

FIFA ANNOUNCES SIGNIFY AS PREFERRED PROVIDER FOR FLOODLIGHTS



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The FIFA Quality Programme has selected Signify as a Preferred Provider for floodlights, recognising that the company's lighting solutions meet the football governing body's highest quality standards. The designation establishes Signify as a trusted and recommended provider within the global football industry.

As a FIFA Preferred Provider for Floodlights (FPP), Signify meets rigorous product, production, and system infrastructure performance requirements. The company will also collaborate with the FIFA Quality Programme to drive research and development in sports floodlighting, advancing future technical standards.

The recognition reflects the transformative impact Signify's floodlights have already made on the game-day experience. World-class illumination ensures optimal match conditions for players, spectators, and millions of TV viewers worldwide. Superior lighting also plays a critical role in supporting optical-based technologies such as video assistant referee systems, goal-line technology, and optical tracking.

Stadium lighting from Signify extends beyond functionality, creating opportunities for additional entertainment at major events through customised light shows before, during, and after matches.

Stadiums working with Signify as part of its FPP status can draw on a wide range of technology, including: **Arenavision LED gen3.5:** innovative LED pitch lighting that offers outstanding light quality, effective thermal management, a long lifetime, and is compatible with control applications, such as the Signify Interact Sports Professional lighting management system, which enables remote light management and scheduling. The system is compliant with international broadcasting standards for any sport.

OptiVision LED gen3.5 floodlighting system: a complete solution for the simplest to the most complex recreational sports. It meets the highest performance standards, provides outstanding light quality and uniformity, and ensures safety and visual comfort.

The wide range of optics guarantees precise light distribution with minimum spill light and, when combined with controls, enables additional energy savings of up to 65%.

Each lighting system can be managed remotely across the venue, including pitch, stadium façade, and hospitality areas, helping to improve operational efficiency.

Signify floodlighting is currently being used at world-class stadiums across the globe, including Stadion Feijenoord in Rotterdam, the Netherlands, where a new Arenavision lighting system has improved the match-day experience for all and provides energy savings of 63% compared to previous systems.

Niels Geven, Signify's international director, Sports and Arenas, said, "This recognition from FIFA, which is responsible for some of the world's most prestigious and watched sports events, is an important milestone for Signify and a reflection of our leadership in sports lighting. High-quality illumination is hugely important in modern-day sport, especially top-flight football. It's vital for player performance, officiating and broadcasting purposes, and an essential part of the match-day fan experience."

Signify has over 60 years of experience in sports lighting across a range of sports, including football, hockey, basketball, cricket, and tennis. The world leader in lighting is also the official lighting partner of the Mercedes-AMG PETRONAS Formula 1 team.

Enquiries: www.signify.com/en-za



Trinasolar wins EcoVadis 2025 silver medal for outstanding sustainability performance

Trinasolar, a global leader in smart solar and energy storage solutions, has been awarded the Silver Medal in EcoVadis 2025 Sustainability Rating for its excellent performance in environment, labour and human rights, ethics, and sustainable procurement. With an overall score of 72/100, Trinasolar ranks among the top 12% of over 150,000 companies assessed worldwide.

The company excelled particularly in environment (79 points) and sustainable procurement (76 points), underscoring its ongoing leadership in sustainable development and supply chain management.

"For eleven consecutive years, Trinasolar has participated in the EcoVadis sustainability rating, demonstrating our enduring commitment to sustainability and transparency. As the silver medal this year honours only the top 15% of

companies worldwide, this recognition underscores our continued dedication to lasting value for our customers," said Zhang Hongzhi, head of the EHS department at Trinasolar.

Trinasolar integrates its "SOLAR" sustainability management concept into global practice, advancing sustainable manufacturing and enhancing energy efficiency. In 2024, the company implemented 47 energy-saving projects across 32 production bases, achieving a total electricity consumption reduction of 55,496 MWh and generating 223,794 MWh of on-site renewable electricity. In addition, the company earned the AA rating for PV supply chain traceability from TÜV Rheinland, covering all stages from polysilicon to modules, the highest possible rating, underscoring the transparency and reliability of its supply chain.

Enquiries: www.trinasolar.com

Infinite Electronics and RS Group to deliver L-com connectivity

L-com, an Infinite Electronics brand and a supplier of wired and wireless connectivity products, has expanded its strategic cooperation agreement with RS Group to begin distributing L-com products across the EMEA and APAC markets via the RS website. This partnership significantly broadens L-com's geographic reach beyond the United States and supports Infinite Electronics' growth as a worldwide connectivity solutions provider.

"Expanding our partnership with RS Group is an important milestone for L-com and Infinite Electronics," says Eric Smith, vice president of global channel sales at Infinite Electronics. "By bringing our connectivity portfolio to customers across EMEA and APAC, we're not only extending our global reach, but also empowering industrial customers with reliable solutions that support their innovation and growth."

An initial selection including antennas, RF and data connectors, and cable assemblies from L-com's portfolio is available now, with plans to expand the assortment in 2026. RS Group leverages its robust logistics infrastructure to ensure fast, reliable delivery and complete order visibility for customers from checkout to arrival. For EMEA customers, this partnership means easier access to the products they need with the reliable delivery and technical expertise that both L-com and RS Group are known for.

"We're proud to deepen our partnership with L-com, a trusted name in connectivity," says



Erick Wessels, sales director of RS South Africa.

Jaycee Thompson, category director for cables and connectors at RS Group. "Bringing L-com's high-quality portfolio to our customers is a strategic addition to our range that reflects our ongoing commitment to innovation, quality, and customer choice."

"Partnering with L-com to bring their trusted connectivity solutions to our customers across EMEA and APAC is a strategic move that aligns with RS South Africa's commitment to delivering innovation, reliability, and choice. This collaboration enhances our ability to support industrial customers with the high-performance products they need to stay competitive in a rapidly evolving market," says Erick Wessels, sales director at RS South Africa.

L-com's products are available now on the RS South Africa website.

Enquiries: <https://za.rs-online.com>

MCE Electric explores the critical role of compliance in the South African electrical industry for 2026

As we enter 2026, compliance in South Africa's electrical sector remains paramount, driven by evolving standards that prioritise safety, sustainability, and innovation. With the industry's growth fuelled by renewable energy adoption and infrastructure demands, adhering to regulations like SANS 10142 is essential to mitigate risks, ensure reliability, and avoid penalties. Non-compliance can lead to hazards, legal liabilities, and financial losses, underscoring the need for proactive adaptation amid global and local pressures.

SANS 10142, the Wiring of Premises standard, forms the backbone of electrical installations in South Africa. Edition 3.2, released in August 2024, introduces updates aligning with international norms, including enhanced requirements for renewable systems like solar PV and battery storage. By March 2026, full adoption of the IEC 60364 series is anticipated, completing a phased integration that began earlier. This overhaul addresses modern challenges, such as smart technologies and embedded generation, ensuring installations are safe and efficient. Key changes include clearer guidelines for PV-to-grid synchronisation, surge protection, and energy storage systems, reflecting the surge in rooftop solar amid load-shedding concerns.

Compliance extends beyond SANS to bodies like the National Regulator for Compulsory Specifications (NRCS), which combats uncertified imports flooding the market. These substandard products undermine safety and sector integrity, prompting calls for stricter enforcement. For homeowners and businesses, obtaining a Certificate of Compliance (CoC) is mandatory for property transfers, insurance validity, and regulatory adherence.

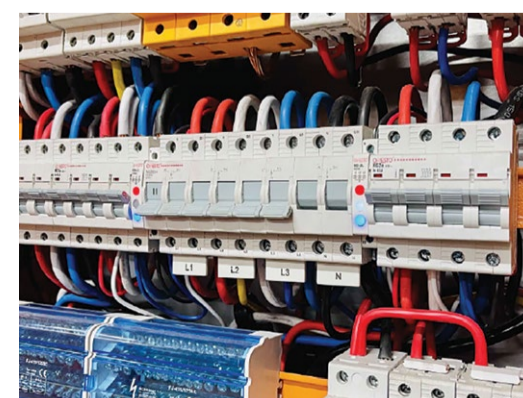
In 2026, with regulatory reforms in infrastructure and energy, international

contractors must navigate these standards to capitalise on opportunities.

The benefits are multifaceted: enhanced safety reduces accidents, while efficient designs lower energy costs and support net-zero goals. For professionals, staying updated bolsters reputation and competitiveness. Amid challenges like compliance inspections by the Department of Employment and Labour, tools like agreements between bodies such as the Electrical Contractors Association of SA and the Institute of Plumbing SA promote best practices. In essence, 2026 demands vigilance in South Africa's electrical landscape. Embracing SANS updates and broader compliance fosters a resilient, innovative industry, safeguarding lives and driving sustainable progress.

"MCE Electric is proud to be at the forefront of providing SANS- and NRCS-compliant electrical supplies in the industry. Conforming to these regulations and educating those within the industry, as well as the domestic sectors, is a top priority for MCE Electric, and we will strive to combat the influx of illegal importers and suppliers within the industry," - MCE.

Enquiries: www.mce.co.za



As the silver medal this year honours only the top 15% of companies worldwide, this recognition underscores our continued dedication to lasting value for our customers.

- Zhang Hongzhi, Trinasolar

MCE ELECTRIC
Wired To Inspire

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HERE'S TO 2026 BEING A BREEZE

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OLF-ECO56-B

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Start small, dream big



Ilana Koegelenberg

I gave up on New Year's resolutions years ago. The detailed lists of new habits, the unrealistic goals, the inevitable slide back into old patterns by mid-January. You know the cycle. It took longer than it should have, but I eventually recognised the trap: treating 1 January as the only acceptable starting line for change.

Now, I prefer smaller goals, ones I can adopt at any time. Because let's face it, 1 January is hardly ideal for

building new habits. You're on holiday, recovering from the night before, or holding the fort while everyone else is away.

The good news? You can change at any time. By the time you read this, the new year will already be in full swing. Whether you're sticking to your goals or have already stumbled, your potential for change is exactly what it was on 1 January.

Start small. Pick one thing you can control. A few Duolingo sessions every other day. One extra glass of water. Less scrolling, more walking. Whatever fits your life.

The important thing is that you don't have to be perfect. Consistency matters, but every choice you make differently is a choice that will affect the outcome of your life differently. The key is to be kind to yourself and forgive your slip-ups.

This approach works just as well professionally. What are your business or career goals for this year? What small steps could help you level up? Perhaps you want to start listening to a podcast on your commute to sharpen a particular

skill. Maybe you want to see one extra client per week. It could be as simple as checking LinkedIn daily to engage with your peers.

Big changes rarely happen overnight. They come from consistent effort that accumulates until momentum takes over. If you slip, get back up. If something isn't working, try a different approach. If you fail, congratulations: you're human.

What are you going to do differently this year?

Looking for inspiration? See what others in the industry are doing. That's what *Sparks* is here for. You'd struggle to find a more relevant source of up-to-date information on the local electrical and lighting industries.

From our cover story on Signify's involvement with supplying floodlights to FIFA to our back page story on how the South African lighting industry helped make Formula 1 history, we have a lot to be proud of, and a lot you can learn from.

On page 5, CBI-electric: low voltage introduces its new Switch Ultra

Range, a collection of wiring accessories designed for residential and commercial applications. And if you've ever wondered about the difference between lux and lumen, Aurora Lighting Africa breaks it down on page 14.

Our special feature on Cables and Cable Accessories offers valuable insights too. CCG shares key design features, functions, and testing of cable glands on page 10, and on page 12, you'll find Aberdare Cables' new copper anti-theft cable solution.

All this and more, curated just for you to help you kick 2026 off on the right foot.

May this be the year you start small but dream big.

Happy reading.

Ilana Koegelenberg

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Revolutionise fault location, maximise solar production

Comtest is offering the Fluke GFL-1500 solar ground fault locator, a frontline troubleshooting tool that helps technicians pinpoint active ground faults in solar photovoltaic (PV) systems. It works by producing a traceable signal in the array, allowing for fast, intuitive, non-contact tracing directly to the fault location.

This innovative approach eliminates the frustration of time-consuming, brute-force troubleshooting and reduces unnecessary exposure to electrical hazards. In addition to improving safety and reducing downtime, this innovative solution redefines how technicians locate active ground faults in solar PV systems. By replacing complex, manual diagnostics with an easy-to-follow trace signal, the GFL-1500 streamlines fault isolation, helping teams restore system operation quickly and effectively.

