels and storage units required for your specific needs.
- **Quality of components:** It is better to opt for high-quality solar panels and energy storage units to ensure that you have a system that will perform as needed.
- **Professional installation:** A compliant installation is crucial for the optimal performance of a solar system. Hiring a professional installer with electrical qualifications, experience and know-how in solar setups ensures that the system is correctly configured and safely integrated into your home or business.
- **Maintenance and monitoring:** Regular maintenance is essential to keep the system in peak condition. Additionally, choose a system with monitoring capabilities to track energy production and consumption, allowing for proactive maintenance and efficient energy management.

### Tips for using your solar system:

- Use your appliances during the day – when your solar system is 100% charged, you will be using 'free' energy.
- Heat or cool your home in the afternoon and stagger the consumption.
- Check for shade and debris on your panels to ensure they are operating at full capacity.
- Monitor and assess your system, adding

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## Fluke thermal imaging tools improves protection against arc flashes

United States electrical brand Fluke designs and manufactures tools and equipment that help keep electrical workers out of harm's way, not least by reducing the time required to work in dangerous arc flash zones. Imported to South Africa by distributor Comtest, Fluke's TiS75+ thermal camera is just one of the products that is invaluable in this work.

The TiS75+ enables operators to capture and measure heat energy emanating from a source without having to make physical contact, meaning they can see instantly what is running too hot or too cold before anything breaks down, says Eric van Riet, Strategic Support & Training Manager at Fluke Netherlands. "There is no need for engineers to put themselves in an arc blast zone if they can avoid being there. Products such as wireless and non-contact tools and remote displays can help place them as far away as possible from risk and danger while allowing them to take accurate, instant readings that can be analysed remotely. Arc flash safety is essential, and the latest thermal imaging and wireless testing tools are the best way to offer operators maximum protection."

The thermal camera features a 384x288 resolution infrared display screen with a 3.5" touchscreen LED. It is water and dust resistant with an IP rating of 54, can withstand a 2m drop, and can operate in a temperature range of -20°C to 550°C. The device has a field-replaceable lithium-ion rechargeable battery that can deliver up to 3.5 hours of continuous use without Wi-Fi, with a recharge time of 2.5 hours.

Besides its thermal camera capabilities, the TiS75+ features voice annotation where you can record up to 60 seconds of video and voice information at a time, infra-red photonotes that scan and record asset identifiers, and asset tagging that allows the user to group images of a specific asset by applying a QR code or tag.

The camera weighs 2.3kg and is light enough to be used

with one hand – all the functions, from capture to save, can be performed with the hand holding the device. The TiS75+ can store 500 images with its internal memory, and SD storage cards bigger than 4GB can be used to save images externally. By connecting the camera to the Fluke Connect app, users are also able to compare the same asset's images over a period. Users can also store the thermal image information on a desktop or laptop using Fluke's specially designed software that comes with the device. For ease of use, Fluke has also designed its software to export images in user-friendly file formats such as BMP, JPEG, PNG and TIFF.

Fluke has been meticulous with the design and manufacture of its thermal protection products, adds Van Riet. "Arc flash is the light and heat created from an arc fault explosion; temperatures can reach up to 19 000°C, capable of igniting an operator's clothing and burning the skin of anyone nearby. Arc flash can also melt metal, cause lung and eyesight damage and lead to hospitalisation, even death. Using non-contact tests and measurement tools means operators can minimise the level of personal protective equipment required and the amount of time they need to spend inside the boundary."

Among Fluke's other thermal tools is the PQ400 electrical measurement window (EMW), which is permanently installed into cabinets with voltage and current connections inside the panel. "The PQ400 gives workers access to critical power quality and energy data while decreasing testing time and maintaining a high level of safety. Users can plug their power quality tools directly into the EMW to collect all the needed data," says Van Riet. "These tools are designed to help users operate at a safe distance while being able to measure and record accurate system and circuit information. By reducing the time people are in contact with dangerous situations, we can reduce the risk of incident and possible loss of life."

Enquiries: [www.comtest.co.za](http://www.comtest.co.za)



## Powertool manufacturer shines the light on dark jobsites

German tool and equipment maker Kress has unveiled its new KUF05.9 cordless LED jobsite spotlight, packing a powerful 1 500 Lumen in a tiny frame that is ultra-portable and delivers well above far bigger light systems.

Weighing just 2kg, the KUF05.9 is incredibly light and portable, which means you can take it anywhere on a jobsite without the need for extra equipment to move it around. It also comes with rubber-mounted feet for extra grip regardless of the surface it is being placed on, and it has a 360° pivoting head that allows the KUF05.9 to be positioned anywhere and then the light



can be directed without limitation to a specific area where you need to work.

"The KUF05.9 also features multiple hanging options, so if there is no place to stand the light unit, you can still have a powerful illumination supply hung overhead," says Greg de Villiers, General Manager South Africa for Positec, the US-based company that bought Kress in 2022. "This 'little' light allows you to operate in dark spaces and loadshedding will not get in your way."

The KUF05.9 is powered by a 60Ah battery that features Kress's patented KrossPack system, allowing you to swap batteries with any Kress powertool that uses the 20V Max battery. When using the Kress 8-Minute CyberSystem, you

can recharge the battery from 0% to 80% in as little as five minutes, with a full 100% charge achieved often in just eight minutes. You can also use the Kress Power System app on your phone (it is free and available on both the Apple App Store and Google Play app store for Android devices) to monitor in real-time the state of charging for your Kress batteries that are docked into the CyberSystem charger.


For added peace of mind, the KUF05.9 light is fitted with high-performance explosion-proof glass, so there will be no damage to the LED light should it be dropped.

Enquiries: [www.global.positecgroup.com](http://www.global.positecgroup.com)

a battery if you see that your system is always low.


Ahmed Intiaz Baig, Managing Director of Voltex Wholesale, concludes: "It is important that you choose reputable companies who work with reputable brands. These companies and installers will make sure that your solar system is functioning correctly, while providing the user with the back-up – whether small-scale or large – that they bought. Voltex is a proudly Bidvest company and we pride ourselves on supplying quality products that perform as required."


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







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## ECA (SA) celebrates 75 years with a glittering industry awards ceremony



Comedian, ventriloquist and MC, Conrad Koch hosted the event, with help from his dummy, Chester Missing.

It is no small feat to reach 75 years as an organisation, so there was added reason to celebrate at the 2023 Electrical Contractors Association of South Africa (ECA SA) awards held at the end of 2023. The event took place at Emperor's Palace in Johannesburg, with nominees vying for awards and recognition in more than 16 categories, with projects running from June 2022 to the end of 2023 being eligible for entry.

The celebration marked the stepping down of ECA President Thursdon Duncan was on hand to bid farewell to two key members of the organisation: Former National Communications Manager Erika van Zyl, who retired in September, and long-serving Bosvel Regional Director, Cecil Lancaster, whose careers will continue to serve as a benchmark for service and dedication in the industry. Read on for all of the finalists and winners.

### All the Winners and Finalists of 2023

#### Installation of the Year – Industrial

- Sponsored by Duratron

#### Winner

- J Turner Electrical – Pretoria University PACRI project

#### Finalists

- Cato Ridge Electrical Construction – SABT: Electrical and instrumentation remedial works
- Conli Turnkey – Durban overalls
- Conli Turnkey – Delba Electrical
- Conli Turnkey – P-Beulich
- Conli Turnkey – Pat Active
- Conli Turnkey – PIMMS
- Conli Turnkey – Cecant Engineering
- Conli Turnkey – Slicom

- Conli Turnkey – Timken
- Conli Turnkey – Thulisa
- J Turner Electrical – Pretoria University 1 H-health and PACRI project
- ISE Group – TFG

#### Installation of the Year – Residential (Houses)

- Sponsored by Nedbank

#### Winner

- Vyfster Elektries – Midstream House

#### Finalists

- Cato Ridge – Restore and repair MV & LV lines and interrelated electrical reticulation
- Vyfster Elektries – Pieter Saayman project
- Vyfster Elektries – New residential installation Michael & Nikita Abreu
- RF Elektries – Thys Auto Upington

#### Installation of the Year – Residential (Complexes)

- Sponsored by Allbro

#### Winner

- Michael Labuschagne Electrical – Munyaka Lifestyle Estate

#### Finalists

- Siyaya Power Solution – Capri
- Siyaya Power Solution – Kwa Dukuza museum
- Siyaya Power Solution – Paton House
- Siyaya Power Solution – SALTA Estate
- Siyaya Power Solution – Tyne
- ISE Group – Bellemare
- Michael Labuschagne Electrical – Munyaka Lifestyle Estate
- Michael Labuschagne Electrical – The Emerald
- Michael Labuschagne Electrical – GreenBay



Marimba musicians added musical entertainment for the evening.



Outgoing ECA President Thursdon Duncan had a few words of wisdom to share.

