

IllumiNation

JAN - MAR 2026

THE LIGHTING MAGAZINE BY ELCOMA

Lighting Sporting Excellence: Havells Brightens Sawai Man Singh Sports Complex



ELECTRIC LAMP & COMPONENT MANUFACTURERS' ASSOCIATION OF INDIA

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CREATING MOMENTS THAT SHINE FROM THE GROUND

A Decade of Illumination - Celebrating Unwavering Trust and a Legacy of Light at Wankhede Stadium, Mumbai.

Holkar Cricket Stadium, Indore



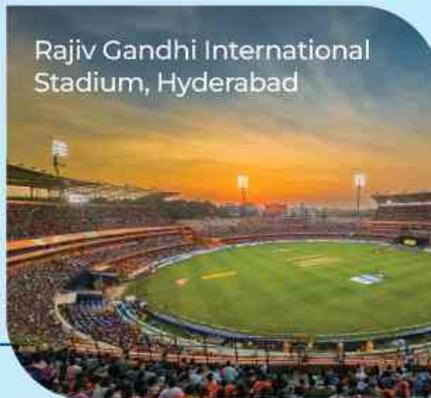
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Bring Sunshine to Life: Reimagining Daylight for Indoor Spaces

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PUBLISHER
Amal Sengupta
Electric Lamp and Component Manufacturers' Association of India
311, 3rd Floor, DLF Prime Tower Okhla Phase I, Okhla Industrial Estate, New Delhi, Delhi 110020
Tel: +91-11-41556644

EDITOR
Amal Sengupta,
Secretary General, ELCOMA

EDITORIAL BOARD
Santosh Agnihotri
Ponkumaresh Muthaiah
Nitish Poonia
Sudeshna Mukhopadhyay
Amal Sengupta
Prachi Kaushik
Mangesh Suresh Khisty

EDITORIAL CONTACT
info@elcomaindia.com

MARKETING AND ADVERTISEMENT CONTACT
Amal Sengupta
amalsengupta@elcomaindia.com

Printed & Published by Amal Sengupta on behalf of Electric Lamp and Component Manufacturers' Association of India, 311, 3rd Floor, DLF Prime Tower Okhla Phase I, Okhla Industrial Estate, New Delhi, Delhi 110020
Tel: +91-11-41556644

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Collaborating to illuminate India's Future

As we welcome 2026, I extend my heartfelt wishes to all members and readers for a prosperous and fulfilling New Year.

The Lighting Industry is poised to play a pivotal role in India's economic growth, especially as the country strives to become the world's third-largest economy by 2027, with a projected GDP growth rate of 7.5% for FY25. India continues to emerge not only as a dynamic market but also as a model for economic resilience. Despite global uncertainties, the Indian economy has maintained steady momentum, with real GDP growth reaching 8.2% in the second quarter—surpassing most forecasts. This robust growth has largely been driven by strong private consumption. While govern-

ment investment is expected to stabilize, there is anticipation of a delayed yet significant increase in private sector investments.

On the Free Trade Agreement (FTA) front, India is actively negotiating with approximately 50 countries, including the US, European Union (EU), New Zealand, Oman, Chile, and Peru. For instance, New Zealand imports a substantial portion of its light fixtures, presenting a notable opportunity for Indian lighting products to expand in these export markets.

We are excited to announce the launch of a nationwide awareness program in collaboration with the Bureau of Indian Standards (BIS). We sincerely thank BIS for partnering with ELCOMA to conduct these programs, which aim to boost awareness of the National Lighting Code, product standards, application standards, and current regulations governing lighting in India. The initiative is designed to foster structured dialogue among manufacturers, government officials, regulators, academia, consultants, testing laboratories, and other key stakeholders.

The Ministry of Electronics and Information Technology (MEITY) has approved investments totaling Rs 7,172 crore under the Electronic Component Manufacturing Scheme (ECMS), which is focused on developing a robust electronics component manufacturing ecosystem in India. Under this scheme, components such as printed circuit boards (PCBs) and passive components will be produced domestically, which will significantly reduce reliance on imports for the lighting sector.

As India undergoes rapid urbanization and upgrades its infrastructure, ELCOMA is committed to crafting a narrative that extends beyond basic LED adoption. Our objective is to inspire the government and other stakeholders to recognize the industry's potential and transition toward smart, connected, and ultra-efficient lighting solutions. We aim to position the lighting industry as an essential partner in delivering sustainable illumination for all stakeholders. ELCOMA is currently engaging with research organizations to develop a concept note and white paper examining the impact of inadequate or non-existent streetlighting on public safety, particularly concerning women, children, and other vulnerable populations, due to increased risks of crime and accidents in public spaces.

We deeply appreciate all members who have contributed their insightful articles to our magazine, ILLUMINATION. Your continued collaboration is invaluable in strengthening the magazine's reputation as a key industry resource. We also extend our gratitude to the BIS team for promptly sharing articles on standardization and events, which are always a pleasure to read.

Our sincere thanks go to all authors for their meaningful contributions.

Best wishes for a bright and successful 2026!