Key features:

- Identify and locate active ground faults in PV systems
- Reduce troubleshooting time with easy-to-follow

traceable signal

- Decrease exposure to hazards with non-contact tracing
- Analyse, fault tracing, open circuit, and mapping functions
- CAT III 1,500 V DC/CAT IV 600 V rated transmitter and receiver

The Fluke GFL-1500 system includes:

- Transmitter: CAT III 1,500 V DC, CAT IV 600 V, meets the rigorous safety standards outlined in IEC 61010-1 and 61010-2-030
- Receiver: CAT III 1,500 V DC, CAT IV 600 V, meets IEC standard 61010-1
- Signal tracing clamp: Rated for use on insulated conductors up to 1,500 V

Whether the site of the work is at the inverter, combiner, or module level, the GFL-1500 ground fault locator has been rigorously tested for safety and durability to provide a rugged, safe, fast, and reliable solution for identifying ground faults in high-voltage environments – empowering technicians to work confidently and efficiently in the field.

Enquiries: www.comtest.co.za





Critical risks of fire safety in residential environments

ASP Fire is drawing attention to the significant fire risks in residential environments, stressing the importance of proactive fire-safety management at the household level. While fire protection in commercial and industrial sectors is highly regulated, domestic fire safety is often underestimated.

"Fire risk in residential properties is frequently overlooked, yet the potential consequences are no less severe than in industrial facilities," comments Michael van Niekerk, CEO of ASP Fire. "The same principles of fire prevention, detection, and suppression that are standard in industry should be applied, in a scaled manner, to the home environment."

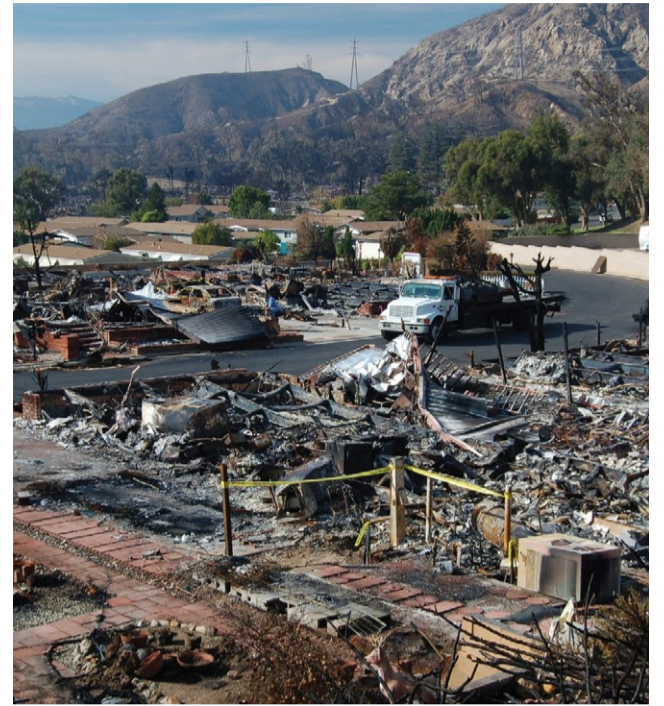
Key contributors to domestic fire incidents include compromised electrical installations, overloaded distribution boards, faulty appliances, open-flame devices, and inadequate housekeeping. Van Niekerk cautions that such risks, while often perceived as minor, create conditions where fire can ignite and spread rapidly. "The growth rate of a typical residential fire is exponential. Within three to five minutes, conditions can become untenable. Early detection and suppression are therefore critical."

ASP Fire recommends a structured approach to residential fire risk, encompassing both engineering controls and behavioural practices. Measures include regular inspection and certification of electrical systems, installation of smoke detection and alarm devices, provision of portable fire extinguishers in high-risk areas, and development of clear evacuation procedures for occupants.

"Fire-safety engineering is about more than compliance; it is about risk management," stresses Van Niekerk. "Applying proven methodologies at the residential level significantly enhances resilience and reduces the likelihood of catastrophic outcomes."

As a specialist in holistic fire-risk management solutions, ASP Fire provides consulting, system design, and compliance auditing services across commercial, industrial, and residential sectors in South Africa and beyond. The company continues to advocate for a culture of fire awareness supported by sound technical interventions.

Enquiries: www.aspfire.co.za



SolarSaver expands innovative risk-free solar model

SolarSaver has announced the continued expansion of its fully serviced, CAPEX-free solar model that treats solar as a renewable utility for businesses across Southern Africa, with new international investors earmarking substantial equity to support this growth. With over 750 business clients and 140 MW of installed capacity under management, SolarSaver's approach prioritises operational cost certainty and transfers performance risk away from clients, providing a hassle-free path to affordable clean energy.

"For any business owner, the fundamental question is always: 'Am I paying as little as possible to operate my business?'" explains Lance Green, head of sales at SolarSaver. "When considering a move to solar energy, this question becomes complex, with various solar financing models presenting different risks and rewards. Many businesses are better served treating solar like a utility: pay for reliable, delivered energy, not for the headaches of asset ownership, replacements, and performance risk."

Why 'rent' is not a swear word

Green says that while the instinct to own an asset is strong in business, it's not always the smartest financial move for solar assets. "Businesses don't own their connection to the national grid; they simply pay a utility for the power it supplies. SolarSaver applies this same logic to solar energy. By offering a fully serviced, funded model, we remove the significant upfront capital expenditure and the ongoing responsibilities of ownership."

"This structure aligns our incentives directly with our clients: if the system doesn't produce power, we don't get paid," Green adds. "This transforms solar from a capital purchase into a predictable, low-cost operational expense."

Predictable costs in an unpredictable world

One of the greatest challenges for businesses is forecasting long-term operational costs, especially with volatile electricity tariffs. The SolarSaver model provides a high level of cost certainty.

"Even for complex off-grid operations, such as remote lodges, clients know exactly what their energy will cost for the duration of our term agreement, whether that is a 10- or 20-year term," says Green. "This fixed-rate structure offers a powerful hedge against the escalating tariffs of traditional utilities, delivering significant savings and budget stability over the life of the term agreement."

When evaluating how to procure solar, decision-makers typically face three paths: an outright cash purchase, a straight asset finance lease from a bank, or a fully serviced solution like SolarSaver's. Each has distinct implications for a business's balance sheet and operational risk profile.

Comparing the models

Outright purchase

Green says ownership remains a viable option in specific scenarios. "Businesses might consider outright purchase if



they can access unique tax incentives or grants that require ownership and deliver significant near-term benefits. It can also be attractive for organisations with access to cheap internal capital and a strategic mandate to own critical infrastructure."

Owning a solar installation ties up capital in a long-lived but depreciating, performance-sensitive asset that will ultimately require refurbishment or replacement.

Solar modules degrade and parts have finite component life. Batteries need replacement at least every 10 years, depending on duty cycles, and commercial-grade inverters offer up to 15 years' capacity in good operating conditions. End-of-life arrives with a lumpy CAPEX requirement to replace all or part of the system, and owned systems can lag behind the rapid pace of technological advancement.

Total cost of ownership isn't just the purchase price; it includes degradation, component replacements (notably inverters and batteries), maintenance, insurance, and underperformance risk, says Green.

"Even if you have the capital to fund solar assets outright, you still need to take care of maintenance and insurance, typically via a service level agreement (SLA), with an outside company. Annual SLA costs are typically 2.5% of the capital purchase price. And is your maintenance and cleaning company invested in the output of the solar asset if they don't own the asset?" Green explains.

Bank asset finance

While a straight asset finance lease from a bank may eliminate the initial CAPEX, it introduces other variables. The bank's primary interest is in the loan's repayment, not the performance or longevity of the solar installation.

This model results in full asset ownership at the end of the finance term and potential balance sheet advantages. However, Green says the cons are significant. "If financed, the business is exposed to rising rates, fees, and refinancing risk, as well as taking on the responsibility for maintenance, insurance, and repairs. Critically, if the system underperforms or fails, the loan repayments continue regardless, creating a scenario where you pay for an asset that isn't delivering on performance."

SolarSaver's fully serviced solution

SolarSaver's model is fundamentally different. It is a comprehensive energy service where the client pays only for the power produced or a fixed monthly rental, with zero capital outlay, explains Green. SolarSaver designs, funds, installs, and manages the system for the duration of the agreement, usually a 20-year term.

"The primary advantage is the complete transfer of risk," says Green. "SolarSaver is responsible for all maintenance, component replacements, insurance, and continuous performance monitoring. Our revenue is tied directly to the system's output. For a grid-tied system, clients are only billed for the green energy produced. If the system is down, they simply use the grid as before and receive no bill from us."

For a hybrid or off-grid system on a fixed rental, clients are not charged for any days the system is offline. This guarantees that the interests of the client and SolarSaver are perfectly aligned: maximum uptime and optimal performance.

Peace of mind through performance-aligned billing

The difference in accountability is stark. "With a bank-financed system, underperformance is the client's problem," says Green. "With SolarSaver, it's our problem. This structure provides complete peace of mind that the system will remain operational and efficient."

SolarSaver teams provide full monitoring and support, ensuring operational continuity without burdening the client's internal resources. Clients have absolutely no risk and a guarantee that their solar asset is always working for them.

The bottom line is that solar is an infrastructure asset that depreciates physically and economically, requiring vigilant lifecycle management, says Green. Business leaders should not be attached to ownership, but rather evaluate a fully serviced, CAPEX-free model against a traditional purchase using their own energy usage data. "The numbers will speak for themselves, proving that the smartest hassle-free, CAPEX-free way to go solar is to treat it like the utility it should be."

Enquiries: www.solar-saver.net



English-speaking Africa's brightest battery innovators announced

Schneider Electric, together with Enactus, the international NGO dedicated to inspiring students through entrepreneurial action, has announced the winners of the 2025 Energy Transition Battery Innovation Challenge, funded by the Schneider Electric Foundation.

This year's first-place winners exemplify the ingenuity and impact of youth-led innovation across the region and are:

- **South Africa:** BioWatt from the University of the Witwatersrand
- **Kenya:** Strathmore University with Afya Cell
- **Nigeria:** Joseph Sarwuan Tarka University with Energiv
- **Zimbabwe:** University of Zimbabwe's LithiumX project

Now in its second year, the Battery Innovation Challenge was conceived by a South African Schneider Electric engineer and is funded by the Schneider Electric Foundation. It empowers young innovators to design battery solutions addressing the region's most pressing energy challenges. The initiative also forms part of the Foundation's New Skills for the Future and Innovation programme.

The programme also celebrates the continued success of the 2024 winners, who have used the Schneider Electric Foundation prize money to further develop their concepts, including:

- **Zimbabwe:** Second-place winner, Bindura
- **Kenya:** The winning team, Afterlife, provides second-life applications by repurposing and recycling worn-out batteries. They also won other awards with their solution,

like the "Power the Community 2025 International Design Competition" and are now a registered company that also joined the Emerging Circular Leaders programme, sparking national conversations on circular economy innovation.

- **South Africa:** Airnergy & Tech Solutions, third-place winners, have successfully commercialised their innovation.

The success of Airnergy & Tech Solutions

Indicative of the programme's success is Airnergy & Tech Solutions, which has gone on to successfully commercialise their solution, ElectroBoost300, a 300 W portable power station, now on Takealot (South Africa's largest online retailer), providing reliable lithium-based storage for households, students, and small businesses.

"Schneider Electric believed in us. Their support and funding helped Airnergy & Tech build a viable product, and that gave our team the confidence to keep pushing forward with sustainable energy innovation," says Neo Moabi of Airnergy & Tech Solutions.

"The Battery Innovation Challenge is proof that with the right support, students in our region can create scalable, sustainable solutions that accelerate today and tomorrow's energy transition. We are proud to form part of this truly life-changing initiative," adds Elihle Obi, marketing communications and corporate citizenship director, English-speaking Africa at Schneider Electric.

2025 winners

This year's Battery Innovation Challenge winners demonstrated technical ingenuity, community relevance, and strong potential for scaling impact and have received Euro cash prizes from the Schneider Electric Foundation:

Zimbabwe

First place – University of Zimbabwe (LithiumX, EUR2,000): Low-cost recycling of lithium-ion batteries using eco-friendly hydrometallurgy.

Second place – National University of Science and Technology (Ukukhanya 2.0, EUR1,500): Affordable solid-state sodium-air hybrid battery delivering clean, off-grid community power.

Third place – Harare Institute of Technology (PowerPulse, EUR1,000): Aluminium-air chemistry battery using recycled aluminium and organic waste-based cathodes.

Kenya

First place – Strathmore University (Afya Cell, EUR2,000): AI-powered battery health analyser that extends battery life for electric vehicles, solar, and IoT systems.

Second place – Meru University (E-Waste Management Through Renewable Energy Integration, EUR1,500): Recovering lithium-ion batteries from e-waste for affordable community solar storage.

Third place – Machakos University

(ChargeAgain, EUR1,000): Repurposing discarded vehicle batteries for sustainable solar storage in rural communities.

South Africa

First place – BioWatt (University of the Witwatersrand, EUR2,000): Harnessing microbial fuel cells and efficient circuits to generate electricity from organic waste while promoting STEM education and reducing e-waste.

Second place – EcoVolt Innovation (University of the Witwatersrand, EUR1,500): Pioneering sodium-ion and solid-state hybrid batteries using recycled materials, AI-powered monitoring, and community training.