#### Installation of the Year – Office Blocks

- Sponsored by Duratron

#### Winner

- J Turner Electrical – University of Pretoria: Anchor House restoration tender

#### Finalists

- J Turner Electrical – University of Pretoria Anchor House restoration tender
- LN Force – SAMRC new office wing
- Siyaya Power Solution – North Engineering building

#### Installation of the Year – Hotels & Hospitals

- Sponsored by CCG

#### Winner

- Edison Power – Dr Pixley Ka Isaka Memorial Hospital



ECA National Director Mark Mfikoe delivers an important address to the event's guests.

#### Finalists

- Conli Turnkey – Blue Valley Club House
- Edison Power – Dr Pixley Ka Isaka Seme Memorial Hospital Project
- ISE Group – Forest Hill military base
- Michael Labuschagne Electrical – Mint Hotel The Blyde

#### Installation of the Year – Retail & Shopping Centres

- Sponsored by CCG

#### Winner

- Balwin Properties – Thaba Eco Lifestyle Estate

#### Finalists

- Conli Turnkey – CMH Volvo/Mazda Hatfield
- Conli Turnkey – Monument shopping centre
- Conli Turnkey – Future Classics
- Balwin Properties – Thaba Eco Lifestyle Estate



Installation of the Year - Residential Complexes was won by Michael Labuschagne Electrical.

**Reticulation Contractor of the Year**

- Sponsored by Allbro

**Winner**

- Michael Labuschagne Electrical - Izinga Eco Lifestyle Estate

**Finalists**

- Cato Ridge - Tronox Fair Breeze Expansion
- Michael Labuschagne Electrical - Izinga Eco Lifestyle Estate

**National Safety Award**

- Sponsored by FEM

**Winner**

- Andre Els Engineering

**Finalists**

- Andre Els Engineering - AECI Mining Services
- Edison Power - Clairwood Logistics Park
- Michael Labuschagne Electrical - Balito Hills

**Apprentice of the Year - Male Apprentice**

- Sponsored by HellermannTyton

**Winner**

- Chad Kevin Elliot

**Finalists**

- Chad Kevin Elliot
- Kyle Thron
- Francois Bloem

**Apprentice of the Year - Female Apprentice**

- Sponsored by Brother

**Winner**

- Gladys Nteboheng

**Finalists**

- Gladys Nteboheng
- Mbalienhle Ndibe
- Makau Makakase

**Women-owned Business of the Year**

- Sponsored by Brother

**Winner**

- Andre Els Engineering



Installation of the Year - Retail & Shopping Centres was won by Balwin Properties.



Reticulation Contractor of the Year was won by Michael Labuschagne Electrical.

**Finalists**

- LN Force
- Andre Els Engineering
- Siyaya Power Solutions
- Electricians in Durban

**Special Innovative Projects Award**

- Sponsored by Electro Mechanica

**Winner**

- Solly's ICT - Powerboard

**Finalists**

- Kalco Electrical Contractors - Park Care laundry upgrade
- LN Force - Vandalproof manhole
- Solly's ICT - Powerboard (brand and product)
- Designer Lighting - Festive lighting

**Apprentice Host Employer of the Year**

- Sponsored by HellermannTyton

**Winner**

- Spec Electrical

**Finalists**

- Vinnies Electrical
- DC Africa (Cape Town)
- DC Electrical
- Ally's Electrical

- MD Eektries
- Spec Electrical

**Alternative Energy Supply Farm of the Year**

- Sponsored by Nedbank

**Winner**

- Trilec Electrical - Farm Zonneschyn

**Finalists**

- Vyfster Elektries - Pieter Saayman project
- Trilec Electrical - Farm Zonneschyn
- Vyfster Elektries - Solar and battery back-up installation Dr Boet Burger Residence project
- Vyfster Elektries - Solar and battery back-up installation Dr Boet Burger Medical Practice project
- Vyfster Elektries - Solar and battery back-up installation Gerrit Kok project
- Vyfster Elektries - Battery back-up installation Paul Springhoring project
- Vyfster Elektries - Solar and battery back-up installation Tony Hofsanger
- Vyfster Elektries - Solar and battery back-up installation Erica Du Toit

**PV Installation of the Year - Commercial Properties**

- Sponsored by Nedbank

**Winner**

- Conli Turnkey

**Finalist**

- Conli Turnkey Projects

**PV Installation of the Year - Domestic Properties**

- Sponsored by Nedbank

**Winner**

- Michael Labuschagne Electrical - Fynbos

**Finalists**

- Power works - Willy Lategan
- Michael Labuschagne Electrical - Fynbos
- Bay Electrical - Mount Africa PV

**ECA(SA) Branch Excellence Award**

**Winner**

- Highveld Region

**Overall Apprentice of the Year**

- Sponsored by Major Tech

**Winner**

- Chad Kevin Elliot



## Implementing MDM offers important power consumption and cost saving gains

The saying 'let your hard work speak as you remain silent' comes to mind when you think about how important unobtrusive, silent systems have become in our daily lives, says Dwibin Thomas, Cluster Automation Leader at industry leader Schneider Electric. "In a time of modern energy management, Meter Data Management (MDM) is primary example of a silent, hardworking component that provides us with vital information on how we consume energy."

Normally situated at utility offices or control centres, MDM software quietly bridges the gap between smart meters and utility providers, delivering important real-time intelligence and management features that optimise power consumption. "The primary role of an MDM system is to collect data on a half-hourly basis; it connects to the meter, retrieves data and then verifies its accuracy through built-in checks and balances," explains Thomas. Should there be a case where data cannot be located, the software intuitively and automatically provides an accurate estimate based on historical load profiles. For example, if data is missing at 12h00, it can reference the previous week's 12h00 load profiles and fill in the gap, so to speak.

Before smart meters and MDM systems became the norm, utility providers relied on monthly estimates to calculate usage bills. With the introduction of smart meters and MDM software, these estimates can become significantly more accurate and more importantly, automated.

By ensuring fairly accurate measurements, MDM software is able to offer cost benefits to consumers, explains Thomas. "By delivering real-time load profiles, the utilities can provide time-of-use tariffs to their customers. This means that instead of a flat rate, customers can be charged varying rates depending on when they use electricity." There is also improved consumer energy usage. "Peak usage times is often prohibitively expensive – managing power consumption during these times can save on costs, improve demand-side management and contribute to a less strained grid that is already unstable."

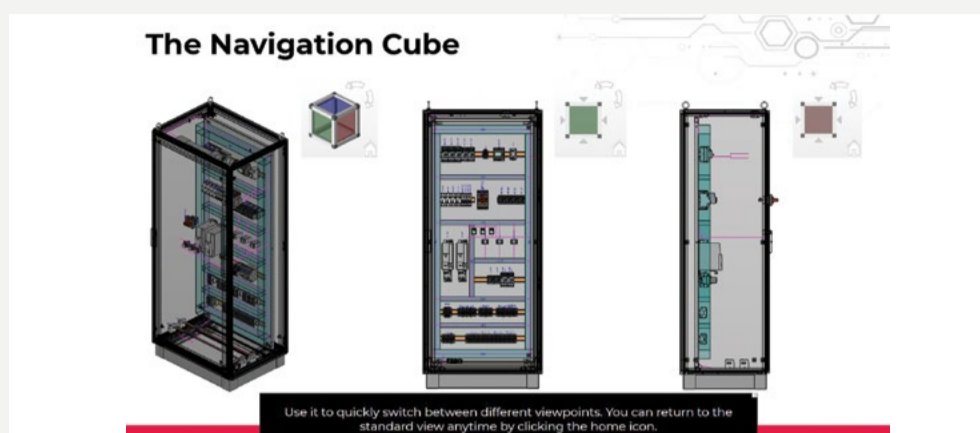
The smart meters and advanced MDMs systems monitor power consumption 24/7 and since it is an automated process, no man hours are wasted. This adds to accuracy, and if a household's usage exceeds a predetermined threshold, the smart meter will automatically switch off certain appliances. "This not only benefits the utility provider but also

## ePlan's online learning could add to your business success

German online e-education company ePlan has more than 1 500 courses on its platform, covering industries that range from energy and maritime, to panel building and component manufacturing. Now available locally, there is no better time to update and upgrade your skills and knowledge base with the click of your mouse.

"ePlan is a form of self-study that has been well received all across the world," explains Dr Dusko Lukac, ePlan's Head of Professional Education. He says, "Each learning course complies with international standards and is fully localised, meaning you will be educated to work in your precise location. We have done this because we want our users to get the knowledge they need to continue building their lives, not to feel as though they do not understand what they are doing in real-world applications."

The various courses have been designed so learners are able to complete individual modules in 30-45 minutes, which are followed by quick quizzes so the users can see how much they have learnt. Should they need to review the module, they can simply click the 'back' button and begin it



again. The modules are also self-paced, so users who need a bit more time to learn can do so at their own speed.

The software and courses have been put together so learners are able to solve simple and complex problems in their chosen fields, which group Chief Executive Officer Sebastian Seitz says "was key to our project."