AMAL SENGUPTA
Secretary General
ELCOMA

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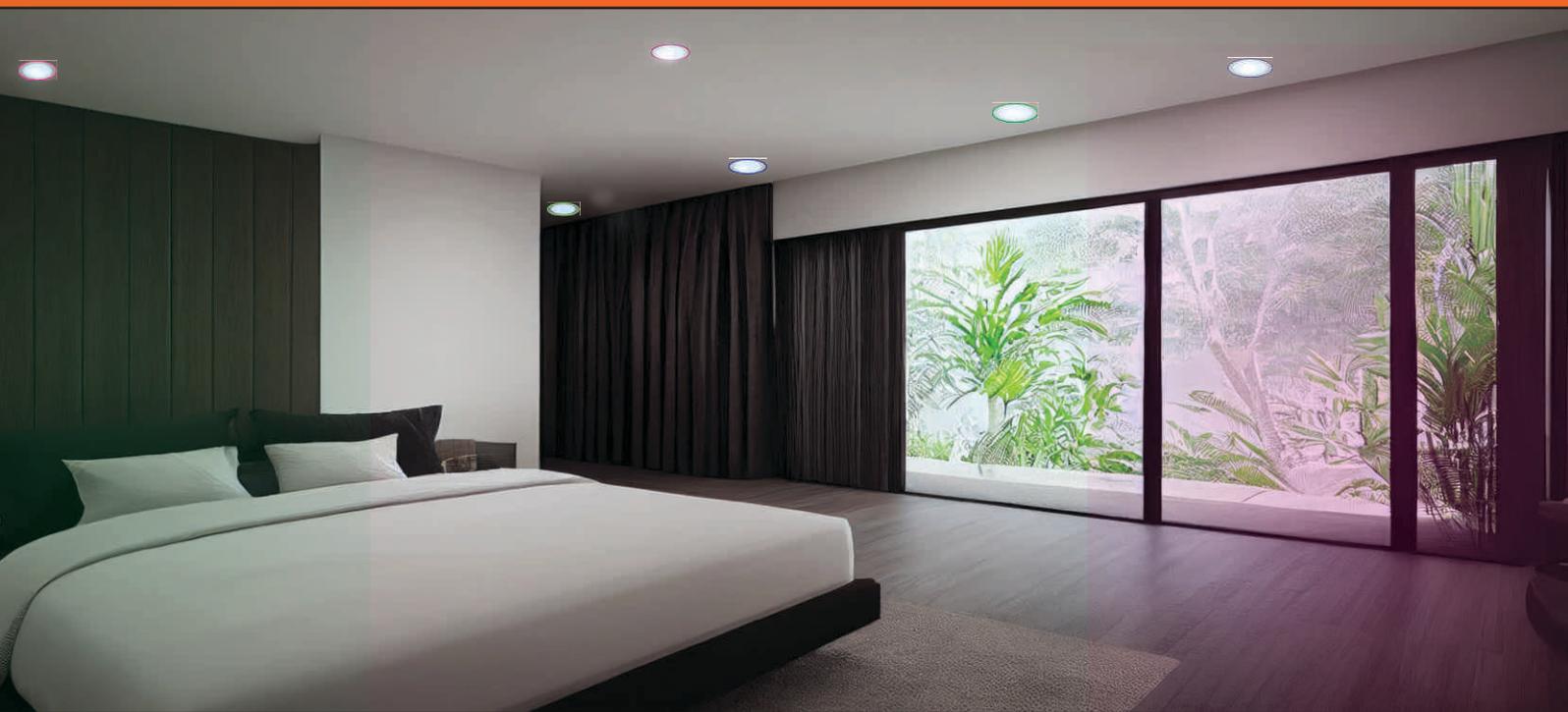
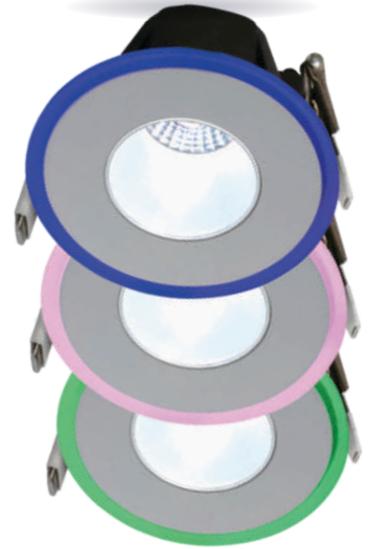
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Illuminating a Resilient Future

As we welcome the beginning of 2026, it is encouraging to see growing optimism across the Indian economy and within our own industry. After a period marked by subdued demand and limited revenue growth, the lighting sector is finally beginning to witness signs of revival. What has truly sustained us through this phase is the continued resolve of industry leaders- who, despite challenges, remained committed to investing in manufacturing capabilities and pursuing innovation. These efforts have ensured that our ecosystem remains resilient and well-positioned to capitalise on the opportunities that lie ahead.

India's broader economic landscape further strengthens this confidence. The nation's commitment to just transitions, climate adaptation, and renewable energy continues to shape a development model that balances growth with sustainability. GDP growth for the first half of FY26 is projected at 7.6%, significantly higher than the 6.1% recorded during the same period last year. India is no longer just an emerging market; it is steadily becoming an emerging mode- demonstrating stable momentum despite global uncertainties, including trade-related tensions and recent tariff actions by the United States. Encouragingly, these developments have not meaningfully disrupted India's economic trajectory, supported by strong private consumption, robust services-sector activity, improved rural demand, and the positive impact of GST rationalisation.

A major boost for the electronics and lighting value chain comes from MEITY's approval of ₹7,172 crore in investments under the Electronic Component Manufacturing Scheme (ECMS). This initiative will support the domestic production of crucial components such as PCBs and passive components, reducing import dependence and strengthening the long-term competitiveness of our industry.

At the same time, technology continues to evolve at an unprecedented pace. The rapid advancement of Artificial Intelligence, combined with IoT-driven smart and connected lighting, is redefining how lighting solutions are conceptualised and deployed across sectors. As India updates its two-decade-old IT Act to clarify accountability across the AI value chain- from developers to deployers—we stand at the cusp of a regulatory transformation. If these recommendations materialise into law, India could emerge as a global leader in AI governance, offering a model that balances innovation with trust, transparency, and public safety.

I am pleased to share that ELCOMA, in collaboration with BIS, will be launching a nationwide awareness programme titled **“Illuminating the Future: A Comprehensive Workshop on Indian Standards, Codes and Regulations in Lighting Products and Applications”** beginning January 2026. I strongly encourage all members to participate in these workshops, which aim to enhance awareness, improve compliance, and build industry-wide alignment on standards.