Third place – Shared by Renewa Fuels (Cape Peninsula University of Technology) & BioGlux (Sefako Makgatho University, EUR1,000 shared), Renewa Fuels: Converting biodiesel by-products into bio-batteries; and BioGlux: A biodegradable, glucose-powered medical implant battery.

"These innovations demonstrate the ingenuity and determination of English-speaking Africa's youth to reimagine the energy landscape. This year's entrants were all winners in their own right and we wish them all the success to take their innovations forward," says Letitia de Wet, CEO and country director of Enactus South Africa.

Enquiries: www.se.com/za/en/

Switch Ultra wiring accessories range launches for the residential and commercial markets

The Switch Ultra Range, a new collection of wiring accessories designed for residential and commercial applications, has been developed for the South African market. Available in white and graphite finishes, the range introduces a slimline aesthetic characterised by integrated fluorescent inserts for improved visibility in low-light conditions.

Manufactured locally by Cbi-electric: low voltage, the series prioritises practical application for contractors, featuring captive screws across the product line to simplify the fitting process while ensuring a clean, screwless final profile.

The Switch Ultra collection covers a broad spectrum of electrical requirements, including:

- **Light switches:** Available in 2 x 4 and 4 x 4 configurations with 1 to 4 lever options. All units feature standard 2-way switching for flexible control.
- **Switched socket outlets:** Options range from standard single and double outlets to versatile SA/ EU combined units. The range also addresses modern connectivity with USB Type-A and Type-C options (rated: 250 Vac, 16 A, IP20).
- **Disconnectors and isolators:** Purpose-built switch disconnectors are available for heavy-load appliances, including stove isolators (2- and 3-pole, 60 A) and geyser isolators (2-pole, 30 A).
- **Switch inserts:** The range allows for enhanced flexibility with inserts including dimmers, 2P switches, and intermediate switches.
- **Grid and blanking plates:** Available in both 2 x 4 and 4 x 4 configurations with multiple

lever options to accommodate custom installations.

A 12-month warranty backs all products in the Switch Ultra Range. The line is now available through authorised distributors.

Enquiries: <https://cbi-lowvoltage.co.za>



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A sleek, slimline collection of wiring accessories designed to bring modern style and reliable performance to every space. Locally manufactured with the quality and care you can trust.

Switch to Quality

www.cbi-lowvoltage.co.za



Smarter energy management with APEX OS v5.0 software release

The release of the APEX OS v5.0 software for the APEX MCS energy management system represents a major leap forward in microgrid control technology, delivering new features that provide unmatched flexibility, intelligent automation, and industry-leading site management.

With functions not available in competing systems, APEX OS v5.0 sets a new benchmark for reliability, adaptability, and performance. New capabilities include the logic builder for custom automations, push notifications, string monitoring, built-in power quality analysis, and predictive intelligence through machine learning.

The role of the APEX MCS

The APEX MCS serves as the

'brain' of the energy system, managing these core assets intelligently. Deployed as a hardware controller on site, it combines on-device software, local data storage and secure cloud backup. All cloud data is automatically stored in secure, region-specific servers (South Africa or Europe), ensuring compliance with local regulations while safeguarding system data through WireGuard VPN.

The APEX OS v5.0 release introduces the following key features:

- 1. Self-commissioning, enabling user-driven system setup:** APEX OS v5.0 now features self-commissioning, giving users the freedom to commission their systems independently. Its self-commissioning capability

allows users to connect directly to the controller, configure their system remotely, and bring it online without booking a service visit.

- 2. Logic builder, remote custom automations made simple:**

The logic builder gives users full control over how their system behaves. Using if/then rules, installers and operators can create custom logic to remotely optimise energy flows, manage loads, respond to events, and receive critical notifications via instant messaging platforms.

- 3. Notifications and triggers:**

Easily configure alerts, ensuring proactive management by the operator. Because the logic builder is

integrated, configurations can be changed remotely in minutes with no need to schedule engineering support. Additionally, push notifications keep users connected to their sites at all times.

- 4. String monitoring:**

Troubleshooting solar PV faults is often slow and expensive. V5.0 eliminates manual testing with string monitoring, allowing remote access to detailed performance graphs and heatmaps.

- 5. Onboard power quality analyser:**

Power quality issues shorten equipment lifespan and increase costs. Traditionally, detection requires costly external analysers installed only for short periods. With the MCS, this capability is built in as a permanent feature.

- 6. Predictive intelligence:** APEX

MCS uses local machine learning to predict and optimise system behaviour. With the release of OS v5.0, the APEX MCS can combine PV forecasts through weather data, load profiles, and tariff structures, allowing the MCS to plan ahead – not just react.

- 7. Transparent, scalable licensing:**

Unlike subscription-based competitors, APEX MCS offers once-off licensing fees, making project costs predictable and long-term ownership more affordable.

Enquiries: www.rubicon.tech



Vertiv launches high-efficiency DC power system designed for next-generation network growth in EMEA

Vertiv has introduced the Vertiv PowerDirect 7100 Energy, a hybrid-ready DC power system designed to help telecom and edge operators strengthen network reliability and accelerate energy transition strategies. The system delivers scalable power with intelligent controls across diverse operating conditions, from stable grids to remote or off-grid sites, giving operators the flexibility to adapt to new energy sources and growing digital demand.

Now available in Europe, the Middle East, and Africa (EMEA), Vertiv's new solution delivers up to 52 kW of scalable 48 V DC power and achieves up to 98% efficiency. Built on Vertiv's fourth-generation hybrid architecture, it seamlessly integrates grid, generator, and alternative energy inputs such as solar, wind, or fuel-cell energy to maintain continuous power where grid reliability is limited.

At the core of the system are Vertiv solar converters and Vertiv modular rectifiers, managed by the Vertiv NetSure Control Unit. Together, these components enable advanced load management, remote monitoring, and energy scheduling to maximise performance and extend equipment life.

"The world expects energy efficiency

and flexibility with the growth of communications, such as 5G and edge connectivity," says Dave Wilson, director of global hybrid solutions at Vertiv. "The Vertiv PowerDirect 7100 Energy gives operators a single, intelligent platform capable of adapting to any grid condition, delivering reliable power while supporting the transition to cleaner, more efficient energy strategies."

Designed for space-constrained and harsh environments, the system is available in 500 A, 750 A, and 1,000 A configurations for telecom and edge data racks. A front-access design simplifies installation and service, while operating tolerance from -40 °C to +65 °C supports dependable performance in remote or outdoor sites.

The Vertiv PowerDirect 7100 Energy expands Vertiv's global portfolio of Vertiv NetSure DC power solutions and hybrid energy systems within its comprehensive power train architecture. Combined with Vertiv's thermal management, IT management, and lifecycle services, it provides a robust foundation for efficient, reliable, and future-ready digital infrastructure.

Enquiries: www.vertiv.com



New self-cooling rack at local CPTI data centre

Africa Data Centres, a business of Cassava Technologies, has announced the successful deployment of a self-cooling rack by Gold Synergy at its CPTI facility in Cape Town. This installation represents a significant advancement in the evolution of high-density computing in Africa and supports Africa Data Centres' commitment to sustainable, efficient infrastructure solutions.

The innovative self-cooling rack was commissioned in 2025 and is designed to meet the increasing demand for high-performance computing while minimising energy consumption. As the region experiences rising power and cooling challenges driven by artificial intelligence, big data, and enterprise workloads, self-contained cooling technologies like this offer a smart and scalable solution.

Gold Synergy brings a wealth of expertise in advanced cooling solutions. The deployment at CPTI demonstrates the viability of self-cooling racks in African conditions, setting the stage for broader collaboration in supporting regional ESG objectives.

"Our collaboration with Gold Synergy introduces new efficiencies in high-density hosting," says Adil El Youssefi, CEO of Africa Data Centres. "By integrating this cutting-edge cooling solution at CPTI, we are creating a model for how data centres in Africa can scale intelligently while remaining aligned with global sustainability targets.

The success of this deployment positions both Africa Data Centres and Gold Synergy to expand CDU-based cooling technologies across the region, further supporting Africa's growing need for next-generation infrastructure."

"Our self-cooling rack solution is a game-changing approach for high-density computing environments," says Fortune Utubor, executive at Gold Synergy. "This deployment reflects our shared commitment to energy efficiency and operational excellence."

South Africa remains a strategic digital hub for the continent. With its reliable infrastructure, favourable location, and increasing demand for cloud and AI services, the country plays a pivotal role in the digital transformation of Africa. As enterprises move mission-critical applications closer to home, infrastructure capable of supporting such workloads efficiently becomes essential.

The deployment not only increases the CPTI facility's hosting capacity without requiring major infrastructure modifications, but it also reinforces Africa Data Centres' position as the continent's leading carrier-neutral data centre provider. The new solution helps reduce reliance on traditional cooling systems and contributes to operational cost savings for both clients and facility operators.

Enquiries: www.africadatacentres.com





Grounded in safety: the real backbone of any electrical installation

While smart technologies and sleek fittings often steal the spotlight in modern electrical systems, it's the unseen essentials that do the heavy lifting, keeping people, property, and systems safe. Among these, earthing, lightning and surge protection, and the often-underappreciated world of cables and cable accessories, form the foundation of every reliable installation, according to Voltex.

Let's start with earthing. It's not the most glamorous part of an installation, but it's arguably the most important. A proper earth

connection ensures that, in the event of a fault, current has a safe path to dissipate. This protects both people and equipment. Poor or inadequate earthing is a silent risk. It doesn't make noise, but when something goes wrong, the consequences can be devastating. Whether you're wiring a home or a high-rise building, correct earthing isn't optional. It's the base layer of every safe system.

Now consider that in a country like South Africa, where summer storms are fast, frequent, and often ferocious, lightning and surge protection must never be treated as

an afterthought. A direct or indirect lightning strike can send a surge powerful enough to fry appliances, damage infrastructure, and bring operations to a standstill. Proper surge protection devices (SPDs), installed at the right points in the system, act as gatekeepers. They absorb and redirect these harmful spikes. When paired with a solid earthing system, they provide a strong line of defence against the unpredictable.

Moving on to cables – the veins and arteries of any electrical setup. High-quality cable is about more than copper and insulation. It's about long-term performance, fire resistance, ease of installation, and the confidence that what's behind the walls is just as solid as what's in plain sight.

Equally important are the accessories – lugs, glands, saddles, ties, and sleeves. These small components are often left until last, but using the wrong product can compromise the entire installation.

A professional finish doesn't end at the distribution board or the faceplate. It's the tidy cable runs, the correctly sized lugs, and the well-earthed surge protection that reflect a job done properly.

In the end, good electrical work is about more than just getting the power on. It's about keeping it on – safely, efficiently, and reliably. And that all begins with what's happening behind the scenes.

Enquiries: www.voltex.co.za

Energy Performance Certificates: what comes next?

By: Claudia A. Naidoo-Hedley, sustainability specialist and SANEDI-registered EPC professional

As South Africa continues to navigate the intersecting pressures of climate change, national energy constraints, and evolving global sustainability standards, the built environment stands at the centre of both challenge and opportunity. Energy Performance Certificates (EPCs), mandated for specific categories of buildings, have rapidly emerged as one of the country's most influential regulatory instruments, propelling owners, operators, and institutions towards measurable energy responsibility.

With the national deadline of 7 December 2025 having remained firm, the conversation is no longer about whether EPCs matter, but rather what comes next.

Understanding EPCs

EPCs are not unique to South Africa. Globally, EPCs form part of established energy transition frameworks across Europe, North America, Australia, and parts of Asia. Their purpose is universal: to provide an independently verified measure of a building's energy performance, benchmark it against predefined thresholds, and make this information publicly visible to drive behavioural and operational improvement.

South Africa's EPC framework draws from the same international principles while integrating country-specific drivers, particularly unreliable energy supply, rising operational costs, and the urgent need to modernise the country's commercial, institutional, and public-sector building stock.

National progress: tracking South Africa's EPC journey

A key indicator of progress is the number of EPCs issued nationally. The South African National Energy Development Institute (SANEDI)'s EPC dashboard indicates the national baseline and shows the number of registered EPC professionals who have maintained their issuance presence in the industry, reflecting increased competence and the upskilling of more trained professionals.

The regulatory environment has become clearer, supported by stronger guidance, standardisation, and alignment with the core principles of ISO 17020, SANS 1544:2014, and SANS 10400XA:2021, ensuring registered EPC professionals maintain independence, consistency, and technical accuracy.

These developments reflect significant progress since the mandate's inception in 2020. Many organisations that once viewed EPCs as compliance-heavy now regard them as strategic tools for energy cost control, asset enhancement, and long-term operational planning.

EPC professionals and quality assurers as industry experts

The EPC landscape depends heavily on technically skilled professionals who can interpret building profiles, review consumption data, perform site inspections, validate performance, and align findings with national standards SANS 1544:2014 and SANS 10400 XA:2021. Their responsibilities extend beyond simple certification; they act as interpreters of regulations and technical expertise, providing transparency to the public.