"Industry needs to achieve a fundamental transformation at a time when, in many parts of the world, it is getting increasingly difficult to find people with the necessary skills. The only way to succeed now is to incorporate

extensive automation into planning, building and manufacturing processes."

Seitz adds, "We are playing our part with standardising content. By promoting standardisation and agreement on reference architectures that everyone will work with, the more effective they will be." This means that students learning content around the world will have the same foundation principles in their modules, allowing for greater teamwork and industry progression in the field."

Enquiries: [www.eplan.co.za](http://www.eplan.co.za)

## Augmented reality will continue to benefit the electrical industry

Augmented Reality (AR) and Virtual Reality (VR) systems are quickly becoming important to electricians and contractors. These digital systems allow you to work in a 3D world generated from building plans and schematics. With AR, electricians and electrical contractors can visualise and troubleshoot electrical systems, while VR can be used to train electrical workers in a real-world simulated environment.

Tech website [www.utilitiesone.com](http://www.utilitiesone.com) says that AR is helping in various aspects of electrical work. "It will revolutionise the maintenance process as users, who will be able to identify weak spots that need attention in a system. It will also enhance safety and efficiency as electrical workers will be able to explore the environment, as it exists in the real world, in a simulation and they will be able to identify and effect tricks repairs in a trial run first."

AR can provide users with step-by-step guides to maintenance, repairs and installations, highlighting the actions that need to be done. "The AR system will be able to intuitively identify components and equipment through image recognition,



enabling technicians to quickly identify and locate the specific assets they are looking for," explains [utilitiesone.com](http://www.utilitiesone.com). "AR headsets equipped with cameras allow technicians to share real-time video and audio feeds with remote experts, who can provide immediate support, leading to faster repairs and minimising downtime."

The two systems can provide interactive digital manuals and guides for users to 'page' through. "Digital overlays show information on top of equipment, giving users a better understanding of what

they are working with, where it fits into the system and what they need to give attention to," says the website. This kind of technology also transfers through to training, where students can use their hands in a digital world. "AR simulations provide trainees with a realistic experience without exposing them to potential hazards. They can perform complex procedures virtually, gaining hands-on experience and building confidence before working with actual equipment," adds [utilitiesone.com](http://www.utilitiesone.com).

empowers consumers to better manage their energy consumption, particularly during periods of loadshedding," says Thomas.

As mentioned, MDM software goes together with smart meters, and while large power consumers, often referred to as mega-users, are implementing advanced metering systems, widespread adoption is still limited, and the pace is somewhat slow. "MDM software is utilised by these mega-users to accurately align their operations and power consumption with the time-of-use tariff structure," says the Schneider executive.

From a data generation perspective, the MDM systems currently in use by

mega-users is comparatively limited. In contrast, rolling out smart meters for every South African household will generate a substantial amount of data, which in turn helps improve the MDM system. "Managing this data will require Validation, Editing, and Estimating, also known as VEE, which require a sophisticated MDM system," warns Thomas. "The transition to smart meters and advanced MDM systems has the potential to significantly reduce the need for broad scale loadshedding, allowing for more targeted and efficient energy management."

Enquiries: [www.se.com/za/en](http://www.se.com/za/en)





## Lightning protection is risk management, says ELPA

There is the misconception that lightning protection is only for large buildings, when the truth is that you can have it at home if your risk profile indicates that the suffering of loss and damage outweighs the price of protection. "This is due to a lack of knowledge and we are trying to educate the general public," says Mike Visser of Power Quality, who founded the Earthing & Lightning Protection Association (ELPA) with other industry members.

"Lightning protection is an engineering exercise. You need to have quite a bit of technical understanding to develop, build and install such a system," says Visser. Many people think that a lightning pole or mast is connected to the building with a couple of wires and that is it – in fact, the opposite is true, says Visser, who also sits on our standards development bodies. The mast is probably the most visible piece of equipment that you would encounter, but the total package is far more involved and engineered, he adds.

There is a lot of mathematics that goes into these lightning protection designs to ensure safety, says Visser, adding, "There is a phenomenal amount of electrical energy and massive electromagnetic effects that are created during a lightning flash. The way a person generally protects structures is to install air terminals and down conductors to take the energy from the air terminals, to ground level. You must shunt all that electrical energy into the ground as harmoniously as you can."

Visser says that once a protection system has been installed, a large portion of people forget about maintenance. "This kind of installation has been engineered in compliance with various codes of practice. Logic and common sense dictate that it needs to be maintained, serviced and repaired to ensure that compliance is maintained, and that the system is safe for the risk and that it operates correctly."

Periodic (depending on the risk level and solution design level) inspections and tests should be conducted on a lightning protection system so that users can not only evaluate the status of the system, but, if required, identify issues that were not part of the original risk analysis and design. Changes to the structure or use of the structure could raise the risk profile from the original risk assessment before, with a consequential result of damage, injury or even death. Some structural changes could introduce a greater problems that compromise the system's efficacy.

There is no such thing as absolute effectiveness – if you want 100% protection,

you will need to build a steel structure shielding your premises completely from incoming lightning flashes. Even then, there needs to be a calculated distance between the structure and equipment or other structures because lightning 'jumps' to alternate potentials. "If you take the Eiffel Tower, for example, that structure is struck many times every year. Very little damage is done because it is protected correctly. But

even then, there is some risk of damage or injury," explains Visser.

Lightning protection is relatively affordable, but it is still a risk-reward ratio that needs to be considered. "If you do not own a lot of expensive assets, how important is lightning protection on your structure? If your structure burns after a lightning flash, it could be a fatal problem. If you are at risk of losing R100 000 worth of electronics once

every 20 years, on the other hand, you will want to protect your property," he concludes.

The core function of ELPA is to protect the consumer, industry and members. "The biggest thing people do not realise is that it is good risk management to define your risk, regardless of whether this is your home or your workplace," says Visser.

Enquiries: [www.elpasa.org.za](http://www.elpasa.org.za)

# Don't let your people, plant structures or systems take lightning damage

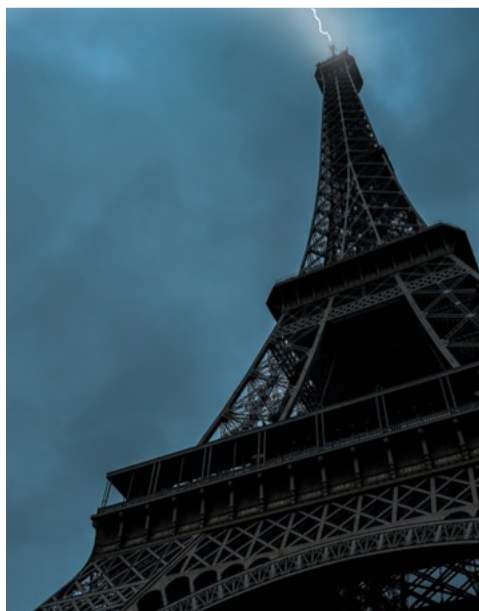


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## Unearthing trends and navigating the evolving landscape of electrical earthing

As technology advances and industries evolve, the landscape of electrical earthing is undergoing transformative shifts despite being one of the most basic and fundamental pillars of electrical systems. From innovative materials to enhanced safety measures, according to electrical website [www.scitechdaily.com](http://www.scitechdaily.com), here are the emerging trends shaping the future of electrical earthing around the world.

**Smart earthing systems:** As we embrace the era of smart technologies, electrical earthing systems are no exception to the global trend. Smart earthing solutions integrate sensors and monitoring devices to provide real-time data on the condition of the grounding system you have in place. These systems enable proactive maintenance, allowing businesses to address potential issues before they develop into larger, unmanageable problems. The advent of smart earthing not only enhances safety but also contributes to the overall efficiency and reliability of electrical systems.

**Advanced materials for improved conductivity and durability:** Traditionally, copper has been the go-to material for grounding conductors due to its excellent conductivity. However, rising costs and environmental considerations have spurred the development of alternative materials. Enhanced alloys and conductive composites are gaining popularity for their comparable conductivity, corrosion resistance and cost-effectiveness. These advanced materials are not only redefining the standards for conductivity but are also contributing to more sustainable and durable earthing solutions.

**Innovations in lightning protection:** Lightning poses a constant threat to electrical systems, and innovations in lightning protection are reshaping the landscape of electrical earthing. Integrating early warning systems, advanced lightning rods and surge protection devices, these solutions are designed to

provide a comprehensive defence against the destructive forces of nature. Businesses are increasingly adopting these innovations to ensure uninterrupted operations and to protect sensitive electronic equipment from the impact of lightning strikes.