I would like to once again place on record my sincere appreciation for the ELCOMA Secretariat, our members, and the Editorial Board. Their consistent dedication has helped this magazine grow into one of the most widely read and respected publications in the lighting industry. To ensure we continue improving, I welcome your constructive inputs and positive feedback.

As we step into the new year, I extend my warmest season's greetings and heartfelt wishes for a joyful, healthy, and prosperous 2026. May the year ahead bring renewed growth, innovation, and success for all.

PARAG BHATNAGAR

President
ELCOMA



Leadership, Corporate Journey, and Vision

IllumiNation recently interacted with Mr. Vasumitra Pandey, CEO,
Surya Roshni Limited and Vice President, ELCOMA

I. Leadership, Corporate Journey, and Vision

The CEO Vision: Congratulations on assuming the role of CEO. Could you outline the key pillars of your strategic roadmap for Surya Roshni in the lighting space over the next five years?

Thank you. Over the next five years, my strategic roadmap for Surya Roshni in the lighting business rests on four key pillars.

First, we want to build a strong innovation pipeline—especially in energy-efficient and smart lighting. Second, we will deepen our manufacturing strength by expanding capabilities, increasing localisation and backward integration. Third, we aim to strengthen our distribution, making our products more accessible across the country and around the globe. And finally, we will focus on sustainability, both in how we design our products and in how we operate.

Integrating Diverse Experience: Having spent over 25 years with Surya Roshni, starting as a Regional Sales Head for the Steel Pipe Business, how has this foundational experience uniquely equipped you to strategize and drive the growth of the Lighting and Consumer Durables business?

My early years in the steel pipe business taught me the importance of being close to the customer, solving problems on the ground, and building relationships that last. I also gained a deep understanding of operations and channel behaviour across India. All this helps me approach the Lighting and Consumer Durables business with a practical, market-first, execution-driven mindset. It ensures that

our strategy is not only ambitious, but also grounded in real consumer needs and implementable at scale.

Managing Technological Disruption: The transition from CFL to LED was rapid and industry-defining. How did you and your team successfully navigate this technological shift, particularly leveraging the established CFL manufacturing infrastructure at the Malanpur plant?

The transition to LED required speed and clarity. We were fortunate to have a strong manufacturing base at Malanpur and Kashipur, which we were able to adapt with new technology, testing facilities, and automation. The team moved quickly to retrain people, bring in new processes, and repurpose parts of the existing infrastructure. This helped us scale LED production efficiently without disruption, and enabled us to stay competitive during a major industry shift. We can proudly say that we are ahead in LED manufacturing, especially in automation, by converting our existing CFL lines and by designing concepts for new machines.

Beyond Lighting: The FMEG Synergy (New Question): Surya Roshni has successfully diversified into the Fans and Home Appliances (FMEG) segment. How do you plan to leverage the operational and distribution synergies between the Lighting and the broader FMEG portfolio to enhance the company's overall market presence and financial performance?

There is natural synergy between Lighting and FMEG in terms of distribution, service networks, and brand

visibility. Our goal is to use the strength of our lighting distribution to expand the reach of our fans and appliances. Shared warehousing, common channel partners, and integrated brand campaigns will help us grow more efficiently. At the same time, we are improving product quality and design so that our expanded portfolio builds stronger long-term trust with consumers.

II. Market Dynamics, Quality, and Consumer Strategy

Addressing Consumer Market Challenges: Based on industry feedback, consumer sales often present challenges related to distribution, pricing, and service. In your opinion, what proactive strategies should the industry adopt to effectively manage and overcome these hurdles?

The industry must focus on three things:

1. **Predictable and reliable supply chains** so that distributors and retailers get products on time.
2. **Fair and transparent pricing** to build long-term confidence in the brand.
3. **A strong service ecosystem**, especially for FMEG products. Clear communication with channel partners and investments in digital service tools will go a long way in improving consumer experience.

Enhancing Product Standards and Compliance: Do you advocate for strengthening the specifications of Indian Standards for lighting products, and increasing the threshold limits for compliance requirements to ensure superior product quality and consumer safety?

Yes, absolutely. As India evolves into a global manufacturing hub, higher product standards are essential. Stronger specifications will not only improve consumer safety and product longevity, but also help Indian manufacturers compete internationally. A well-defined compliance framework benefits the entire industry.

Channel and Distribution Depth (New Question): What innovations are you driving in your distribution model—across retail, modern trade, and e-commerce—to ensure last-mile availability and maintain a competitive edge in Tier II, III, and rural markets?

We are increasing our presence in smaller towns by strengthening our distributor network and building more efficient secondary supply routes. For e-commerce and modern trade, we are improving our digital catalogues, packaging, and fulfilment capabilities. We also use data to understand buying patterns, which helps improve availability and reduce stockouts—especially in Tier II and III markets.

III. Economic Outlook, Growth, and Global Trade

Projected Growth and Market Leadership: Given the positive macroeconomic outlook for India, what is the expected growth trajectory for Surya Roshni, and what Compound Annual Growth Rate (CAGR) do you anticipate for the Indian lighting industry over the next five years?

We see steady, healthy growth across our business lines. The lighting industry

is expected to grow in the mid-single digits, supported by rising urbanisation and the shift towards smarter, more efficient lighting. For Surya Roshni, our focus on innovation, manufacturing strength, and distribution expansion positions us to grow faster than the industry average.

Lighting's Contribution to National GDP: With India aiming to become the third-largest global economy, how do you foresee the lighting industry, specifically through energy efficiency and smart technologies, contributing to this overall national economic growth and efficiency drive?