Registered professionals need to undergo continuous training to keep pace with evolving methodologies, data requirements, and policy changes. As the next phase of the EPC framework unfolds, SANEDI and the Department of Energy and Electricity (DEE) will increasingly rely on these skilled professionals to ensure credible oversight.

What comes next

The initial rollout of EPCs focused on compliance and capturing the national baseline performance. The next phase will shift from "What is the building's rating?" to "What must we do about it?"

Several technical developments are expected to shape this transition:

1. Larger emphasis on data analytics: EPCs generate standardised datasets that allow building portfolios to be compared, segmented, and analysed. These insights reveal patterns of energy waste, opportunities for efficiency upgrades, performance anomalies requiring deeper investigation, and trends across building types and geographic regions.
2. ASHRAE-aligned energy audits: There is a growing need for ASHRAE-level audits, particularly for buildings scoring at the lower end of the rating scale (E, F, or G). These energy audits support identification of high-impact energy-saving interventions, lifecycle planning for equipment upgrades, creating awareness of how energy is used and distributed in a building, and cost-benefit modelling of retrofits.
3. Prioritisation through digital dashboards: Energy and sustainability dashboards are set to become mainstream tools that

consolidate real-time consumption, EPC ratings, portfolio-wide benchmarks, and performance deviations. Decision-makers will use these platforms to prioritise interventions and allocate budgets more effectively.

The 7 December deadline

A key message emerging from the national discourse is that the mandatory compliance deadline will not be extended. The DEE has reaffirmed that building owners, accounting officers, and organs of state will be held accountable for ensuring EPCs are obtained for all applicable buildings. Non-compliance will trigger enforcement actions and potential penalties, a significant shift that has remained enforced since the early phase of rollout.

This clarity is expected to accelerate certification activity.

The rise of mandatory energy efficiency plans

One of the most impactful developments anticipated in the next cycle is the introduction of mandatory energy efficiency plans. After the first EPC is issued, building owners will be expected to develop structured improvement plans, use measured data to guide interventions, use smart meters to profile data, demonstrate progress during the next certification round, and incorporate EPC outcomes into broader sustainability strategies.

This aligns South Africa with global best practice and will encourage long-term operational shifts rather than one-off compliance.

Quality assurance: a new layer of oversight

To uphold credibility and national consistency, the DEE is set to formalise a network of Quality Assurers (QAs). These independent parties will review completed EPCs, validate inspection evidence, ensure correct application of methodologies, and identify any inconsistencies.

Building owners and registered EPC professionals should note that QA services will come at an additional cost, and EPC project budgets will need to factor in this mandatory requirement going forward.

South Africa's energy future

EPCs are more than a regulatory

checkbox; they represent a fundamental shift in how buildings are assessed, valued, and managed. Their broader long-term impact includes:

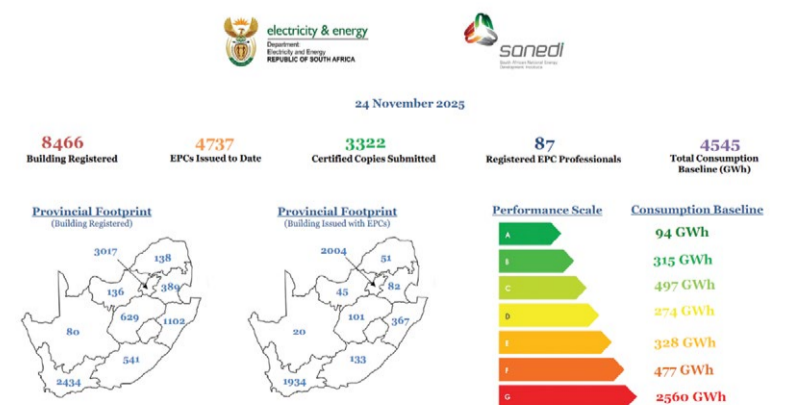
1. National energy security: EPC-driven improvements can significantly reduce demand on an already strained grid, supporting resilience and reducing operational risk.
2. Capital investment and asset value: Better-performing buildings attract higher occupancy rates, lower utilities expenditure, and increasingly, preferential lending terms tied to green performance.
3. Alignment with global climate commitments: As international markets move toward decarbonisation, South Africa's EPC system provides a measurable link between environmental goals and building operations.
4. Skills development and sector growth: The EPC ecosystem, comprising engineers, auditors, architects, graduates, trade-skilled professionals, verification professionals, and sustainability specialists, continues to expand, contributing to national green economy growth.

A turning point for SA's built environment

South Africa's EPC programme has matured from an introductory compliance requirement into a central component of the national energy strategy. With clear deadlines, increasing enforcement, and stronger technical oversight, the next 12 to 24 months will define how effectively the country transitions toward more efficient, resilient, and future-ready buildings.

The journey ahead requires collaboration among building owners, registered EPC professionals, public institutions, and regulatory authorities. However, the benefits, which include reduced operational costs, improved building performance, stronger national energy security, and alignment with global sustainability, are more than compelling.

Enquiries: www.saeeconfed.org.za



Solar electromagnetics and our planet

By: Mike Visser of Power Quality

This article was inspired by a presentation by Stefan Burns (geophysicist), in which he explored how increases in the energy output of the sun during solar flare activity result in higher energy levels at the ground and can ground aeroplanes and disable satellites.

This increased energy at ground level contributes to increased earthquake and volcanic activity, as well as, of course, giving rise to the aurora borealis/ australis. This is supported by the graph (Figure 1), which clearly indicates a rising energy level over the last decade. But that is not the part of the story we are following here; there are far more correlations that we should be aware of, and I intend to expose them here, hopefully as new material to many.

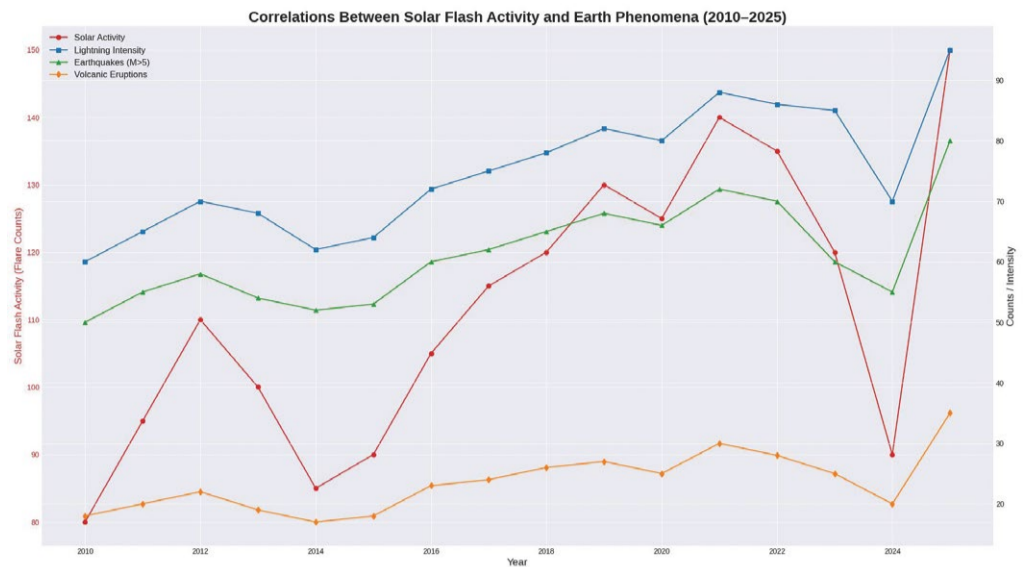
Stefan Burns raised several interesting hypotheses. One is that the planet is undergoing a significant increase in energy level (electrification), and, importantly, this increasingly higher energetic state is a consequence of many things and a cause of many things too.

That the planet is an electrical device cannot be disputed, given that we have a North and a South Pole. Both poles manifest the electromagnetic nature of reality in balance. The fact that these poles

(while comparatively on opposite ends of the planet's icy caps) move, and that movement is accelerating enormously in the last few decades, is a fact for which our science has no explanation. Worth mentioning here is that the poles flipping (swapping locations on the planet) is a matter of the geological record.

The presence of charges moving across the planet is measurable in the absence of cloud activity and is unmistakable during lightning storms, as many a corpse will confirm. Another factor justifying this viewpoint is the presence of the Schumann resonance (and its resonant frequencies), a peculiar frequency seemingly related to the speed of light and the circumference of the planet/ ionosphere. This is derived from electromagnetic waveguide theory in a spherical cavity.

Our brain is also noted to resonate with this frequency range. Take, for example, the alpha, beta, and theta we all know about. I read somewhere recently that it is time humanity learnt about frequencies and vibrations, and this applies to what we know so far. An environment where a 19 Hz frequency (or close to) is present will lead to states of emotional distress, such as fear and anxiety, even though you probably will not hear it.



A 432 Hz frequency leads to feelings of calm and relaxation, and there is some evidence that it is healing, though this has not been scientifically tested. What does have legitimacy in this field of research is psychoacoustics, because it does not associate an emotion with a frequency, but a frequency with an emotion, and we all know that data capture, definition, with funding and grants, had something to do with that.

We should all be aware of the Carrington event (CE) on 1–2 September 1859, when the sun emitted a coronal mass ejection towards Earth. This was such a significant electromagnetic

impulse on the earth that telegraph wires melted between pylons, the aurora borealis was so bright that you could read a newspaper at night outside in New York, the borealis was visible at the equator, radio was knocked out, and compasses lost their effectiveness. Someone estimated that the effects on our world could easily cost in the region of USD5 trillion and cause massive global destruction and disruption. Please ensure your lightning protection systems are continually inspected, maintained, and certified, as required by the code.

Now, not wanting to be a doomsayer, but

**Downtime is
expensive,
Safety is priceless!**



When last was your earthing and lightning protection systems inspected and certified?

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as a brother of the lightning protection fraternity, we must advise that further risk management be considered for solar particle storms. We are talking here about Miyake events – a far more energetic event than even the CE. By comparison, the 1989 Quebec blackout (collapse of the electricity grids in the area) had a Dst index (measured in nano-Teslas), with more negative values indicating greater storm severity. Quebec was -589 nT, with the CE estimated at 1,760 nT; the energetic level of a Miyake event could be up to 80 times higher than the CE. The Miyake events of 774 and 993 were both five times larger than the CE, and 14,375 years ago, there was one twice their size, which took three years to dissipate the isotope production.

Carrington-type events are predicted to occur somewhere between every 100 and 500 years, Miyake events between 400 and 2,400 years, averaging every ~1,000 years.

Miyake events are confirmed through research on the presence of cosmogenic isotopes C14, Be10, and Cl36 in tree rings and ice cores, which date and quantify the events.

The potential catastrophic consequences of something 10 times stronger than the Carrington event are frightening and warrant consideration of solutions in our centralised power generation and massive electricity distribution infrastructure. I suppose the only solution would be to beg and plead (and mostly pay) the occupiers of the moon to slip between the sun and earth on the right day at the right time, but the magnetosphere will still take an enormous hit unless they can move a bit further from the earth. If that is too much of an unlikely risk solution for you, please consult us to explore solutions for your protection requirements against the next Miyake event.

Getting off the catastrophic doom dialogue, Stefan also raised the complete lack of knowledge and awareness of the structure of the Earth's atmosphere and its graduated constituent parts or zones, so to speak, as we get further and further away. He also mentions our lack of information or knowledge about how the interactions of these zones form part of the great system that sustains the earth and us. The good news is we can change it; we can do more research, but alas, it will take time.

There are currently over 11,000 active satellites orbiting Earth, with thousands more inactive and creating space debris. Some totals put the total number of active and inactive satellites in the region of 17,000 devices, some nuclear-powered. The number of active satellites is rapidly increasing, largely due to the Starlink constellation.

Starlink's competitors are lining up to pollute the mesosphere further, and the question is, after we have burnt up a few thousand satellites at a specific level of our atmosphere, what will the consequences be of a layer of a now comparatively conductive region where there never used to be? Will we be able to clean it up if needed?

Should a Carrington, or worse, a Miyake event occur, our satellites would see it in real time. Would those who know this information release it to the public?

Enquiries: <https://elpasa.org.za/>

DEHNguard MD: surge protection with maximum flexibility and future-ready design

In today's increasingly complex electrical infrastructure, engineers and installers face a dual challenge: ensuring high-performance surge protection while maintaining flexibility to accommodate changing system requirements. The DEHNguard MD series answers this challenge with an innovative blend of robust protection technology and installation-friendly design. Bringing together Type 2 + 3 surge protection, innovative connection technology, and broad application versatility, DEHNguard MD sets a new benchmark for modern electrical safety solutions.