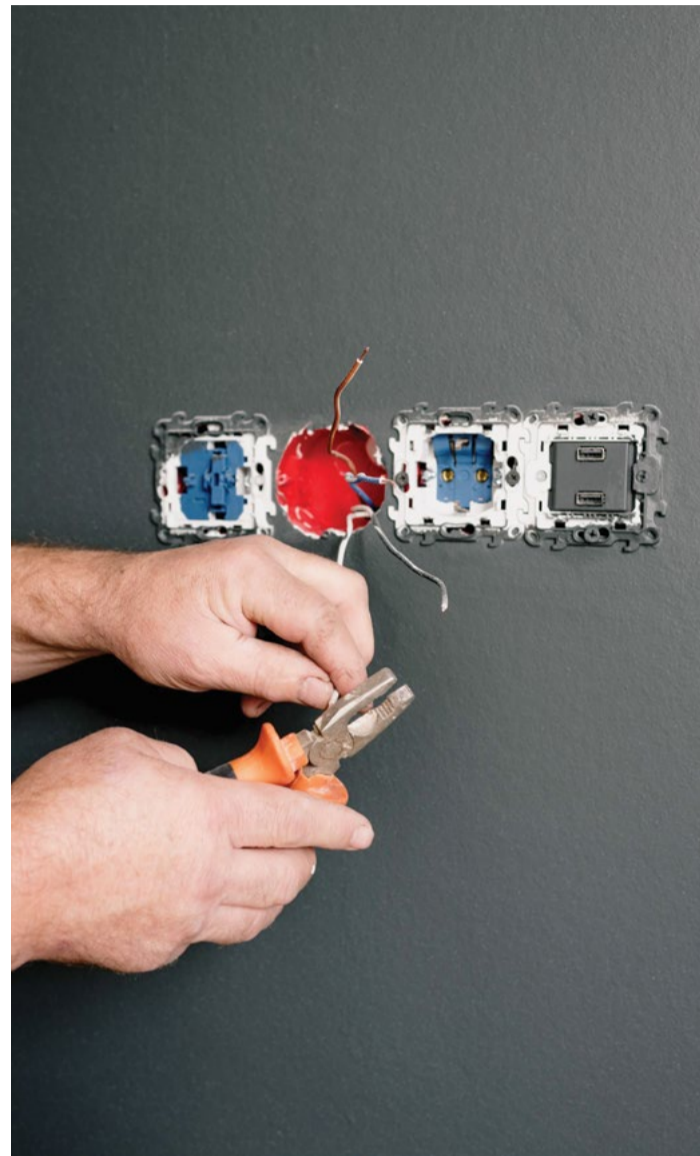
**Resilient grounding for renewable energy systems:** With a growing emphasis on sustainable energy sources, the integration of renewable energy systems is a dominant trend. Electrical earthing solutions for renewable energy installations, such as solar and wind farms, are evolving to accommodate the unique challenges posed by these systems. Resilient grounding strategies ensure the effective dissipation of electrical surges and lightning strikes in these expansive and environmentally sensitive settings.

**Integration with building automation systems:** Building Automation Systems (BAS) are becoming integral components of modern infrastructure. The trend in electrical earthing is shifting towards seamless integration with BAS, allowing for centralised monitoring and control. This integration not only enhances the overall efficiency of building operations, it facilitates rapid response to any anomalies in the grounding system.

**Improving safety standards with regards to compliance:** In a time where safety is paramount, there is a heightened focus on adherence to international standards and regulations governing electrical earthing. The trend is not just towards compliance but exceeding basic requirements to enhance safety margins. Companies are proactively investing in safety measures, training programs, and comprehensive risk assessments to ensure that their electrical grounding systems meet or exceed the most stringent standards.

As electrical systems become more complex and interconnected, the trends in electrical earthing highlight the need for adaptability and innovation. The infusion of

smart technologies and the development of newer materials and methods of system integration and operation is seeing a shift to a safer, more efficient and environmentally conscious earthing landscape.



## How and why it is important to spot and rectify inadequate grounding systems

Proper electrical earthing is crucial for the safety and performance of electrical systems, says wiring specialist and manufacturer South Ocean Electric Wire Company. Here are some common mistakes made with electrical earthing and why it is so important to correct them before there is a problem.

**Corrosion and erosion:** Choosing materials that are susceptible to corrosion or erosion can compromise the integrity of the grounding system over time. This not only means you will need to conduct more routine inspections than with a properly grounded system, more maintenance and repairs will need to be done over time, increasing the financial burden.

**Failure to bond metallic systems:** All metallic systems, such as pipes and structures, should be bonded

together to prevent potential differences that could result in hazardous conditions. By connecting these systems, the installed grounding circuit will operate correctly and efficiently, providing the desired protection.

**Failure to consider soil conditions:** Soil resistivity can vary significantly based on location (even on a single property) and environmental factors. Ignoring these variations can lead to improper grounding design, so it is imperative that a proper assessment on the soil is done before a grounding system is designed and installed.

**Failure to implement safety measures:** Neglecting safety measures during the installation and maintenance of grounding systems can lead to accidents and injuries. Safety wear such as helmets, gloves and other gear, as well as correct, functioning tools, equipment and materials should always be used during the installation and maintenance processes.

**Improper separation:** Grounding for power systems and communication systems should be separated to avoid interference. Failure to do so can lead to issues such as signal distortion or equipment damage, which compromises the grounding system.

**Improper sizing:** Incorrectly sizing grounding conductors and electrodes can lead to ineffective grounding and your system will not provide the protection that you are demanding of it.

**Insufficient grounding**

**electrodes:** Using too few or inadequate grounding electrodes can result in high ground resistance. This in turn means that your system will not be grounded correctly, and a surge will result in damage to the property and equipment that is connected to the power supply.

**Lack of lightning protection:** In areas prone to lightning, especially South Africa's highveld region, failure to provide adequate lightning protection can result in damage to equipment and pose safety risks. A lightning expert should be hired to conduct tests on your property to ensure an existing protection system is adequate or in need of upgrades or develop an entirely new installation to safeguard the assets.

**Lack of regular testing:** Grounding systems should be regularly tested to measure and ensure their effectiveness. Failure to do so can result in undetected faults developing, which will then result in the system not providing proper protection.

**Loose or poor connections:** Loose connections at grounding points can increase resistance, reducing the effectiveness of the grounding system. Poor connections include inadequate burial depth, where the grounding electrodes are not buried at sufficient depth to ensure good contact with the soil.

**Neglecting Maintenance:** Over time, environmental factors, corrosion and other issues can degrade the grounding system. Regular maintenance is necessary to address these issues before they become far greater issues and compromise the system entirely.

**Non-compliance to legislation, standards and regulations:** Failure to adhere to local regulations and industry standards for grounding can result in unsafe installations. There are further consequences such as fines, insurance being cancelled and being open to litigation should a person be injured due to non-compliance of your system.

To ensure a safe and effective grounding system, it is essential to consult with professionals, adhere to relevant standards, conduct regular testing and maintenance, and consider specific site conditions.

Enquiries: [www.soew.co.za](http://www.soew.co.za)





## The crucial role of electrical earthing in safety and performance

Electrical earthing, often overlooked in its simplicity, plays a fundamental role in ensuring the safety and optimal performance of electrical systems, says electrical distributor ACDC Dynamics. It involves creating a connection between an electrical circuit or equipment and the earth, providing a pathway for electric currents to safely dissipate into the ground. Here is why correct electrical earthing is so important, as well as some of its critical functions in various applications.

### 1. Safety first: Protecting lives and property

One of the primary purposes of electrical earthing is to safeguard lives and property. In the event of a fault, such as a short circuit or equipment malfunction, electrical currents can unintentionally flow through conductive parts. Proper earthing ensures that these currents are promptly directed into the ground, minimising the risk of electric shock and preventing potential fires that could result from overheating.

### 2. Equipment protection: Prolonging lifespan and reliability

Electrical equipment is a significant investment, and proper earthing contributes to its longevity and reliability. Earthing provides a low-resistance path for fault currents to flow, allowing protective devices like fuses and circuit breakers to operate efficiently. By facilitating the quick disconnection of faulty circuits,

earthing helps prevent extensive damage to equipment and minimises downtime, saving both time and resources.