Lighting plays a major role in India's energy-efficiency vision. Energy-efficient LED and smart lighting systems help reduce electricity demand significantly. This supports national sustainability goals, industrial productivity, and cost savings for households. As buildings and cities become smarter, lighting will contribute even more to overall economic and environmental efficiency. On the global front, we offer a comprehensive product portfolio—from conventional lighting to smart solutions—to meet diverse market requirements.

Geopolitical Trade and Resilience: Concerns over global trade barriers and geopolitical consequences, such as the new US administration's tariffs, require strategic resilience. What specific strategies can the consumer industry, and the lighting sector in particular, recommend to the Government and industry associations like CII and FICCI to mitigate these risks?

The industry is working closely with the Government to promote strategic components, diversify export markets, and strengthen India's competitiveness. Clear policy support for R&D, incentives for component manufacturing, and faster certification processes will help companies stay resilient. Industry bodies can also engage in continuous dialogue with global partners to anticipate and manage disruptions. As a country—and as a company—we remain committed to delivering high-quality products, but it is equally important to understand the specific needs of each market to stay competitive and emerge as a global leader.

IV. Policy, Manufacturing, and Sustainability

PLI Scheme Impact and Refinements: Surya Roshni's participation in the PLI Scheme is a testament to its commitment to domestic manufacturing. Based on your experience, how effectively is the PLI Scheme helping create a component ecosystem, and what further changes would you recommend to the DPIIT for its enhanced impact?

The PLI scheme has been very helpful in encouraging companies to invest in manufacturing and improve backward integration. It has accelerated the development of certain components in India, reducing dependence on imports. To make it even more effective, broader coverage for key components and faster approval processes would help scale the ecosystem further.

The Net-Zero Transition: The industry is moving toward more

sustainable practices and net-zero goals. What dedicated contributions is Surya Roshni making, through product design and operational efficiency, to reduce the overall carbon footprint of the lighting sector?

We are improving product efficiency, redesigning products to use fewer materials, and increasing recyclability. At the operations level, we are investing in renewable energy and improving energy efficiency across our manufacturing plants. Every step—from sourcing to design to production—is being aligned with our sustainability roadmap.

Innovation in Smart and Connected Lighting: The current landscape is shifting from mere energy efficiency to Smart/Connected lighting solutions. How is Surya Roshni strategically embracing this technological change through its innovation pipeline and market launch strategies?

We are developing smart lighting solutions that integrate with advanced smart features, evolving customer requirements and home automation platforms. Our focus is on reliability, easy installation, and user-friendly interfaces. We are also collaborating with technology partners to enhance our innovation capabilities and bring new products to market faster.

Driving Export Competitiveness: ELCOMA's vision is to establish India as a global export hub for lighting products, aiming for a significant share of the global market by 2030. What are your views on this ambition, and what is Surya Roshni's role in achieving this target?

In the current global environment, India has a tremendous opportunity to strengthen its position as a key exporter of lighting products. As far as Surya is concerned, our strong manufacturing base—supported by backward integration and capabilities across conventional and LED lighting—gives us a significant advantage. We have a lot to offer globally, and with continued focus on quality, innovation, and scale, we are confident of being in a stronger position in the global market by 2030.

V. ELCOMA Board Role and Industry Direction

ELCOMA's Vision 2024-26:

Congratulations again on your appointment as Vice-President in the ELCOMA Board. With a priority focus on Industry Growth & Compliance, what are the critical areas the working group must concentrate on to successfully realize this vision?

I am thankful to our organization for

giving me the opportunity to represent us on the ELCOMA Board as Vice President. To make this industry future-ready, our collective focus must be on promoting environmentally friendly practices and strengthening India's position as a global leader in lighting. This vision aligns with what we, as an industry, are working toward.

Serving Industry and Consumers: What are the top three actionable priorities you would advise ELCOMA to undertake that will most effectively serve the combined interests of the lighting industry and the end consumers?

ELCOMA has been consistently working for the industry for many years. My key advice would be to continue prioritizing solutions that are environmentally friendly, cost-effective, and deliver strong value for money. These are essential for meeting consumer expectations while ensuring long-term industry growth.

IN A LIGHTER VEIN

How do you prefer to spend your free time on weekends?

I usually like to spend my weekends with my family and enjoy some relaxed time together.

What are your key personal hobbies?

I enjoy reading books in my free time.

What is a favourite book or movie that has significantly influenced your professional or personal outlook?

Lagaan and The 7 Habits of Highly Effective People have both inspired me a lot and shaped my way of thinking.

What is your favourite holiday destination, and why?

Our country has so many beautiful places to visit. I usually prefer exploring destinations within India—any place with good culture and nature always attracts me.

INTERVIEWED BY ILLUMINATION EDITORIAL TEAM



Strategic Leadership, Market Research, Future Vision & Regulatory Landscape in Lighting

IllumiNation Chats with of Mr. Mohit Sharma, Senior Vice President, Eveready Spotlight on Eveready's Illumination Strategy

Part I: Strategic Leadership and Market Dynamics

Leveraging Cross-Brand Experience: Having held senior positions at major lighting industry brands like Philips and Havells, how have those foundational experiences influenced your strategic approach and proved instrumental in driving the lighting business at Eveready?

As a seasoned professional in the lighting industry, I've had the privilege of working with renowned brands like Philips, Havells, Jaquar and now Eveready. My experiences in these organizations have been instrumental in shaping my strategic approach to driving the lighting business at Eveready.

At Philips, I gained valuable insights into the importance of innovation, technology, and customer-centricity. I witnessed first-hand how focusing on LED lighting solutions and smart lighting systems can drive growth and sustainability. My tenure at Havells taught me the significance of operational excellence, supply chain optimization, and building strong distribution networks.

At Jaquar we leveraged premium lighting through architects and specifiers to gain market share in a less cluttered market.

At Eveready, I've applied these learnings to drive growth, improve operational efficiency, and enhance customer satisfaction. I'm committed to leveraging my experience and expertise to further establish Eveready as a leader in the lighting industry.