Innovation at the core: the double-screw connection

At the heart of the DEHNguard MD series lies its most distinctive feature, the innovative double-screw connection. This design enables both stub and feed-through wiring, offering unparalleled flexibility during installation. Conductors of varying sizes can be connected easily, whether using one conductor up to 35 mm² or two conductors up to 16 mm² each. For installers, this means fewer constraints, fewer components, and simpler planning.

Perhaps even more valuable is the feed-through wiring option. By eliminating the need for upstream terminal blocks, the DEHNguard MD series not only saves valuable space inside panels and enclosures but also reduces material and labour costs. This becomes especially advantageous in retrofit scenarios, where available space is limited and system downtimes must be minimised.

Designed for retrofitting and expansion

Modern systems evolve constantly, regardless of the facility type. DEHNguard MD is engineered with these realities in mind. By removing the need for extra wiring accessories, the system frees up space inside switchgear and sub-distribution boards, leaving room for future expansion. This is a critical advantage in settings where additional equipment or extensions to automation networks are expected.

Moreover, the double-screw connection simplifies the retrofitting process, allowing surge protection to be integrated seamlessly into existing installations without extensive redesign. This efficient

integration helps reduce overall system costs and installation time – key considerations for operators and system planners alike.

Compliance made simple

Meeting conductor length requirements can be challenging when installing surge protective devices. The DEHNguard MD series addresses this through its feed-through wiring capability, which makes it easy to comply with the standards set out in DIN VDE 0100-534/IEC 60364-5-53. Installers gain confidence knowing that their installations meet the latest safety and performance regulations while maintaining clean, organised cable routing.

Maintenance made easy

Equipment uptime is essential, and the MD series is designed to support uninterrupted operation. Its pluggable protection modules can be replaced quickly and easily in the event of a fault, minimising downtime and simplifying routine maintenance. The integrated floating remote signalling contact (FM) ensures continuous monitoring of device status, providing critical information to building and system management teams.

A versatile solution for wide-ranging applications

The DEHNguard MD series is built to perform across an impressive spectrum of environments. Whether used in sub-distribution boards, machine control cabinets, industrial process systems, or railway applications, it delivers consistent, reliable protection. The devices are also ideally suited for modern automation systems, supporting stable power distribution in functional and commercial buildings.

Its Type 2 + 3 certification by DEKRA confirms the DEHNguard MD's ability to protect terminal equipment even with cable lengths up to 10 m, a valuable assurance for installations where sensitive electronics are located downstream.

Product variants for every requirement

To support a wide range of system configurations, the DEHNguard MD portfolio includes multiple variants, such as:

- DEHNguard MD TNS 275: Type 2 + 3 for TN-S systems
- DEHNguard MD TNS 275 FM: with remote signalling contact
- DEHNguard MD TNS ACI 275 FM: Type 2 with ACI technology
- DEHNguard MD TNS 150 FM: Type 2 + 3, lower voltage
- DEHNguard MD TNS 385 FM: Type 2 + 3, higher voltage
- DEHNguard MD TT 275: Type 2 + 3 for TT and TN-S configurations

This variety ensures that designers and installers can select exactly the right device for their electrical system, without compromise.

With the DEHNguard MD series, DEHN delivers a future-ready surge protection solution built around flexibility, efficiency, and safety. Its clever double-screw connection design, simplified installation, and wide range of applications make it a standout choice for both new builds and retrofits. Whether planning for today's requirements or anticipating tomorrow's expansions, DEHNguard MD provides the reliable, adaptable protection modern electrical systems demand.

Enquiries: www.dehn-africa.com



- 1 **Double-screw clamp** for cross-sectional areas up to 1 x 35 mm² (stub wiring) or 2 x 16 mm² (feed-through wiring)
- 2 **Feed-through wiring** as per DIN VDE 0100-534 / IEC 60364-5-53
- 3 **Remote signalling contact (optional)** for easy remote monitoring
- 4 **Certification** according to DEKRA as type 2 + 3 with integrated protection of terminal equipment

SEW-EURODRIVE opens new Gqeberha facility

SEW-EURODRIVE officially opened its expanded state-of-the-art facility in Gqeberha at the end of last year, marking a major milestone in its strategy to strengthen regional support in the Eastern Cape.

The new facility, which drew high praise from customers who attended the event for its scale, technical capability, and level of investment, positions the company as a powerful local partner to the province's fast-growing industrial sector.

"This is more than just a building; it's a symbol of our long-term investment in the region and the industries that drive it," Phillip Steyn, SEW-EURODRIVE Gqeberha branch manager, says. "Our customers were visibly impressed by the capabilities we have brought under one roof – from advanced assembly and service

infrastructure to the engineering depth we can now offer locally."

The 2,400 m² facility significantly expands on the company's previous footprint, offering modernised assembly bays, dedicated painting and dispatch zones, and a fully equipped service centre complete with high-pressure cleaning systems, conformance and quality testing, as well as overhead cranes rated for drive units up to 10 tonnes.

The facility is already transforming response times and service efficiency. "We have shifted from being a branch office to a regional powerhouse," Steyn adds. "We can assemble to order, stock critical components, and carry out major repairs – all without sending equipment elsewhere. That is a game-changer for uptime and operational continuity for our customers

across the Eastern Cape region."

Looking ahead, SEW-EURODRIVE has confirmed further expansion plans, including the launch of a customer-focused experience centre. Steyn says that this interactive space will showcase next-generation mechatronic drive technologies, conduct energy optimisation studies, and provide a real-world environment for customers to trial the latest control platforms and software.

"Our expanded facility reflects our belief in the Eastern Cape's potential and our readiness to support its industrial evolution," Steyn concludes. "This is about delivering innovation and support where it is needed most – right here, on the ground, with our customers."

Enquiries: www.sew-eurodrive.co.za

Key design features, functions, and testing of cable glands

The compulsory SANS 1213:2018 standard for industrial cable glands defines cable glands as devices designed to permit the entry of armoured or flexible cable or insulated conductors into an enclosure while providing sealing and retention. They also offer other important functions such as earthing, bonding, insulation, cable guarding, strain relief, or combinations of these. CCG explores this topic in more detail.

The main functions of cable glands are therefore summarised as follows:

- To terminate, hold, and retain the cable entering into an electrical enclosure or apparatus.
- To maintain the IP rating of an enclosure that seals off the cable entry against moisture, gases, and solids.
- To provide earth continuity for armoured cables.

For industrial electrical installations, the need for legal compliance with the installation standard SANS 10142 is vital to ensure Occupational Health & Safety (OH&S) in the

workplace, the security and safety of earthing systems, functional safety, the longevity of performance, and the continuity of electrical supply for critical plant and equipment.

With this in mind, it is a legal requirement that installers and specifiers select cable glands that can demonstrate independent testing and certification to the latest SANS 1213 Edition 3 standard. This standard was recently updated and includes additional design aspects which cover the following critically important safety functions:

Material quality

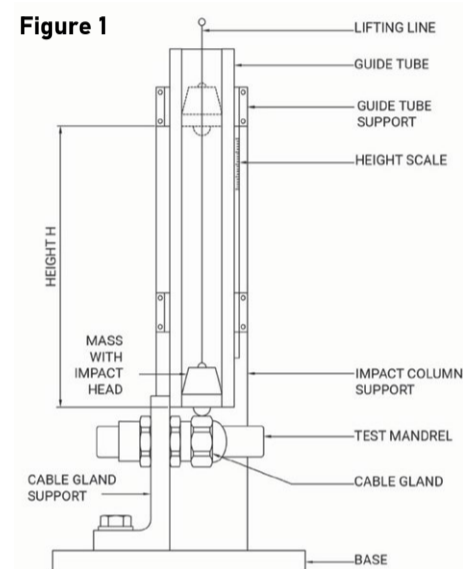
Strict compliance with brass material grade CuZn39Pb3 to BS EN 12164 ensures the mechanical and electrical performance of cable glands.

Environmental influences

To demonstrate longevity in performance, glands must undergo salt-spray and sulphur dioxide tests for corrosion resistance, as well as weathering tests at extreme high and low temperatures.

Mechanical properties

Tests for impact strength and resistance are conducted to demonstrate whether a gland is robust enough to withstand the rigours of installation and to endure heavy-duty service throughout the life of the electrical installation. Industrial glands typically require an impact strength of 20 joules. (See Figure 1)



Cable retention/ cable clamping test: Cable glands are used to attach cables to equipment, and the cores of those cables are connected to terminals within the equipment. A cable gland's function is to hold the cable securely in place and prevent any strain or twisting forces on the cable from being transmitted to the conductors. (See Figure 2 and Figure 3)

Figure 2

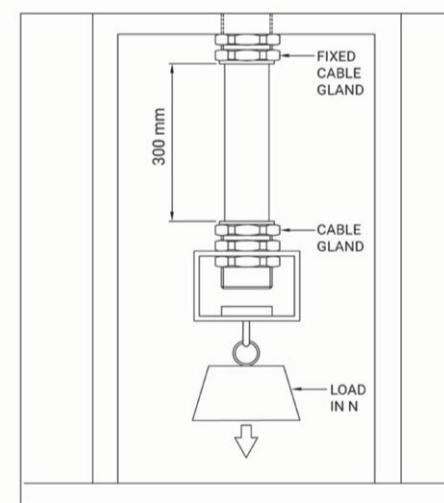
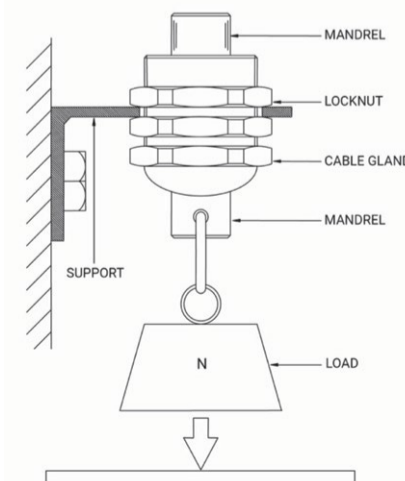


Figure 3



CCGG[®] CABLE TERMINATIONS INDUSTRIAL CABLE GLANDS



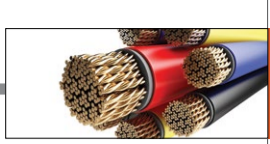
TESTED PROVEN PERFORMANCE

- EMC Tested
- Corrosion Tested
- High Fault Current Tested
- Low Smoke Fire Retardant Tested
- Environmental Conditioning Tested
- Extreme Temperature Tested -65°C to +175°C
- Ingress Protection Tested IP68 (100m 14-days, 850m -24hrs)

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Torque test: This ensures that the cable gland can be installed and function correctly with sufficient clamping on the cable armour or compression of the seal(s). It also checks the strength of the entry threads against overtightening, as that is usually the weakest part of the cable gland.

Ingress protection

Cable glands should have an IP rating equal to or higher than that of the enclosure. Glands are therefore tested to SANS 60529 and are typically required to have IP ratings of IP66 and IP68. (See Figure 4)



Figure 4: CCG A2 compression gland with proven tapered seal rated at IP68 up to a depth of 850 m.

Electrical properties

Tests to determine the suitability of cable glands and any associated earth tags under short-circuit fault conditions satisfy the following criteria:

- Equipotential bonding to electrical equipment.
- Equipotential bonding to metallic layer(s) of cable.
- Protective connection to earth.
- Electrical current test of up to 43 kA rms.

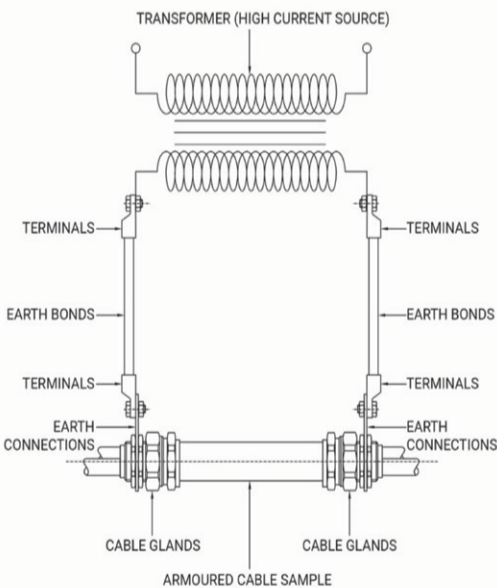


Figure 5



Figure 6

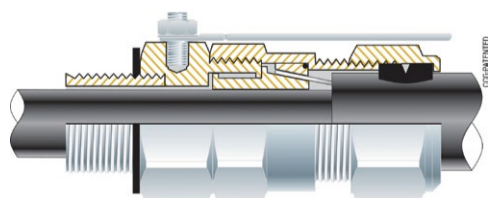


Figure 7

In addition to the test criteria in SANS 1213 Edition 3, other design properties, such as EMC and Low Smoke Zero Halogen (LSOH), are increasingly relevant for modern electrical systems.