### 3. Static electricity dissipation: Keeping industrial processes safe

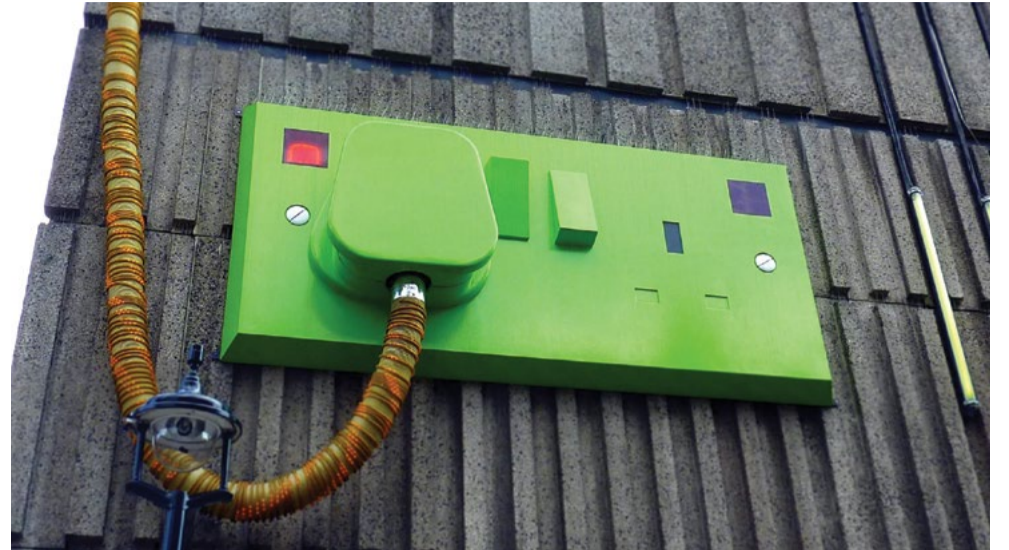
In industrial settings, where machinery and processes generate static electricity, proper earthing is crucial. If static charges are not dissipated effectively, they can accumulate, leading to sparks that might trigger fires or explosions in hazardous environments. Incorporating effective earthing strategies ensures that static charges are continuously discharged into the ground, maintaining a safe working environment.

### 4. Lightning protection: Redirecting nature's fury

Electrical storms bring the threat of lightning strikes, capable of causing catastrophic damage to structures and electronic systems. Earthing plays a pivotal role in lightning protection (read: Navigating the pitfalls of incorrect lightning protection) by offering a low-resistance path for the massive electrical energy from lightning strikes to safely dissipate into the ground. Lightning rods and grounding systems work in tandem to protect buildings, communication towers, and other critical infrastructure from the destructive forces of nature.

### 5. Signal quality: Enhancing communication systems

In telecommunications and electronic



systems, maintaining a low-noise environment is essential for optimal signal quality. Improper grounding can introduce unwanted noise and interference, degrading the performance of communication systems. By establishing effective electrical earthing, these systems ensure a clean and stable reference point, preventing signal degradation and enhancing overall reliability.

In the complex world of electrical systems, electrical earthing stands as the unsung hero, providing the foundation for system safety, reliability and performance. Its multifaceted role encompasses protecting people's lives, preventing equipment damage, dissipating

static electricity, safeguarding against lightning, and enhancing signal quality in communication systems.

As we continue to advance technologically, the importance of proper electrical earthing remains critical. Whether in residential wiring, industrial operations, or sensitive electronic applications, the implementation of robust earthing practices is not just a matter of compliance; it is a crucial investment in the integrity and resilience of electrical systems. Effective electrical earthing is not just a technical requirement but a cornerstone of electrical safety and performance.

Enquiries: [www.acdc.co.za](http://www.acdc.co.za)

## Navigating the pitfalls of incorrect lightning protection

Lightning strikes can be breathtaking and destructive at the same time. As modern structures rise into the skyline, the importance of effective lightning protection has never been more critical, says local lightning protection company Lightning Protection Concepts. However, navigating the intricate web of standards and implementing proper safeguards is a challenge that is often underestimated. Here is a look at the pitfalls of incorrect lightning protection and the consequences businesses and individuals face when they overlook this elemental necessity.

### 1. Structural damage: A bolt from the blue

The most immediate and visible consequence of inadequate lightning protection is structural damage to your building. When lightning strikes a structure without proper safeguards, it can cause fires, explosions and severe damage to the structure itself. Inadequate or poorly installed lightning rods, grounding systems and surge protection devices leave



buildings vulnerable to the destructive power of lightning, putting lives and property at risk.

### 2. Equipment and electronic damage: The silent surge

Modern businesses are highly dependent on electronic systems and sensitive equipment. Incorrect lightning protection leaves these assets exposed to power surges induced by lightning strikes. Unprotected power lines and data cables become conduits for electrical surges, leading to the destruction of computers, servers and other critical infrastructure within the building. The financial toll of replacing or repairing damaged equipment can be staggering, not to mention the potential loss of valuable data. Should your insurance company find that your protection system was incorrectly installed, they will also not cover your loss and you will be further jeopardised.

### 3. Fire hazard: Igniting the unseen flames

Lightning-induced fires are a genuine concern for structures lacking proper protection. When a lightning strike occurs, the immense heat generated can ignite flammable materials within a building as well as the building structure itself in the case of timber-constructed buildings and thatch roofs. In the absence of robust protection measures, fires can quickly spread, turning a lightning strike into a catastrophic blaze that endangers lives and exacerbates property damage.

### 4. Safety risks for occupants: A shocking reality

The safety of occupants within a structure

is paramount. Incorrect lightning protection exposes individuals to significant risks. Without a comprehensive protection system in place, lightning can induce dangerous electrical currents within a building, leading to shock hazards. Proper grounding and bonding are essential to channelling lightning safely to the ground, minimising the risk of injury or death to people inside.

### 5. Legal and insurance ramifications: Financial thunderclaps

Neglecting proper lightning protection can lead to significant issues in the legal and insurance realms. Insurance providers often mandate compliance with lightning protection standards to mitigate the risk of property damage. In the event of a lightning-related incident, an inadequate or absent protection system may lead to insurance claims being repudiated, leaving individuals and businesses to bear the full financial burden of repairs and replacements, with the insurance company then demanding the insured party install a compliant system or have their policy cancelled.

### 6. Operational downtime: A storm in productivity

Beyond the immediate physical and financial repercussions, incorrect lightning protection can result in significant operational downtime. Businesses may face interruptions due to damaged equipment, data loss or structural repairs. This downtime not only affects productivity but can also harm a company's reputation and customer relationships.

### 7. Environmental impact: Thunderbolts and green consequences

Environmental sustainability is of global importance and significance at the moment, and the ecological impact of incorrect lightning protection should not and must not be overlooked. Lightning-induced fires can lead to widespread deforestation and contribute to air pollution. Sustainable lightning protection solutions, such as eco-friendly materials and energy-efficient grounding systems, can help mitigate these environmental consequences.

In a world that is increasingly interconnected and dependent on technology, correct lightning protection and the importance thereof cannot be overstated. From the immediate risks of structural damage and fire hazards, to the long-term consequences of legal liabilities and environmental impact, the pitfalls of inadequate protection are varied and significant.

Businesses and individuals must recognise that lightning is not a force to be underestimated. It requires a holistic approach to protection that includes proper grounding, lightning rods, surge protection and adherence to industry standards. By investing in comprehensive lightning protection measures, we not only shield ourselves from the immediate dangers of a lightning strike but also fortify our structures against the silent and lingering aftershocks that can reverberate for years to come. It's time to illuminate the path to safety and resilience in the face of nature's electrical fury.

Enquiries: [www.lpconcepts.com](http://www.lpconcepts.com)



## Solar specialist Valsa adds aesthetic cable management clips

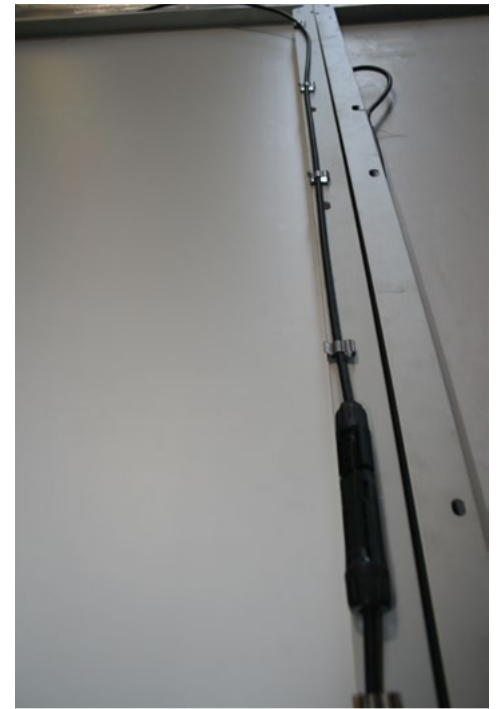
With almost 15 years of operation in the local solar system industry, Valsa Trading has a comprehensive range of photovoltaic (PV) products and accessories. Form and function are allowed to be blended, which is where Valsa's cable management clips come into play. "These types of products are invaluable assets for organising and securing AC and DC cables in all types

of solar power systems," explains Svilen Voychev, Valsa's Chief Executive Officer (CEO).

The clips are used in combination with the company's range of SANS (South African National Standards) approved BETAflamR Solar 125 flex UL/EN cabling. "They have been designed and manufactured to the exacting standards required by the solar industry,"

says the CEO, adding, "These clips are engineered to precisely fasten all cables beneath the PV solar module frame, and are manufactured from durable and corrosion-resistant stainless steel. They have the versatility to accommodate 4mm and 6mm cables."