Eveready's Lighting Genesis: Eveready is synonymous with batteries. Could you walk us through the strategic decision and early phases that marked the company's expansion into the lighting segment?

Expanding into the Lighting Industry was a logical extension of our prowess in the energy industry. We leveraged the strong Eveready brand equity to

introduce our lighting products to the market, emphasizing quality, reliability, and energy efficiency. We optimized our distribution network to ensure seamless delivery of our lighting products to customers across the country, which we are continuing to do with the launch of innovative and quality conscious products which are establishing us as a key player in this industry. Our strong legacy in e-commerce aligns with our robust entry into professional lighting, where we are now present across most major segments.

Addressing the Consumer Market Decline: The consumer lighting segment is reportedly facing a concerning double-digit decline. In your expert opinion, what are the primary market or structural factors contributing to this trend, and what specific strategic recommendations do you propose for the industry to mitigate this situation?

The lighting industry like any other industry is striving to bring innovative products at a cost-effective level. Commoditisation of product range functioning as value contributors is probably the biggest reason for price erosion and value degrowth. The adoption of smart lighting, human centric lighting, decorative lighting is a phenomenon which is catching up fast with Indian consumers. As this trend will further evolve it will surely restrict the currently observed value growth concerns. We further need to explore avenues to make speciality products which venture into different industry specific, need specific lighting, that will lead to value generation. As a market leader in the battery segment, we have leveraged this strength to enhance our emergency bulb range, positioning it strongly toward category leadership.

The Shift to Smart Illumination: You've observed significant growth in the professional segment, driven by a global shift from mere energy

efficiency to Smart and Connected Lighting solutions. How is Eveready strategically positioning itself through innovation and market deployment to fully embrace this technological evolution?

At Eveready, we're excited about the growth opportunities in the professional segment, driven by the shift towards Smart and Connected Lighting solutions. To capitalize on this trend, we're strategically positioning ourselves through investing in R&D to develop cutting-edge lighting solutions that integrate IoT, AI, and data analytics, enabling our customers to benefit from enhanced energy efficiency. We're expanding our portfolio of smart lighting products and systems that can be controlled and monitored remotely, providing our customers with increased flexibility, convenience, and energy savings.

Lighting's Contribution to India's Economic Vision: With the government asserting India's trajectory toward becoming the world's third-largest economy, what critical role will the lighting industry play—in terms of job creation, technological advancement, and efficiency—in fuelling this ambitious national economic growth?

With an estimated 6–7% CAGR over the next 4–5 years, the lighting industry is poised to significantly contribute to India's growth story. The sector is clearly segmented into infrastructure, technology, and consumer—each of which represents a strong growth driver. The lighting industry will play a vital role in fuelling India's ambitious economic growth by direct and indirect employment, technological advancement by establishing India as an Innovation Hub and driving energy efficiency across households. Efficient lighting solutions will improve productivity in various sectors, including healthcare, education, and manufacturing. Better lighting will

enhance the quality of life for citizens, improving safety, security, and overall well-being.

Part II: Regulatory Landscape and Future Vision

Curbing Non-Compliant Products: The prevalence of the non-compliant LED lighting market remains a significant challenge, which ELCOMA consistently flags to regulatory bodies. Beyond existing efforts, what further actionable advice would you offer ELCOMA and the government to effectively curb the proliferation of sub-standard products?

To effectively curb the proliferation of sub-standard LED lighting products, I would advise the ELCOMA to strengthen industry collaboration, run awareness campaigns to educate consumers about the risks associated with non-compliant products and the benefits of buying certified products. We need to work with regulatory bodies to develop and enforce strict quality standards, testing protocols, and certification processes for LED lighting products.

The govt needs to strictly enforce quality standards, such as ISI certification, for LED lighting products, and ensure that only compliant products are allowed in the market. Strict penalties are needed to be imposed on manufacturers and sellers of non-compliant products, including fines, product seizures, and reputational damage.

We need to leverage technology, such as blockchain, to track the origin, quality, and movement of LED lighting products, making it easier to identify and eliminate non-compliant products.

Standard Enhancement and Compliance Thresholds: Do you support the immediate need to enhance the technical specifications of Indian Standards for lighting products, and, critically, is there a compelling case to increase the

threshold limits for compliance requirements to raise the bar for quality?

I support enhancing the technical specifications of Indian Standards for lighting products to ensure they align with global best practices and address emerging trends like energy efficiency, sustainability, and smart lighting. Increasing the threshold limits for compliance requirements can raise the bar for quality and drive innovation in the industry.

Higher quality products will increase consumer confidence in the industry, driving demand for better products. By doing this we will ensure that Indian lighting products will become more competitive in the global market, as they meet international standards and quality expectations.

Innovation Amidst Price Pressure: Speed of product development and continuous innovation are paramount for business growth. In the face of intense market competition and stiff price barriers, what is Eveready's core strategy for managing rapid innovation while maintaining commercial viability?

At Eveready, our core strategy for managing rapid innovation while maintaining commercial viability involves R&D efforts on high-impact projects that align with our business goals and customer needs. We maintain a robust product roadmap that outlines our innovation pipeline, ensuring a steady flow of new products and features.

We use cross-functional teams to facilitate collaboration and accelerate decision-making. Actively listening to customer feedback and to incorporate it into our product development process is very critical.

We focus on developing products that are not only innovative but also cost-effective and commercially viable.

Further to this we have a robust IP strategy to protect our innovations and intellectual property. A prime example of this is our Eveready range of Emergency bulbs which is an endeavour to provide quality light to our semi-urban and rural markets with innovation like Instacharge and Xtrabright technologies.

We have built a premium brand reputation across NHAI projects, airports, and monument lighting. Also recently finished a prestigious project for Kolkata Airport.