Electromagnetic Compatibility (EMC)

This is the ability of the equipment, cables, or electrical systems to function satisfactorily in their electromagnetic environment without introducing intolerable electromagnetic disturbances to any other equipment in that environment. Because electromagnetic emissions can be affected by the quality of the connection through the gland to the cable armour or metallic sheath and to the equipment testing according to EN 55011 and EN 55022 EMC standards, Class B radiation emissions demonstrate EMC compatibility.

Low Smoke Zero Halogen (LSOH)

With an increase in the amount of cable installed in residential, commercial, industrial, public buildings, metro rail tunnels, and underground mining operations, the specification of LSOH cables and accessories is increasingly becoming mandatory. During a fire, LSOH cables will emit less optically dense smoke, which makes exiting a space easier for its occupants as well as increasing visibility during firefighting and rescue operations. With zero halogen cables, the chance of toxic gases accumulating, which are life-threatening to people and corrosive to electrical and instrumentation equipment, is significantly reduced. To match the LSOH characteristics of the cable, it is necessary for the seals, gaskets, and shrouds of cable glands to meet the same LSOH standards as the cables. Testing to EN 45545-2, IEC 61034-2, and IEC 60754-2 standards demonstrates LSOH compliance.



Figure 8



Figure 9

Conclusion

As modern electrical systems and designs are becoming ever more high-tech and sophisticated, equipment and cables used in such systems must comply with various improvements made in safety and performance standards. It is therefore imperative that cable glands that are used to terminate, seal, and maintain adequate earth continuity and IP ratings between the cables and equipment need to perform to similar high standards.

Only cable glands that can demonstrate independent testing and certification to these standards should be selected for use in modern electrical system installations. According to SANS 10142, it is now a legal requirement that only glands that are certified to the latest SANS 1213 Edition 3 standard may be installed.

Enquiries: www.cccablegland.co.za

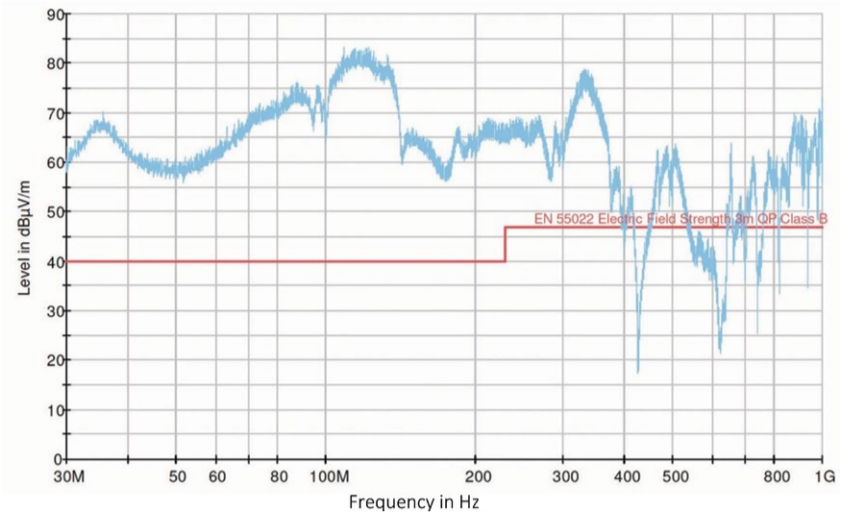


Figure 10: The graph shows the emission from the cable without sufficient earthing through the gland.

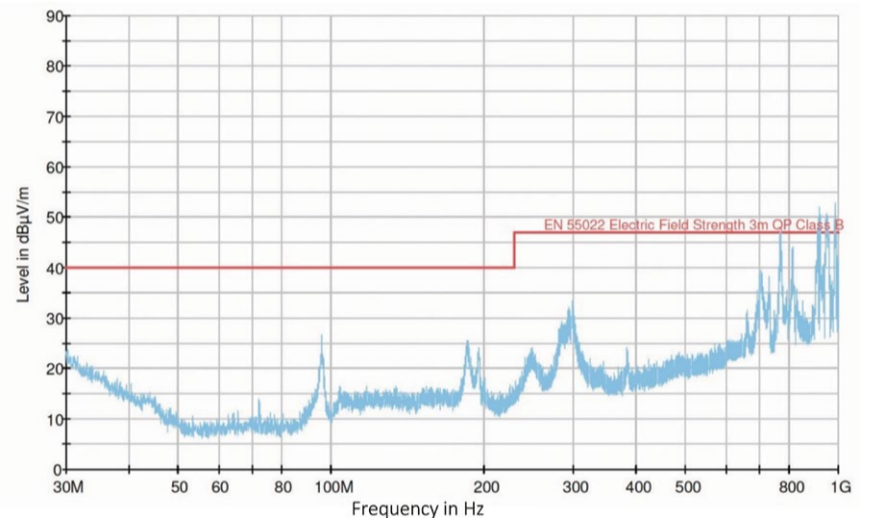


Figure 11: The graph shows a dramatic reduction in emissions from the same cable when earthed through a CCG cable gland.

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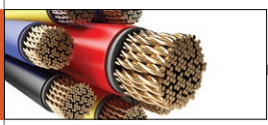
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Why Three-D trusts HEX brass cable glands and lugs for the toughest conditions

For more than 40 years, Three-D Agencies has been a reputable cable accessories distributor throughout Southern Africa. When it comes to these types of components, such as cable glands and lugs, the quality and material selection are important. In the extreme environments that exist in South Africa, HEX brass cable glands and lugs are robust and reliable choices for keeping operations safe and efficient.

The importance of cable glands

Cable glands may seem like small components, but their presence can determine whether an installation is successful. The purpose of a cable gland is to secure a cable, provide strain relief, and protect the connection from harmful environmental ingress, such as dust, water, or chemicals, when transitioning from a cable to a piece of equipment.

If a gland fails, the entire system is compromised. This could lead to electrical faults, unplanned downtime, or, worse, safety risks.

Why brass?

Brass, as an alloy of copper and zinc, has long been well-known for its durability and performance. Unlike plastics or cheaper metals, brass offers resistance to many of the environmental challenges common in South Africa.

Brass is highly resistant to corrosion. Coastal areas like KwaZulu-Natal and the Western Cape are subject to high humidity and salty air, and if a less durable material is used, it will deteriorate very quickly. HEX has developed brass cable glands and lugs that will withstand coastal conditions, especially when nickel-plated for even greater protection.

Brass is mechanically strong and has excellent thermal stability. In South Africa, it is not uncommon for equipment to be exposed to very high daytime temperatures and cooler nighttime temperatures. In solar farms or industrial plants, equipment can also expose components to heat from the equipment itself. Brass does not warp, degrade, or lose grip due to these temperature variations.

Ease of installation and maintenance

HEX brass cable glands are easy to use. Their threads, seals, and fittings are made to maintain high tolerances. This allows installers to get a secure and correct fit without much effort. When a brass gland is installed properly, it lasts a long time and needs very little maintenance.

For businesses, this leads to significant cost savings, less downtime, fewer replacements, and longer operational life all contribute to a lower total cost of ownership. In industries where every hour of downtime can cost thousands of rands, investing in durable parts like HEX brass glands and lugs is both economically and technically sensible.

Applications across South Africa

HEX brass glands and lugs have shown their value in various sectors in South Africa. In mining, they endure vibration, dust, and chemicals, keeping essential machinery running safely. In solar farms, they manage drastic temperature changes and constant UV exposure. Along the coast, they withstand the harmful effects of salt spray, protecting marine installations, ports, and desalination plants. In chemical and food processing plants, they maintain secure seals despite steam, cleaning agents, and



other tough conditions.

Why choose HEX brass?

HEX is a well-respected manufacturer known for precise engineering and reliability. As the Southern African distributor, Three-D Agencies offers not only access to genuine HEX products but also technical knowledge and support suited to local conditions. The company deeply understands the challenges South African industries face, ensuring customers get practical solutions.

By selecting HEX brass cable glands from Three-D Agencies, users are investing in components that provide long-term reliability, safety, and cost-effectiveness.

South Africa's environment is demanding, and electrical installations cannot have weak links. HEX brass cable glands and lugs, supplied by Three-D Agencies, are made to resist corrosion, mechanical stress, and extreme temperatures. They ensure reliable sealing, secure connections, and a long service life. For industries where safety and uptime matter, brass is not just a choice; it is essential.

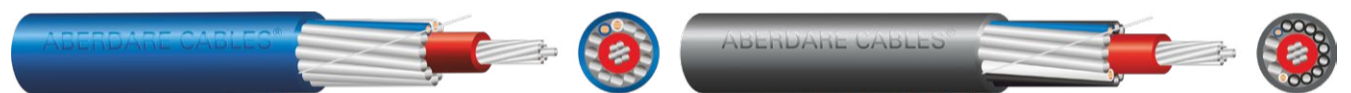
Enquiries: www.three-d.co.za

Aberdare Cables launches copper anti-theft cable solution for house connections using bi-metals

By: Donemore Torerwa, general manager: product development and applications, Aberdare Cables.

Copper cable theft has been a major challenge for municipalities and utilities, locally and regionally, negatively impacting service delivery to customers. Aberdare Cables has, over the years, been involved in regional work to support municipalities, Eskom, and other authorities and utilities in the fight against copper theft and the related service delivery interruptions.

Some of the notable past and currently relevant



initiatives from Aberdare Cables include the development of the aluminium alloy and copper-clad control and power cables for use in traffic lighting control cable applications; the development of bigger size aluminium cables for medium-voltage and high-voltage cables to allow improved use of low scrap value aluminium material in high-risk areas in place of copper, as well

as the development of house connection cable known as Saferdac, which has already proved to be successful within municipalities and utilities that have adopted this product as a theft-deterrent product.

Apart from product development initiatives, Aberdare has supported the South African Police Service (SAPS) by educating its personnel on cable knowledge to help combat cable theft.

In 2024, Aberdare Cables, through its Research and Development (R&D) department, began a journey to develop a bi-metal design for house connection applications in response to the needs of local municipalities and utilities, as expressed in the technical specification NRS 110 (2019 version). Having undergone rigorous safety and compliance testing of this product to NRS 110 and SANS 1507-6, as applicable, Aberdare Cables can gladly confirm the launch of the Tinned Copper Clad Aluminium Alloy (CCAA) Airdac product as a replacement for the traditional Copper Airdac in high-theft risk areas.

Tinned CCAA Airdac is available in versions of Combined Neutral/ Earth (CNE) and the separate neutral/ earth with or without communication cores, depending on the needs of the municipality/ utility. This product will improve the service delivery efficiency for municipalities and utilities because it is not attractive to thieves as it is processed by metallurgically fusing copper and aluminium, making it difficult to separate for the scrap dealers, and the copper content in TCCAA is very low, making this product an almost zero-scrap-value product. The TCCAA product is available for supply to interested parties in the market.

Aberdare Cables will continue to support its customers and users in addressing their challenges through structured R&D processes. The company is open to partnering with progressive organisations and educational institutions on research aimed at addressing challenges in local communities and industries.

Enquiries: www.aberdare.co.za

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Synerji Electrical expands lighting portfolio with new CCT bulkhead range

Synerji Electrical has announced the arrival of its new CCT bulkhead lighting range, offering specifiers and installers a versatile, durable solution for indoor and outdoor applications across residential, commercial, and industrial settings.

The new round bulkhead fixtures feature selectable Correlated Colour Temperature (CCT) technology, allowing users to adjust the light output between warm white (3000 K to 3500 K) and cool white (4000 K) settings. This flexibility enables a single product to suit multiple environments, from creating welcoming atmospheres in residential spaces to providing crisp, functional illumination in commercial and industrial areas.

Flexible performance

The range is available in two wattage options to accommodate different lighting requirements. The 13 W model delivers up to 1,500 lm with a luminous efficiency

of 115 lm/W, while the larger 21 W model produces up to 2,625 lm at 125 lm/W. Both variants feature selectable wattage settings, giving installers additional control over light output and energy consumption.

Built for demanding conditions, the bulkheads carry an IP66 rating for protection against water and dust ingress, making them suitable for exposed outdoor locations as well as interior spaces. An IK10 impact rating ensures resistance to vandalism and accidental damage, a key consideration for public areas, stairwells, and car parks.

The fixtures are constructed from polycarbonate and are available in both black and white finishes to complement various architectural styles. The 13 W models measure 250 mm in diameter with a depth of 60 mm, while the larger 21 W units are 300 mm in diameter with a depth of 60 mm. With a rated lifespan of 50,000 hours and a CRI above 80, the range is

designed to deliver consistent, quality illumination over an extended service life.

"We are pleased to bring this new CCT bulkhead range to the South African market," says Anthony Lloyd, CEO of Synerji Electrical. "The combination of selectable colour temperature and wattage settings gives electrical contractors and their clients genuine flexibility, while the robust construction and high IP and IK ratings mean these units will perform reliably in the toughest environments. It is exactly the kind of practical, high-performance product our customers have come to expect from us."