Cables in any system, not just a solar PV system, should be neatly managed. It is easiest to complete this during installation,



with the tied-up cables not only giving a tidier and more aesthetically pleasing appearance, but also safeguarding against unwanted cable sagging and bending. "This situation can have potentially disastrous consequences," says Voychev, "as the cables are compromised and prone to damage in this kind of scenario. Each clip can securely hold between two to four cables, offering adaptability across various applications especially when combined with ground lugs. The process contributes to a quick and professional installation especially when working on potentially dangerous rooftops."

The cable management system can be used with expansive solar panel arrays, allowing the easy configuration of string combinations. "There is a flexibility with the clips in terms of installations as they can be used with frame thicknesses ranging from 1.5mm to 2mm. These cable management clips provide fast, simple cable installation that ensures ease of access for any necessary upgrades or repairs," says the CEO.

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## Referro Systems upgrades with Allen-Bradley Guardmaster cable-pull switches

Local distribution brand Referro Systems has added a rugged switch to its product offering with the Guardmaster Lifeline 5 from 120-year-old United States electrical brand Allen-Bradley. "This cable-pull switch introduces improved safety for personnel and equipment in a factory, and they can extend the lifespan of systems in the harshest operating conditions," explains Adrian van Wyk, Managing Director (MD) of Referro Systems. "This kind of product is something that is often overlooked but can be critical to the integrity and functioning of a system."

Traditional cable-pull switches are prone to nuisance trips and unreliable operation due to temperature-based changes in cable tension, which can often occur without warning of the event happening. "Slack or non-existing pull cables add to issues because not all cable-pull systems are tensioned," adds Van Wyk. "The solid-state operation of the Lifeline 5 offers an electronic monitoring system to compensate for thermal expansion and cable sag as well as are a tensioned system that 'understands' the difference of the pull cable being present or not. These safety switches are focused on improving safety without sacrificing productivity, reducing downtime and ensuring that workers are completing their tasks with the peace of mind that they are protected in the event of an incident."

The units are sold in two versions – die-cast aluminium and stainless steel, with IP66 and IP67 environmental ratings, respectively. The Lifeline 5 is used to optimise productivity by combining maximum reliability with diagnostics that will intuitively alert operators to a potential problem. "The die-cast aluminium model also offers an optional and integrated E-stop button for even greater application flexibility," says the MD. "As the Lifeline 5 is a solid-state switch, the mechanical wear often associated with traditional switches is mitigated, resulting in increased uptime with improved safety over a longer lifecycle saving on both maintenance and improving the lifespan of your conveyor belt system as there are fewer working parts that have the potential to fail."

The cable accessory's safety switch gives users easy access to the E-stop function, a factor that has resulted in countless injuries being prevented. A push of the onboard E-stop button or pulling the cable turns off the system instantly, and the patented microprocessor-based solution

simplifies setup during the installation process. "This allows for improved efficiency when it comes to system maintenance and troubleshooting," adds Referro's Managing Director. "The 270-degree LED integrated indicators assist in cable tensioning for quick, precise setup while providing clearly visible switch status and diagnostics during

operation. This means that users are always aware of the environment's operating status, and they can adapt their work to what the machines are telling them."

The Lifeline 5 is an upgrade on the Lifeline 4 switch, but the connections have remained the same, which means that the new unit is backwards compatible with

already operating Lifeline 4 systems and can be integrated easily and safely. "With a cable span of up to 100m, this completely sealed, solid-state and micro-processor based switch with an extended temperature range is internationally certified and with its rugged construction is designed for local operating conditions, providing overall personnel safety and machine safety in a single device," concludes Van Wyk.

Enquiries: [www.referro.co.za](http://www.referro.co.za)








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## CNE vs SNE cables: What is the big difference?

While they share many commonalities and look near identical from the exterior, there is a significant difference between CNE (Combined Neutral & Earth) and SNE (Separate Neutral Earth) cables. With a CNE cable, there is only a bare earth conductor within the cable, while the SNE has identified neutral and bare earth conductors when you look inside the cable.

Both cabling products feature circular stranded hard-drawn copper phase conductors, durable polyethylene sheaths with nylon ripcords below the sheath, and XLPE insulation with concentrically arranged identified conductors. They are the same small-size diameter and feature a low mass as there is no wire armour in the construct. The CNE and SNE cables provide improved

reliability compared to years ago, with a UV stable sheath, core insulation and water blocking that allows the cable to operate in harsh environments. Thanks to advancements in the manufacturing, both are tamper- and vandalproof with a concentric centre inhibiting unauthorised access to the phase conductor.

CNE



Split Concentric-SNE

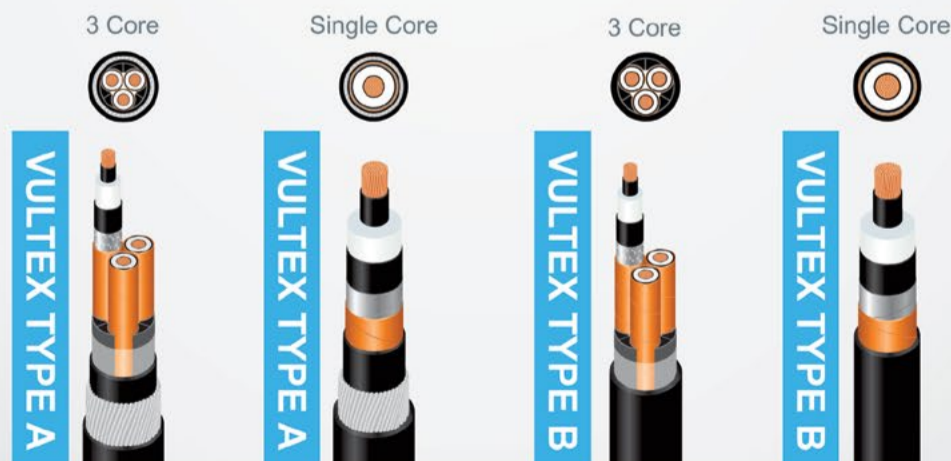


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## Hydraulic crimping kit that will transform your cable work

Leading electrical manufacturer and distributor Major Tech is continuing with its special deals and one of the biggest is with its ECT400 battery-powered crimping tool that retails for just under R36 000\*. With a crimping head that rotates 350° there is no job or awkward position this tool cannot handle.

The ECT400 features a clear OLED display that keeps the operator fully informed with the performance of the unit before, during and after a crimping job – it provides information on crimping time, electricity quantity, maintenance reminders, fault codes and more. There is an intricate two-stage hydraulic system housed within the device that can apply maximum crimping of 400mm<sup>2</sup> on copper and 300mm<sup>2</sup> on aluminium. There is an automatic retraction motion for when crimping has been completed, as well as a quick motor stop that shuts down the ECT400 in milliseconds should there be a problem.

The tool comes in a sturdy carry case with foam cut-outs that hold the ECT400 snugly in place during transport. There is space for two 40Ah 18V rechargeable lithium-ion batteries, the charger unit, and crimping dies in the following size profiles: 16mm<sup>2</sup>, 25mm<sup>2</sup>, 35mm<sup>2</sup>, 50mm<sup>2</sup>, 70mm<sup>2</sup>, 95mm<sup>2</sup>, 120mm<sup>2</sup>, 150mm<sup>2</sup>, 185mm<sup>2</sup>, 240mm<sup>2</sup>, 300mm<sup>2</sup> and 400mm<sup>2</sup>.

The ECT400 has a rated pressure measurement of 120KN, 42mm stroke capacity, and takes between 5 and 8 seconds per cycle time during operation. With its ergonomic design and carefully considered centre of gravity, the ECT400 delivers performance regardless of the crimping demands.

Enquiries: [www.major-tech.com](http://www.major-tech.com)

\*Price was correct at print and is subject to change without notice. Regular price R42 000.





## ILLUMINATING THE INDUSTRY WITH ANDREA

## Beyond the thermometer: Lighting's hot dilemma in South Africa



**Opinion piece:** Andrea Barausse is the founder and managing director of Durban-based lighting company Energywise Systems. In 2023, he was elected as the technical chair of IESSA – the Illumination Engineering Society of South Africa.

In the world of lighting, the role of temperature in performance often lingers in the wings, overshadowed by other factors such as cost. This oversight becomes particularly significant when we consider the international standards that dictate that luminaires be tested at a temperature of 25°C, a benchmark that may not accurately mirror real-world conditions, especially here in Africa's harsh climate.

South Africa, characterised by a



climatic range of 15–36°C in summer, presents a unique challenge for the lighting industry. On a normal summer day, many indoor industrial applications see temperatures soar well beyond 45°C, especially at elevated ceiling heights that trap heat and where lighting fixtures are commonly positioned in a factory or

warehouse environment.

The crucial parameters for luminaires – including lumen output, temperature behaviour (L&B) and Driver F ratings – are calculated for an ambient temperature (Ta) of 25°C. As a rule of thumb, for every 10°C above this threshold, the performance of electronic components within luminaires is anticipated to be as much as halved. This correlation between operating temperature and component longevity directly influences Return on Investment (ROI) calculations, making it a pivotal factor for businesses and consumers alike.