India as a Global Export Hub: ELCOMA's Vision Document outlines an ambitious goal to establish India as a major lighting product export hub, targeting a 10% share of the global lighting market by 2030. What are your comprehensive views on the feasibility and the steps required to achieve this vision?

Ans: The vision to establish India as a major lighting product export hub and achieve a 10% share of the global lighting market by 2030 is ambitious but achievable.

The global lighting market is growing, driven by increasing demand for energy-efficient lighting solutions. India has a competitive advantage in terms of low labour costs, skilled workforce, and favourable government policies. India already has a significant lighting industry base, with many manufacturers and exporters.

We need to encourage R&D and innovation in lighting technologies, including smart lighting, IoT, and energy-efficient solutions. We need to focus on improving product quality, testing, and certifications is required to meet international standards. We further need to invest in infrastructure development, including testing labs, warehouses, and logistics facilities. Developing dedicated lighting clusters and industrial parks to promote

economies of scale and clustering benefits will definitely help.

Identifying niche markets and segments with high growth potential is key to success.

Future Manufacturing Plans: Does Eveready have any defined plans or is the company currently exploring the possibility of in-house manufacturing of lighting products or key components in the foreseeable future?

Manufacturing is our core strength. We as a house, already have its manufacturing facility in Batteries and Flashlights and we definitely have the prowess or knowledge base to run a manufacturing facility with finesse. Change in business scenario might prompt us to getting into manufacturing sometime in the future.

What are the primary technological /component barriers (e.g., LED chip design, driver ICs) that India must overcome to truly shift from assembly to deep, indigenous manufacturing?

To achieve deep, indigenous manufacturing in the lighting industry, India needs to overcome several technological and component barriers. One of those is developing indigenous capability to design high-quality LED chips that match international standards. Setting up fabs (fabrication facilities) for LED chip manufacturing, requires significant investment and technological expertise. Developing indigenous sources for substrate materials, such as ceramic, metal, or silicon is another aspect, along with developing phosphor technology for converting blue light to white light in LEDs.

This also encompasses securing stable supplies of raw materials, such as rare earths, gallium, and indium.

By addressing these technological and component barriers, India can reduce its dependence on imports and develop a robust, indigenous lighting industry.

The Role of Sustainability: Beyond

energy efficiency, global trends emphasize holistic sustainability, including packaging, material circularity, and product end-of-life management. How is Eveready incorporating ESG (Environmental, Social, and Governance) principles into its lighting product design and manufacturing processes?

Eveready incorporates energy-saving technologies into its products to reduce energy consumption and lower carbon emissions. We are exploring sustainable packaging options, such as biodegradable or recyclable materials, to reduce waste and minimize environmental impact.

IN A LIGHTER VEIN

How do you prefer to spend your personal time away from the demanding responsibilities of your leadership role?

Despite the pace and pressure that come with a leadership role, I make it a point to create meaningful pauses in my personal time. For me, unwinding is all about balance. I enjoy spending quality time with my family — it keeps me grounded and reminds me of what truly matters. I'm also an avid reader, and I use whatever quiet pockets of time I get to explore books on business strategy, leadership, and occasionally, history. Fitness is another important aspect of my routine. Whether it's a morning run, a gym session, or simply some stretching, staying active helps me reset mentally. These moments away from the boardroom not only recharge me but also give me the clarity and energy I need to lead effectively.

What are your primary hobbies and interests outside of the corporate world?

Outside the corporate world, I'm someone who genuinely enjoys a blend of learning, movement, and meaningful downtime. I'm quite passionate about fitness. Maintaining an active lifestyle is important to me, not just for physical health but for mental well-being as well. A good workout or even a long, reflective walk helps me decompress after a demanding day. Beyond these, I love travelling. Exploring new places, understanding different cultures, and meeting people from varied walks of life adds a rich layer of experience that I bring back into my professional journey. And at the end of it all, spending unhurried time with my family remains my favourite way to switch off and reconnect.

If you could choose any destination for a personal trip, what is your favourite holiday destination?

If I had to choose a favourite holiday destination, it would undoubtedly be Darjeeling. There's a timeless charm to the hills — the cool breeze, the lush tea gardens, and the spectacular views of Kanchenjunga create an atmosphere that is both calming and inspiring. Darjeeling is the kind of place where I can truly slow down, enjoy a quiet cup of tea, take long walks, and reconnect with nature. The simplicity and serenity of the hills make it an ideal escape from the fast-paced corporate world, and I always return feeling refreshed and re-energised.

What is your favourite cuisine or food?

When it comes to cuisine, I have a soft spot for North Indian food. There's something incredibly comforting about classic dishes like Rajma Chawal, Butter Chicken, Dal Makhani, and Naan — they remind me of home and evoke a sense of warmth that no fancy meal can match. I enjoy the rich flavours, the balance of spices, and the homely feeling these dishes bring. For me, good North Indian food is not just about taste; it's about nostalgia, comfort, and the joy of sharing a hearty meal with family and friends.

INTERVIEWED BY ILLUMINATION
EDITORIAL TEAM

Lighting That Shapes Landscapes and Experiences

When architecture meets the outdoors, lighting becomes the language that connects space, purpose and emotion. This narrative unfolded at the **IFLA-ISOLA 2025 Gala Event in Mumbai**, a landmark event in the global landscape architecture calendar, where Jaquar Bath & Light proudly participated as a sponsor.

With over **500+ international delegates**, landscape architects, planners and industry leaders in attendance, the event placed a spotlight on a critical yet often understated layer of design—**landscape lighting**.

Beyond visibility, landscape lighting defines movement, mood and memory. It guides pathways, highlights natural and built elements, enhances safety, and transforms outdoor environments into immersive experiences after dark.