Installation and warranty

The bulkheads operate on 220 to 240 V at 50 Hz and feature interlockable nuts for straightforward installation. The colour temperature is typically selected via a switch on the fixture during installation, though it can be adjusted later if requirements change. As with all mains-powered lighting, the fixtures must be installed by a qualified electrician.

All products in the range are backed

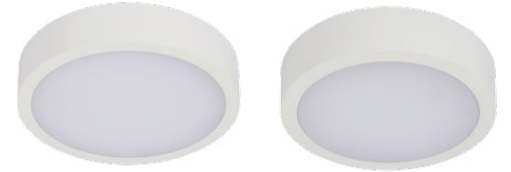
by a five-year warranty, underscoring Synerji's confidence in the quality and longevity of the fixtures.

Enquiries: <https://synerji.co.za/>



SYOBH13BKCT: Synerji outdoor LED bulkhead, round, 13 W, black, CCT.

SYOBH21BKCT: Synerji outdoor LED bulkhead, round, 21 W, black, CCT.



SYOBH13WHCCT: Synerji outdoor LED bulkhead, round, 13 W, white, CCT.

SYOBH21WHCCT: Synerji outdoor LED bulkhead, round, 21 W, white CCT.

Bug-free illumination? Unpacking the technology behind Radiant's insect-repelling floodlights

The latest South Africa-ready lighting solution is a range of insect-free floodlights by Radiant Lighting. Designed specifically for environments where both lighting efficiency and insect control are essential, these floods are the ideal answer for a bug-free life.

Technical specifications and performance

This advanced line of floodlights from Radiant offers an impressive blend of cutting-edge LED technology, robust construction, and insect-repelling properties. At the heart of these floodlights is an integrated LED module available in three power options: 20 W, 50 W, and 100 W. Each variant delivers a well-defined light output ranging from 730 lumens for the 20 W model to 3,340 lumens for the 100 W model. The light emitted

operates at a particular wavelength, 600 nanometres, producing what is also known as 'amber light'.

Amber light is a warm yellowy-orange light with a longer wavelength than that of white and UV light. At a wavelength of 600 nm, amber light doesn't draw insects in the same way that white or UV light does. In fact, the opposite is true: insects seem to hardly notice the light.

The reason comes down to simple biological science – insects have evolved to be most responsive to natural light, such as sunlight and moonlight, so their vision is more attuned to shorter-wavelength light.

This makes the longer wavelength amber floodlight advantageous in outdoor spaces such as gardens, patios, and commercial outdoor venues where insect activity can be disruptive.

The floodlights' 110° beam angle provides broad coverage, making them suitable for wide-area illumination. In addition to their lighting efficiency, these products boast a power factor of over 0.9, which contributes to energy efficiency and minimises power waste during operation.

Durability and protection

Constructed from die-cast aluminium, these floodlights are designed to withstand the elements, with an IP65 rating that guarantees resistance to dust and water ingress. This makes them an ideal choice for harsh outdoor conditions. Furthermore, the series is equipped with advanced surge protection – 1 kV surge protection for the 20 W model and 2 kV for the 50 W and 100 W models – ensuring resilience against voltage spikes and enhancing the longevity of the fixtures.

Practical applications

One of the standout features of these floodlights is their dual functionality. Not only do they serve as high-performance outdoor lighting, but their 1600 K amber hue repels insects, improving the comfort and usability of outdoor areas without compromising on brightness or visibility. This makes them an excellent choice for residential gardens, hospitality venues, and public spaces where insect presence could otherwise be a nuisance.

Additional features

Each floodlight in the range comes with a standard 500 mm cable for easy installation, and the compact design – ranging from 100 mm x 85 mm for the 20 W version to 260 mm x

180 mm for the 100 W version – ensures a sleek profile that won't detract from the aesthetic of any outdoor setup. With a two-year warranty across the board, these floodlights offer both peace of mind and a long-term lighting solution.

Conclusion

Radiant's insect-repelling LED floodlights are a versatile, energy-

efficient solution designed for those who require high-performance outdoor lighting without the nuisance of insects. With robust construction, excellent surge protection, and insect-repelling capabilities, this range is set to redefine outdoor lighting in residential, commercial, and public settings.

Enquiries: www.radiant.co.za





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Introducing the Next Generation All-in-One Solar Streetlight – Now Lighting Up Sun City!
We're proud to announce the launch of our brand-new All-in-One Solar Streetlight, engineered for maximum performance, durability, and energy independence. Designed to deliver unmatched brightness and reliability, this cutting-edge unit has already made its debut with a successful first installation at Sun City, setting a new benchmark for sustainable outdoor lighting in South Africa. Built for powerful illumination and all-weather endurance, our latest model features:

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Understanding the difference between lumens and lux: why both matter in lighting design

In the world of lighting, two terms often surface when discussing brightness and performance: lumens and lux. While they sound similar and both relate to light, they measure very different things and understanding their distinction is essential for anyone specifying, designing, or installing lighting systems. Aurora Lighting Africa believes that informed choices lead to better, more efficient, and more sustainable lighting outcomes.

Lumens: measuring the total light output

Lumens (lm) represent the total amount of visible light emitted by a source, regardless of direction. In simple terms, lumens quantify how much light a lamp or fixture produces in total. It's the raw measure of brightness that comes straight from the source.

For example, a 10 W LED downlight might produce around 900 lumens, whereas a 60 W incandescent bulb emits about 800 lumens. Despite consuming less power, the LED produces more light, showcasing its superior energy efficiency. When consumers look at packaging or specifications, lumens indicate how bright the lamp or fitting will appear overall, a key factor in energy comparisons and product selection.

However, lumens don't tell the whole story. A light source could have a high lumen output, but if that light is not directed or controlled effectively, much of it may

never reach the intended area. That's where lux becomes critical.

Lux: measuring light where it matters

Lux (lx) measures illuminance, or how much light falls on a given surface. One lux equals one lumen per square metre. In other words, lux quantifies the intensity of light on a surface, not the total light produced.

Consider two identical 1,000 lm fixtures: one mounted high above a warehouse floor and another positioned closer to a workbench. The first will spread its light over a wide area, resulting in fewer lux (lower brightness per square metre), while the second will concentrate its light on a smaller area, producing more lux (higher brightness where needed).

For lighting designers, architects, and engineers, lux is a far more practical measure than lumens. It determines whether a space is adequately illuminated for its purpose. For example:

An office typically requires 300–500 lux for comfortable reading and computer work.

Retail environments may aim for 750–1,000 lux to highlight merchandise.

Warehouses might need around 200 lux, while detailed assembly work could demand 1,500 lux or more.

Why both matter

Understanding the difference between lumens and lux helps ensure that lighting

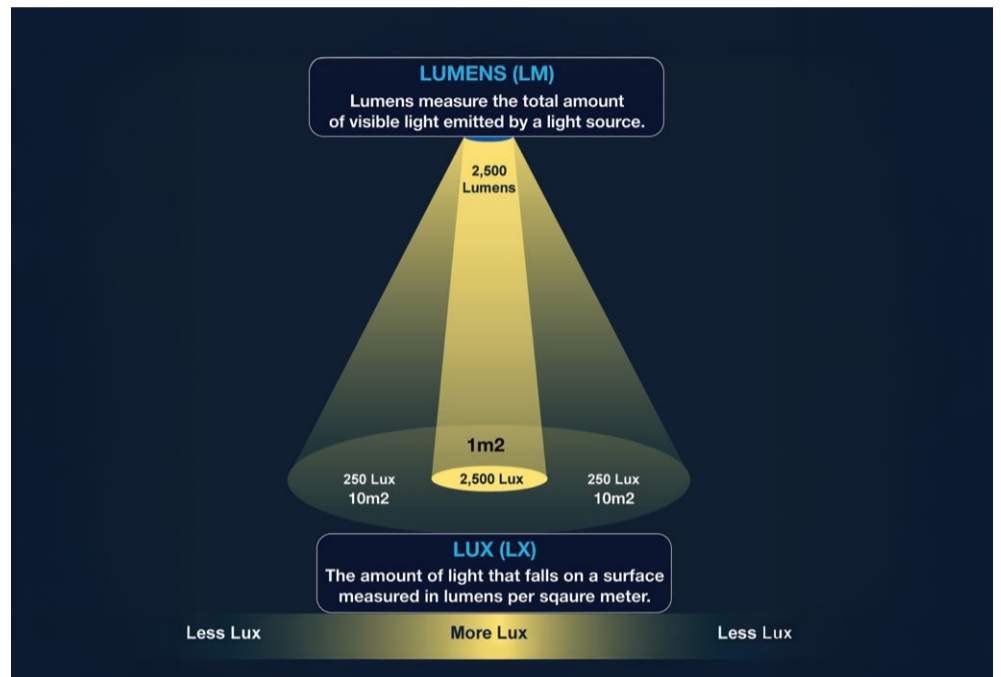
installations deliver both efficiency and effectiveness. Lumens allow us to compare products and evaluate energy performance, while lux ensures that light is properly distributed for human comfort, safety, and productivity.

Aurora Lighting Africa designs lighting solutions that balance high-lumen efficiency and precise optical control to deliver the right lux levels exactly where they're needed. Whether illuminating a corporate office, an industrial site, or a retail environment, our goal is to enhance visual comfort while maximising energy savings.

"At Aurora Lighting Africa, we don't just measure how much light a product produces, we measure how effectively that light transforms a space. Understanding lumens and lux isn't just technical knowledge; it's the foundation of creating environments that feel brighter, safer, and more human," says Scylagh Clunnie, managing director of Aurora Lighting Africa.

In essence, lumens measure light at the source, while lux measures light in use. By understanding and applying both, we can transform spaces not only with brightness but with purpose, precision, and sustainability.

Enquiries: info@aurora-africa.com



BEKA Schröder enhances lighting at Chamberlain Montana

BEKA Schröder has supplied the highbay lighting solution to Chamberlain Montana in Pretoria, Gauteng.

Founded in 1903, Chamberlain has grown from a small timber and building materials supplier in Pretoria's Riviera area into a respected, multi-site hardware and home improvement retailer. The family-owned business is built on the values of integrity, hard work, and "progress with caution". Over the decades, Chamberlain has expanded its offering to include more than 26,000 product lines, while maintaining its strong commitment to quality service and value.

The lighting installation at Chamberlain Montana was completed in two phases. The first phase involved providing the lighting solution for the store extension, where the ECOBAY RP highbay with a decorative skirt was selected as the luminaire of choice.

At Chamberlain's request, Pienaar & Erwee Consulting was tasked with investigating whether highbay luminaires would outperform the existing linear luminaires. Their findings confirmed that BEKA Schröder's ECOBAY RP highbay met the performance and efficiency specifications.

Impressed by the improved light quality

and uniformity achieved in the store extension, Chamberlain Montana decided to retrofit the existing installation with the same lighting solution, forming the second phase of the project.

About the ECOBAY

The ECOBAY is a versatile lowbay and highbay lighting range designed to deliver excellent performance and a high return on investment. Proudly designed and manufactured in South Africa, the ECOBAY provides an ideal lighting solution for industrial facilities, optimising light levels, energy efficiency, and operational value.

Available in a visually pleasing round or square design, with an optional decorative skirt, the ECOBAY offers flexible configurations to suit a wide range of applications.

Key advantages:

- Designed and manufactured in South Africa
 - Five-year warranty (terms and conditions apply)
 - Highly efficient and energy-saving, replacing up to 400 W HID light sources
 - Flexible design for both lowbay and highbay applications
 - Optimised heatsink with vertical ribs for superior heat dissipation (up to 201 W)
 - Engineered to operate up to 201 W LED sources in ambient temperatures (T_a) of at least 25 °C, maintaining a lifetime of up to 100,000 hours at a lumen depreciation of ≤30% (L70B10)
 - Performs in environments with temperatures (T_a) up to 45 °C
 - Long lifetime and low maintenance; no lamp replacement required for over 10 years
 - Various optical solutions available to meet specific lighting requirements
 - Suitable for installations requiring very low Unified Glare Rating (UGR)
 - Optional skirt for an aesthetically pleasing look with enhanced glare reduction
 - Circular economy three-star rating
 - Delivers stable, flicker-free lighting
- "BEKA Schröder is dedicated to supporting local innovation by providing reliable, energy-efficient lighting solutions designed for South African conditions," a company spokesperson says. "With a strong focus on quality and sustainability, BEKA Schröder continues to be a trusted partner in improving the safety, efficiency, and productivity of warehouse and industrial environments across the country."

Enquiries: northern@beka-schreder.co.za





Because every room deserves to feel better

Great design doesn't just decorate a room; it defines how it feels to live in it. With Eurolux's new collection of ceiling and mist fans, ambience becomes an effortless part of the aesthetic.