Given the high temperatures experienced in most industrial settings, this prompts us to question whether testing standards should evolve to reflect more realistic conditions. Should we not then be testing luminaires for a Ta of 35°C or even higher to ensure accuracy in our performance expectations? Or are South Africans expected to install air-conditioning systems in our warehouses and factories to achieve the results promised to us on the promotional material?

Understanding the impact of temperature on lighting performance is not merely an academic exercise but rather a practical

consideration with tangible consequences. The industry's current reliance on a standardised testing temperature can and does lead to miscalculations in lifespan or performance expectations and, consequently, hinder accurate ROI projections. And if we cannot influence the testing standard as we would like, then surely our lighting designs should account for the realities that our fixtures have to function in. How would this occur, you ask? Typically by throttling down the milliamps pumping through the luminaire and dropping its lumen output. However, this sees you needing to install more lights to get the same result as originally required. Far from ideal, but that is the non-sugar-coated reality that we are facing. And if you are not, you should be asking questions of those specifying your lights.

As an industry, we have two options as I see it: A paradigm shift that insists the African temperatures be used as a standard for light fittings used in South Africa (crazy I know) resulting in more robust lights that are task-specific, or (and more immediately achievable) an insistence by you, the consumer, that demands temperature be considered in your solutions.

## BEKA Schröder lights up astro hockey field

Lighting specialist BEKA Schröder has provided the illumination solution for famous Cape Town high school Durbanville High's astro hockey field. "The school, which was founded in 1827, decided to add a smart floodlight solution to their sport field to be able to use the facility more during winter times when the sun sets early, and also to rent it out to tertiary institutions," explains Riaan Bubb, a senior sales engineer at BEKA Schröder Cape Town.

The lighting requirement was for a 350 Lux average horizontal illuminance installation that is energy efficient and can be controlled to have flexibility in dimming the floodlights, as well as switching on each pole individually. BEKA Schröder's Omniblast-2-E Midi with Schröder Iterra lighting control was chosen for this purpose, says Bubb, adding, "Instead of using 15m to 21m high masts, eight 12m high poles with four floodlights each were installed, making the installation cost-effective and less cumbersome. The asymmetrical optics in the Omniblast luminaires made it possible to control the glare factor, keeping the figures well within the allowable glare recommendations."

The Schröder Iterra lighting control system allows authorised users linked to the specific project for security reasons, to switch the lighting installation on or off, dim it, or activate dynamic scenes by simply using an easy-to-use app on their smart devices. Bubb explains, "The system provides a complete user- and installer-friendly wireless control solution for sports and interior lighting applications. It offers site managers a robust, cost-effective and futureproof platform to run their infrastructure with flexibility for adapting the lighting to any scenario or event while maximising energy savings and providing the best game experience."

A mobile app-based system, Schröder Iterra is easy to operate and comes with



an intuitive visual interface that users can quickly personalise to the layout and settings of their lighting installation.

"Schröder Iterra is based on Bluetooth Low Energy (BLE), the state-of-the-art wireless communication standard that is fully compatible with all recent smartphones, tablets and even smartwatches. The use of open and standard technologies coupled with the handy App makes the Schröder Iterra app a real plug-and-play remote control solution for extracting the full potential of the lighting installation," adds Bubb.

The Omniblast-E is available in a Midi and Maxi variant and is designed and manufactured in South Africa, with Bubb explaining why it was chosen. "This LED solution offers an alternative with proven benefits for traditional fixtures fitted with 250W to 2 000W HID lamps. It meets various lighting applications, ranging from general area lighting to recreational sports lighting up to professional broadcasting requirements, matching the horizontal and vertical lighting levels respectively. A modular

concept of optical units means that one, two or three modules can be mounted on a similar bracket arrangement to offer the utmost versatility, providing light distributions and lumen packages perfectly adapted to the specifications of the area to be lit."

The Omniblast-E is a cost-effective solution that maximises energy efficiency and maintenance savings. Its housing is manufactured from marine-grade, high-pressure die-cast aluminium, which means that it is perfectly designed to withstand South Africa's harsh coastal climates, and it has also been manufactured to allow for easy upgrades. "The Omniblast-E meets all the lighting requirements and regulations from the International Sport Federation. It has an inclination angle that is adjustable on site, so minor tweaks can easily be done, and there is a surge protection of 10kV/10kA. This installation is going to make it so much easier to use the hockey field at times when it previously would be too dark and compromise safety," he concludes.

Enquiries: [www.beka-schreder.co.za](http://www.beka-schreder.co.za)

## Hybrid lighting transforms Dutch nursery

Dutch nursery group Van Gog Kwekerijen has been utilising LED lighting solutions for the past four years to counteract fewer hours of sunlight during the winter months. And it has paid off, reports agriculture website [www.hortidaily.com](http://www.hortidaily.com). "The growers at the nursery consciously chose a hybrid lighting system by combining the existing Son-T lamps with new-technology LED lamps," says a nursery spokesperson, adding, "The heat from the Son-T lamps activates the growth point of the crop, while the LEDs provide added lighting."

The system is a move towards a more sustainable future, with the LEDs burning for an additional hour when the nursery's solar PV system stores a surplus of energy. "The LEDs are dimmable, they switch on and off quickly, and you can control the tone and hue of colour being used," adds the nursery. "Using LEDs in greenhouses is a fairly new concept, so we are learning about pros and cons on a weekly basis," adds the spokesperson. "We are becoming somewhat specialised, to the point where we are investigating the correct light spectrum for cucumber cultivation".





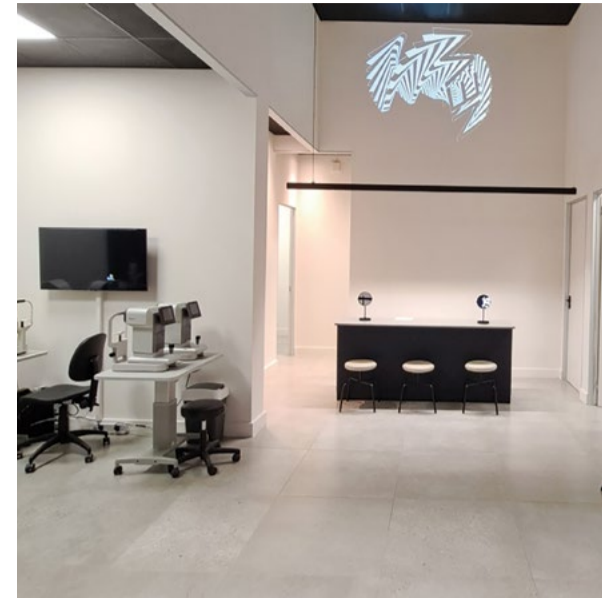
## Lighting helps for clearer vision

Illumination specialist Regent Lighting Solutions recently revamped the lighting installation at Johannesburg optician SpecStudio at the Campus Square shopping centre. The company was approached by contractor Abach Electrical to offer a lighting solution that would provide functional lighting while matching the store's revamped modernistic aesthetic, which was done with great success.

The combination of the A-line Dega 3000 system and the Dega 1150 suspended 24-module luminaire system provide both visual appeal as well as practical functionality as an illumination solution, with Jura 1031 track spots providing a full lighting spectrum from their higher mounting points.

The use of these fittings and fixtures creates a warm and inviting atmosphere for clients who are in the store for help with their eyesight, which can be an often intimidating experience. The lights provide ample illumination, which puts customers further at ease.

Enquiries: [www.regentlight.co.za](http://www.regentlight.co.za)



## Terracotta style to transform your lights

Cape Town-based illumination specialist European Light & Design Center has unveiled its latest import: STAN from Faro Barcelona in a gorgeous new shade.

The terracotta-coloured fittings capture timeless elegance while giving off a warm sense of belonging. The family of fittings include wall, ceiling and spotlights, all in the same beautiful shade of light brown.

The light projector was designed for spaces where a point of light is needed, constructed from lightweight aluminium with a transparent polycarbonate diffuser. The wall-mounted fitting can be adjusted vertically (90 degrees) and horizontally (350 degrees) to provide accent lighting where needed, while also setting a relaxing atmosphere. The units have an IP rating of 20 and do not require a driver unit.



The terracotta STAN range will be available from early 2024.

Enquiries: [www.eldc.co.za](http://www.eldc.co.za)

## Energy Star relooks downlights specification

United States energy efficiency program Energy Star, which is administered by the US Environmental Protection Agency, has finalised its Downlights Specification Version 1.0 which is effective immediately.

This specification has major implications for the lighting industry in the United States, with the existing luminaires specification set to be replaced fully by January 2025, reports tech website [www.inside.lighting](http://www.inside.lighting).

"The new specification, designed to promote the use of energy-efficient lighting solutions, has broadened its scope to include various types of downlights, moving behind the traditional recessed models," says an Energy Star spokesperson, adding, "The certification is limited to downlights and recessed downlight retrofit kits with a total input below 150 watts."