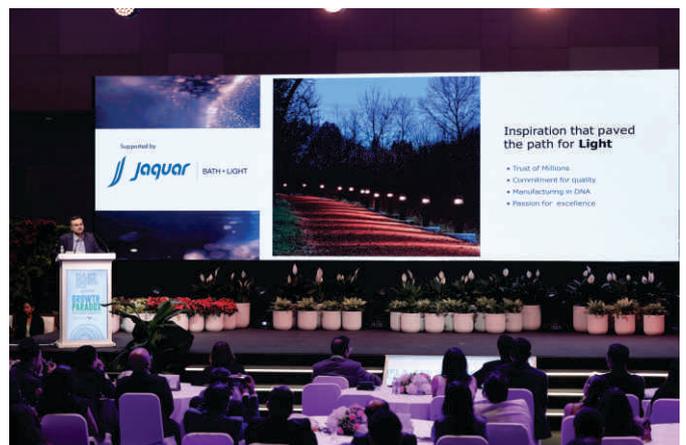
At the event, **Jaquar Lights** showcased its architectural landscape lighting solutions, engineered to interpret architectural intent while responding to real outdoor living needs.

Designed for **high luminous efficiency**

and visual comfort, the range delivers balanced, glare-free illumination and exceptional durability in challenging outdoor conditions.

Built with advanced technology, precision engineering, and robust materials, Jaquar's landscape lighting solutions ensure **long service life, low maintenance** and a strong commitment to **sustainability** through responsibly sourced, non-toxic and recyclable materials.

This seamless blend of architectural intent, technological precision and sustainable thinking is what distinguishes



Jaquar's lighting philosophy and sets the stage for its international acclaim.

Thalia, designed by **Claudia Danelon & Federico Meroni**, received the **LIT Lighting Design Award**, while **Kujo** was recognised with a **Special Honour**.

A testament to Jaquar's philosophy of design that transcends trends and elevates spaces, indoors and outdoors alike.

These accolades did more than celebrate products. They reaffirmed a belief: lighting is not an accessory, it is architecture in its most expressive form.

AUTHOR: JAQUAR LIGHTING

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Award for top global
brands and products



Honouring
global design excellence
with purpose



Awarding
exceptional lighting
designs worldwide

Celebrated on global stages, Jaquar's lighting collections continue to elevate modern illumination. With international design awards for **Laguna**, designed by **Matteo Thun and Antonio Rodriguez**, and **Thalia & Kujo** by **Claudia Danelon & Federico Meroni**, we bring globally acclaimed designs to every space- indoors and outdoors.



LAGUNA
FLOOR LAMP | TABLE LAMP

KUJO
POLE LAMP

THALIA
BOLLARD



SCAN TO EXPLORE
JAQUAR WORLD



Illuminating Sporting Glory: Havells Lights Up Sawai Man Singh Sports Complex



Jaipur, the Pink City, is celebrated for its royal heritage and architectural splendor. Amid its historic charm stands the Sawai Man Singh Sports Complex, a hub of athletic excellence and a venue that has witnessed countless sporting triumphs. Ahead of the Khelo India University Games, this iconic complex was poised for a transformation—one that would not only enhance its visual appeal but also redefine how sports are experienced under the lights.

Havells India, a name synonymous with innovation and trust, took on this challenge with a vision: to deliver world-class lighting that meets international standards for televised sporting events. The project involved replacing conventional metal halide fixtures with high-efficiency LED luminaires, ensuring superior brightness, uniformity, and energy efficiency across

multiple venues within the complex.

A Project of Scale and Significance

The scope of work was extensive, covering the Indoor Stadium, Badminton Arena, Aquatic Centre, and the sprawling Athletics Stadium. This wasn't just about installing lights - it was about creating an environment where every serve, sprint, and dive could be captured in vivid clarity for millions of viewers.

Engineering Brilliance: The Lighting Solution

At the heart of this transformation lies Havells Jeta Monos integrated floodlights, equipped with specialized optics to deliver uniform brightness across vast playing surfaces. These luminaires are not just powerful – they are intelligent, designed to minimize glare while maximizing visibility for athletes and spectators alike.

The technical specifications speak volumes about the product's superiority:

- High-pressure die-cast aluminum housing for durability
- Toughened glass and PC lenses for enhanced safety and optical performance
- IP66 and IK08 ratings, ensuring resilience against dust, water, and impact
- Efficacy of 140 lm/W, delivering exceptional energy efficiency without compromising brightness

This cutting-edge technology ensures that the lighting system is not only robust but also sustainable, reducing energy consumption and operational costs significantly.

Designing for Television Perfection

Lighting a sports venue for televised



events is an art and a science. It requires precision aiming, lux level verification, and a design that eliminates shadows and hotspots. Havells team worked closely with the Rajasthan Sports Council from the initial survey stage, providing a solution that met every technical and aesthetic requirement. The design was tailored to ensure uniform illumination, optimal color rendering, and minimal glare - critical factors for high-definition broadcast quality.

"Our goal was to create an environment that reflects the spirit of Khelo India - where performance meets precision. By

integrating advanced LED technology and meticulous design, Havells has ensured that every corner of the Sawai Man Singh Sports Complex shines with brilliance," said Product Marketing & Lighting Design team at Havells.

Adding depth to this achievement, Parag Bhatnagar, Executive President - Havells, shared his insights: "Having witnessed the evolution of lighting technology over decades, I can say this project is a milestone. It's not just about replacing old lights - it's about engineering a solution that blends innovation, sustainability, and world-

class standards. Havells has delivered lighting that empowers athletes and captivates audiences, setting a benchmark for sports infrastructure in India."

Impact Beyond Illumination

This project is more than a technological upgrade - it's a statement of intent. By embracing advanced LED solutions, the Sawai Man Singh Sports Complex has reduced its carbon footprint, lowered maintenance costs, and enhanced the overall spectator experience. For athletes, it means better visibility and safer playing conditions. For broadcasters, it ensures crystal-clear visuals that bring every moment to life.