In rich, dark tones and refined, bold silhouettes, Eurolux's ceiling fans introduce both presence and poise. The Eon (F101) and Edge (F102) models balance quiet performance with thoughtful functionality, offering six speeds, seasonal modes, and integrated 24 W LED lighting. Their 3CCT colour temperature settings, ranging from warm 3000 K to crisp 6500 K, allow the mood of a space to shift with a single touch of a button. And with generous diameters of 1,520 mm and 1,360 mm, they comfortably suit rooms of up to 35 m² and 25 m², respectively.

The F75DWSC brings satin chrome detailing and dark wood elegance across a 1,330 mm span, comfortably serving spaces

up to 20 m². The Colonial F40BB0, with its classic four-blade design in matt black and dark wood, offers a 1,200 mm diameter and wall-mounted control – an ideal blend of traditional styling and modern ease, perfect for rooms of around 16–20 m².

Beyond the ceiling fans, Eurolux excels in cooling that travels with you. The F82 and F83 rechargeable mist fans bring refreshing airflow and fine misting to patios, pool decks, and outdoor dining areas. With long-lasting battery life, adjustable height options, LED emergency lighting, and generous water tanks, they extend comfort into any setting – stylishly and effortlessly.

Whether fixed or portable, each fan in the Eurolux collection transforms air into atmosphere, proving that comfort can be a design statement in its own right.

Enquiries: www.eurolux.co.za



Lighting for roads and precincts in South Africa: a technical guide for engineers

Efficient, compliant, and safe road lighting plays a critical role in ensuring visibility, enhancing security, and enabling safer mobility across South Africa's transport infrastructure. Engineers and electrical professionals involved in lighting design must balance complex factors such as road classification, performance standards, and maintenance to ensure robust and compliant lighting solutions.

In this article, the Illumination Engineering Society of South Africa (IESSA) outlines key considerations when designing road and precinct lighting in South Africa, including road classifications, lighting calculation methodologies, maintenance guidelines, and applicable standards.

Road types and classifications in South Africa

South African roads are classified primarily based on function, traffic volume, and role in the transport network. These classifications help engineers determine appropriate lighting methodologies, either luminance-based or illuminance-based, as outlined in SANS 10098-1.

Group A (A1–A4): major roads and freeways

This group includes national roads, freeways, high-volume arterials and collector roads. These are high-speed, high-traffic routes where luminance-based lighting design and glare limitation are essential to support driver visibility, especially at interchanges, off-ramps, and key decision points.

Luminance reflects the brightness of the road surface as seen by the driver and considers:

- Observer position
- Reflectance of the surface (default R3 in SA)
- Uniformity of luminance
- Glare (threshold increment)

Luminance measurements can only be conducted with a luminance meter and not an illuminance meter.

Group B (B1–B3): residential streets

This group covers urban arterial roads and local residential roads that connect various neighbourhoods or commercial areas. The

emphasis is on horizontal illuminance, ensuring uniform lighting for mixed traffic and pedestrian use.

Group C (C1–C2): wholly pedestrian areas

This group applies only to pedestrian paths, precincts, and parks. Lighting design here focuses on semi-cylindrical illuminance and enhancing comfort, safety, and aesthetics within communities.

For Groups B and C, illuminance (horizontal or semi-cylindrical) is used, measured with an illuminance meter at ground or eye level for pedestrian-focused areas.

Lighting calculations

Accurate photometric design is at the heart of effective lighting.

The Point-by-Point (PBP) calculation method is one of the most reliable for detailed lighting design. It involves calculating the illumination at specific points on a surface based on the luminaires' photometric data.

Key parameters include:

- Luminous Intensity Distribution (LID) of the light source
- mounting height of luminaires
- luminaire spacing
- tilt angle and overhang
- surface reflectance

PBP ensures precise illumination analysis and is often supported by lighting design software such as DIALux, AGI32, or Relux. Engineers use this method to meet SANS 10098 recommendations for minimum average illuminance (Eav), uniformity ratio (Emin/Eav), and glare control (threshold increment).

Maintenance and lumen depreciation: ARP 035 guidelines

Maintenance is a critical yet often overlooked component of lighting infrastructure.

The Association of Reticulation of Public Lighting's ARP 035 provides industry-accepted guidelines for maintaining lighting systems and ensuring longevity and performance. It includes:

- Maintenance Factor (MF) determination, which accounts for lamp lumen

- depreciation (LLD), luminaire dirt depreciation (LDD), and environment
- Scheduled cleaning and relamping intervals
- Inspection and performance testing protocols
- Recordkeeping and maintenance documentation

Designers must incorporate a suitable MF (typically ranging from 0.7 to 0.9) into lighting calculations to ensure minimum light levels are sustained over the luminaire's lifetime.

Public lighting standards: SANS 10098 Part 1 & 2

South Africa's SANS 10098-1 and SANS 10098-2 are the cornerstone standards governing public lighting design and performance.

SANS 10098-1: Public Lighting – Part 1

Focuses on lighting for roads and public areas and covers:

- Classification of lighting classes (ME, CE, S)
- Performance requirements such as:
- Illuminance and luminance levels
- Uniformity
- Glare control
- Colour rendering index (CRI)

- Safety and visual comfort for road users

SANS 10098-2: Part 2

Covers technical requirements and application guidance, such as:

- Selection and positioning of luminaires
- Electrical infrastructure and control systems
- Energy efficiency and environmental impact
- Luminaire ingress protection (IP) and impact resistance (IK)

These standards align with international best practices (e.g., CIE and EN 13201) while addressing unique South African conditions.

Engineering for performance and compliance

Designing lighting for roads and precincts is more than installing luminaires; it's about aligning engineering principles with national standards and practical maintenance realities. By following South Africa's road classifications, leveraging precise calculation methods, adhering to maintenance guidelines, and complying with SANS 10098, engineers can deliver lighting solutions that enhance safety, efficiency, and quality of life.

Enquiries: www.iessa.org.za





Lighting up the night: how South Africa helped make Formula 1 history

By: Urbain du Plessis of Verdantek*

On 28 September 1892, Mansfield, Pennsylvania, hosted what is widely regarded as the first outdoor sporting event broadcast under lights – a football game that marked the dawn of illuminated sport. Exactly 116 years later, on 28 September 2008, Singapore staged Formula 1's first night race. While the American football match had no South African connection, the story of F1 night racing most certainly does.

The spark of an idea

In mid-2007, while managing Hella's global mine lighting business, I was approached by a colleague with Formula 1 pedigree – an ex-McLaren team member – to weigh in on whether F1 could ever run under lights. At first glance, the idea seemed audacious. Yet, like most things in motorsport, the driver wasn't engineering but economics.

Broadcast rights and advertising revenue fuel F1's business model. By the mid-2000s, new circuits were emerging in regions whose time zones didn't align with prime-time viewing in Europe or North America. The solution? Shift races into prime-time slots – even if that meant racing at night.

Why F1 was different

Night racing wasn't new. Endurance events and rallies had long relied on headlights, and floodlit oval tracks in the United States were hugely popular. But Formula 1 posed unique challenges:

- **No headlights:** F1 cars rely entirely on external illumination.
- **Unique circuits:** Each track has its own geometry, requiring tailored lighting

solutions.

- **Broadcast quality:** F1's global audience demanded higher standards than any other motorsport.
- **Safety uncompromised:** Drivers and spectators could not be exposed to additional risk.

In short, this wasn't just about lighting a track – it was about creating a system that could replicate daylight conditions without blinding drivers, marshals, or cameras.

Enter the FIA

The desire for night racing was that of Formula One Media (FOM), owner the famously demanding Bernie Ecclestone, but motorsport rules are created by the Fédération Internationale de l'Automobile (FIA), which long deemed it impossible and too dangerous. To move forward, I had to understand the F1 ecosystem: the FIA (rule-makers), Formula One Media (broadcast producers), the teams, and the drivers.

Existing sports lighting codes were inadequate. But mining had taught us rigorous safety and risk management principles, and those proved transferable. The FIA listened when we proposed a "safety first" approach.

A pivotal meeting followed with Charlie Whiting, F1's race director and safety delegate. Charlie, wise and pragmatic, agreed: if lighting posed no greater risk than daylight while delivering broadcast-quality visuals, night racing could be considered.

Designing the impossible

The task was clear – create a repeatable, verifiable technical solution. That meant drafting specifications that the FIA could issue to circuits, ensuring compliance and safety.

To appreciate the scale: a soccer field lit for TV at 1,500 lux consumes about 65 kW. A 6 km F1 circuit, 10 m wide, requires around 1 MW. And while a footballer blinded for half a second might collide with a goalpost, an F1 car would cover the length of the soccer field in that same instant. The stakes were exponentially higher.

We shifted from illuminance (lux) to luminance (cd/m^2), focusing on brightness in the driver's field of view. We set strict limits on maximum brightness, prescribed uniformity across track and run-off areas, and demanded redundancy at every level:

- Dual ring-feed power supplies to each mast.
- Redundant lamp arrays, so failure wouldn't alter lighting uniformity.
- Multiple mast coverage for every section of track, ensuring safety even if an entire mast failed.

Expensive? Certainly. But still cheaper than what a low-ranking F1 team spends in a season.

From paper to practice

By June 2008, the specification was ready and presented to the FIA in Paris. But theory wasn't enough – the system had to be demonstrated. My employer agreed to invest millions in what became a stress test of engineering, production, and supply chain ingenuity.

We designed custom floodlights, developed modular reflector systems to shape beams precisely to track geometry, and built the supporting electrical infrastructure. To prove it worked, we hired a FIA-certified race circuit outside Melbourne, installed the system, and ran race cars and MotoGP bikes in both wet and dry conditions.

The FIA Safety Committee, F1 broadcasters, and MotoGP's governing body Dorna Sports scrutinised every detail. The verdict: success. The system met the

stringent requirements and won approval.

A second South African contribution

The lighting system relied on 2 kW metal halide lamps – the same technology used in sports stadia before LEDs became viable. Crucially, the primary reflector was drawn from the StadiaLux floodlight, a product I designed in 1990 and was manufactured in South Africa by Zumtobel, then Versalec and finally by BEKA Schröder. That connection gave the project a distinctly South African fingerprint on one of F1's most groundbreaking innovations.

Legacy

When Singapore hosted the first F1 night race in 2008, it wasn't just a spectacle of speed and glamour. It was the culmination of engineering rigour, safety-driven design, and a willingness to challenge convention. And behind the dazzling lights was a story that linked global motorsport to South African ingenuity.

*About the author

Urbain du Plessis is a globally experienced lighting and technology leader with over 30 years of living and working abroad across Australia, Europe, and Asia. Beginning his career at Zumtobel in 1988, he went on to design lighting for Olympic stadia, develop the F1 night racing specification, and bring over 1,000 products to market. Having held C-level roles in multinational firms and managed sales across 50 countries, Urbain's expertise spans lighting, IoT, polymers, acoustics, and advanced materials. Returning to South Africa, he brings global insight, 30+ patents, and a record of innovation, leadership, and industry contribution.

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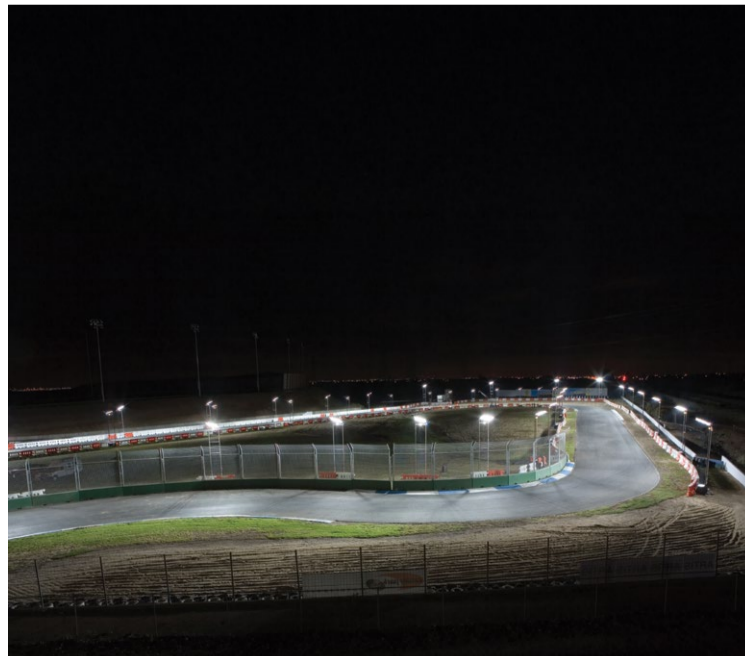
The technical inspection cohort "seeing the light".



Formula 3 champion Lee-Anne Tander in action at Calder Raceway.



The late Charlie Whiting, F1 race director (left), with the author at the 2008 Melbourne F1 Grand Prix.



The F1 night race demonstration lighting system at the Calder Raceway in Melbourne was built in less than 48 hours and removed in 24 hours.

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- Solar and Energy Efficiency
- DBs, Switches, and Sockets
- Lighting

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- Tools and Tooling
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