To read the full document, visit [t.ly/KHmPI](http://t.ly/KHmPI) or scan QR code



## Fluorescent lamps get a reprieve until 2027

The Minamata Convention held late last year in Geneva, Switzerland saw 147 countries put into place an agreement to eliminate fluorescent lamps completely by 2027, writes electrical website [www.allaoutcircuits.com](http://www.allaoutcircuits.com).

"This transition away from the age-old fluorescent lightbulb will have immediate and delayed benefits," says Nils Borg, Executive Director of the European Council for an Energy Efficient Economy. "Between 2027 and 2050, more than 2.5 gigatons of CO<sub>2</sub> emissions will be eliminated, more than 150 tons of mercury pollution will be avoided (this includes both physical mercury in the lightbulbs and emissions from the refining and manufacturing processes), and more than \$1 trillion (R18 trillion) will be saved on energy usage in the United States alone."

While this agreement is new, the build-up process has been some time in the making, with several countries in the European Union already having banned the sale of such

fittings. "This decision paves the ground for an accelerated adoption of LEDs," adds Borg. "For instance, there is no reason to install any new fluorescent lamp luminaire anymore, since the lamps will not be available. Also, the decision paves the way for national and regional decision to ban the sale of fluorescents earlier than 2027, just like the EU has done. However, it is troubling that the EU continues to allow exports of fluorescent lamps to other regions, such as Africa, despite the ban of sales at home."

The African region is eyeing stricter regulation on lighting following the convention, with convention president David Kapindula saying, "The Africa region, in deep collaboration with colleagues around the world, are proud to have made momentous progress to Make Mercury History. Proposals to phase out fluorescents at COP4 and COP5 were introduced by delegates from Africa, and we are proud of the direction we are taking."



## LED strip light popularity continues to rise

LED strip lights were once considered a novel addition to the lighting market, yet in recent years they have undergone significant transformations, offering consumers and businesses more options and features. Several trends and advancements are shaping the evolution of LED strip lights as we know them, says tech website [www.wired.com](http://www.wired.com).

### Smart integration

One of the notable changes in LED strip lights is the integration of smart technology. Many LED strips are now compatible with smart home systems, allowing users to control the lighting through smartphones or voice-activated assistants such as Alexa and Siri. This automation adds a layer of convenience and flexibility, enabling users to adjust colours, brightness and even set schedules with ease.

### Colour tunability

LED strip lights are becoming more

versatile in terms of colour options. Beyond the basic cool and warm white light, users can choose from a broad spectrum of colours, often with adjustable colour temperatures. This colour tunability is not only aesthetically pleasing but also serves functional purposes, such as creating different atmospheres for various occasions in specific spaces.

### Improved efficiency

LED technology itself is continually advancing, leading to improvements in energy efficiency and light longevity. Modern LED strip lights consume less energy while providing brighter and more consistent illumination, while having the added benefit of switching on and off instantly. This reduces electricity costs and contributes to a more sustainable and eco-friendly lighting solution at home or work.

### Flexible & customisable designs

LED strip lights are known for their flexibility, allowing for creative and customisable lighting designs. Manufacturers can produce strips that are even more pliable, making it easier for users to install them in intricate patterns, curves and corners. This flexibility opens new possibilities for unique and

personalised lighting arrangements that can be done at home without the use and cost of a professional.

### Waterproof & outdoor options

The demand for LED strip lights for outdoor and wet environments has led to the development of waterproof models. These strips are designed to withstand exposure to water, making them suitable for outdoor spaces, bathrooms and kitchens. This expansion in application adds to the versatility of LED strip lights.

### Enhanced controls:

With the advent of advanced controllers, users can now have more precise control over their LED strip lights. Dimming options, colour-changing effects, as well as dynamic patterns can be easily managed through intuitive control interfaces. This level of control adds a layer of sophistication to the user experience, and the lights can be controlled via app or remote.

### Integration with interior design:

LED strip lights are increasingly being incorporated into interior design elements. From accent lighting in furniture, to highlighting architectural features, these lights are not just functional but also serve

as design elements, contributing to the aesthetics of a space.

LED strip lights are undergoing a revolution in terms of smart features, colour options, efficiency, design flexibility, and application possibilities. As technology continues to advance, we can expect further innovations that will continue to shape the future of LED strip lighting and make them more popular in any lighting solution.



## Enlightening progress: Lighting trends set to illuminate 2024

In the rapidly evolving landscape of commercial lighting, this year promises to bring forth a wave of innovative trends and advancements in light fittings. As businesses continually seek to enhance their spaces for both aesthetic appeal and operational efficiency, the following trends are set to redefine the sector according to lighting and decor website [www.luxxu.net](http://www.luxxu.net).

### Human-centric lighting to prioritise well-being for increased productivity

In the last few years, businesses have been recognising the pivotal role that lighting plays in employee well-being and productivity. Human-centric lighting, which mimics the natural light spectrum (also known as the Circadian Rhythm), is gaining traction. These light fittings are designed to regulate the daily natural light, promoting alertness during working hours and supporting relaxation during breaks. By integrating human-centric lighting into office spaces, businesses are aiming to create healthier and more engaging work environments, positively impacting employee satisfaction and overall productivity.

### Customisation and personalisation to tailor lighting to suit business needs

A significant trend revolves around customisation and personalisation. Businesses are seeking lighting solutions that can be tailored to specific requirements, aligning with their branding, interior design and operational needs. Manufacturers are responding with modular light fittings that offer flexibility in terms of size, shape and colour. This allows businesses to create bespoke lighting designs that not only fulfil functional and Health & Safety requirements but also contribute to a unique and memorable brand identity.

### Integration of IoT and smart controls to enhance operational efficiency

The Internet of Things (IoT) continues to reshape the landscape of commercial lighting. In 2024, light fittings will become increasingly intelligent, equipped with sensors and connectivity features. This integration facilitates smart controls, enabling businesses to remotely monitor and adjust lighting settings. From occupancy sensors that optimise energy usage, to adaptive lighting systems that respond to natural light levels, IoT-enabled light fittings are enhancing operational

efficiency and contributing to sustainable practices.

### Sustainable lighting solutions helping to green the corporate footprint

Sustainability remains a key driver in the lighting industry. As businesses intensify their focus on reducing environmental impact, sustainable lighting solutions are gaining prominence. LED technology, known for its energy efficiency and long lifespan, continues to be a frontrunner, and the new year will be no different. Greater emphasis will be placed on the use of recycled materials in the manufacture of light fittings, as well as designs that facilitate easy disassembly for recycling at the end of the product lifecycle.

### Artistic and statement-making designs

Beyond functionality, light fittings are increasingly being viewed as integral elements of interior design. This year, businesses will be seeking fixtures that not only illuminate spaces but also make a statement. Artistic and sculptural light fittings are on the rise, serving as focal points in corporate lobbies, conference rooms and other high-visibility areas. Lighting designers are pushing the boundaries of creativity, offering businesses the opportunity to transform their spaces into visually stunning and immersive environments with the use of custom-made fittings.

### Wireless charging integration that adds convenience in workplace design

With the proliferation of wireless technologies, businesses will be exploring the integration of wireless charging capabilities into their light fittings. This trend will address the need for convenient charging solutions in workplaces where employees rely heavily on mobile devices. Light fittings equipped with wireless charging pads will provide a seamless and clutter-free solution, aligning with the modern, technology-driven workplace styling.

### Advanced materials and finishes that elevate aesthetics and durability

Material innovation is set to play a significant role in defining light fitting trends for 2024. Businesses are expressing a growing interest in fixtures crafted from advanced materials that combine aesthetics with durability.



Copper, brass and matte finishes are gaining popularity, offering a touch of elegance while ensuring longevity. These materials not only contribute to the overall visual appeal of the space but also align with sustainability goals when sourced responsibly.

### Collaborative lighting to foster dynamic work environments

Collaborative workspaces have been on the rise for years, and light fittings are adapting to support these dynamic environments. Businesses are seeking lighting solutions that can be easily reconfigured to accommodate various collaborative activities. Flexible, adjustable, and modular light fittings are becoming staples in modern office design, enabling businesses to create adaptable spaces that cater to different work styles and activities.

As we step into 2024, the lighting industry is witnessing a transformative period marked by a convergence of technology, sustainability and design innovation. From human-centric lighting that prioritises well-being, to IoT-enabled smart controls that enhance operational efficiency, businesses are exploring a diverse range of trends to elevate their lighting environments. By staying tuned in with these trends, businesses can not only meet their functional lighting needs but also create spaces that inspire, enhance productivity and contribute to a brighter and more sustainable future.

Image: [www.canadiantire.ca](http://www.canadiantire.ca)



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DECEMBER SOLUTION

The woman is an employee of the department store. She is filling the shopping cart with trash and taking it out to the dumpster.

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- DBs, switches, sockets and protection
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- Lighting

MARCH 2024 FEATURES

- Tools of the trade
- Energy measurement and supply
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