Havells intervention has transformed the complex into a beacon of modernity, proving that innovation and sustainability can go hand in hand. It's a shining example of how infrastructure can evolve to meet the demands of a new era - where sports are not just played but celebrated on a global stage.

With this landmark project, Havells reaffirms its commitment to innovation, sustainability, and excellence. The Sawai Man Singh Sports Complex now stands illuminated - not just by lights, but by the promise of a brighter future for Indian sports.

AUTHOR: HAVELLS INDIA LIMITED

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Polycab Advanced Lighting Solutions Drive Infrastructure Growth in India



India is in the middle of one of its largest infrastructure upgrades. As the country moves toward the goal of becoming a 5 trillion dollar economy, there is rapid progress in national highways, industrial corridors, logistics networks and mobility systems. A strong example is the recent modernisation of NH-27 in Assam under the Bharatmala programme, where Polycab Lighting has delivered a complete roadway lighting solution.

NH-27 is the second longest national highway in India and links Assam with West Bengal, Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan. Polycab's lighting system has been installed across Packages 1, 2 and 3 between Guwahati and Silchar. This stretch plays a major role in connecting the Northeast with the rest of the country. Improved road lighting on this corridor strengthens safety, visibility and night-time travel efficiency.

For this project, Polycab supplied advanced LED luminaires designed to give uniform and glare-free illumination. The lighting design helps reduce dark patches and bright spots between poles, which is a common issue on long

highway stretches. Better visibility supports safer driving conditions, especially in regions that face heavy rainfall and fog.

The luminaires use high-efficiency LED engines with precision optics to ensure consistent light output. Each unit includes strong surge protection to handle voltage fluctuations that are common in several parts of India. The lighting systems are placed in weatherproof enclosures that can withstand rain, heat, humidity and dust. These features help reduce maintenance needs and improve long-term reliability for national highway projects.

Polycab also focused on sustainability. Controlled beam patterns reduce spill light and sky-glow. Materials used in the luminaires support longer life cycles, which helps reduce waste. The company worked closely with NHAI, EPC partners and lighting designers to ensure installation, testing and commissioning followed national guidelines and global best practices. The project is expected to improve road safety and bring economic benefits by supporting smoother movement of people and goods.

This development links to India's broader progress in power availability. Nearly every household in the country now has access to electricity. Rural electricity availability has increased from about 12 hours per day in 2014 to nearly 22 hours today. Urban areas receive more than 23 hours on average. India's installed power generation capacity crossed 475 gigawatts in 2025, and about half of this comes from renewable energy. Better grid reliability supports the wider use of energy-efficient lighting and future smart mobility services.

Polycab continues to invest in research and development to create more efficient and high-performance lighting products. The company aims to support safer highways, better public infrastructure and the growth of smart cities. Through projects like NH-27, Polycab is contributing to the sustainable transformation of India's infrastructure and helping build a safer and more connected nation.

AUTHOR: POLYCAB INDIA LIMITED

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National Lighting Code of India 2025 Launched: A Milestone Toward Smarter, Safer and Sustainable Illumination

India marked a transformative step in its lighting journey with the launch of the **National Lighting Code (NLC) of India 2025**, unveiled by **Shri B. L. Verma, Hon'ble Minister of State for the Ministry of Consumer Affairs, Food & Public Distribution and Ministry of Social Justice & Empowerment** on World Standards Day — 14 October 2025 at NITS, Noida.

The revised Code represents a major leap toward energy-efficient, human-centric, and environmentally responsible lighting across India. Developed to reflect the rapid technological progress

of the past decade and a half, the NLC 2025 incorporates innovations ranging from LED and smart lighting systems to solar-based solutions, tunable human-centric lighting, and responsible outdoor illumination practices.

Compared to the **first edition of 2010**, which contained 13 Parts and 29 Sections, the revised Code has been expanded to **16 Parts and 45 Sections**, offering more comprehensive guidance for the design, implementation, and evaluation of lighting installations across diverse spaces. It now provides unified performance benchmarks, safety

criteria, and sustainability parameters to ensure high-quality lighting that enhances human well-being, conserves energy, and protects the environment.

Importantly, the NLC 2025 is positioned as a practical reference document for architects, lighting designers, engineers, policymakers, urban planners, facility managers, educators, and regulators. With the objective of aligning innovation with sustainability, it supports India's long-term national goals, including energy conservation, environmental stewardship, and improved quality of life for citizens —





Connected, Intelligent, Sustainable: Transforming Smart Lighting in India

IllumiNation Chats with Mr. Rajat Pahwa – Commercial Leader, Smart Homes Business, Signify Greater India

Tell us about your journey at Signify? What aspects of your role excite you the most?

My journey at Signify has been a fascinating roller-coaster ride, filled with numerous learning opportunities and transformative experiences. It has closely aligned with the evolution of lighting technology and the shift toward smarter homes. I began in 2014 as Regional Head – North (Smart Home), a role that gave me insights into market dynamics, consumer expectations, and the potential of connected lighting to redefine modern living. Between 2017 and 2019, I transitioned into product management, leading the LED Luminaires portfolio. This phase strengthened my technical expertise, sharpened my product innovation mindset, and reinforced my commitment to delivering energy-efficient lighting solutions. In 2020, I took on greater responsibility as Regional Head for Consumer Trade Business – North, further honing my understanding of distribution networks, retail ecosystems, and consumer behaviour to ensure our products reached customers efficiently and consistently. By 2024, I moved into the role of Category Head for a host of consumer products - LED Luminaires, Strips & Ropes, WiZ (connected portfolio), Fans & for Ecolink brand as well - overseeing a broad spectrum of lighting solutions while driving category strategy, margin optimisation, and go-to-market planning.

In 2025, I assumed my current role as Commercial Leader – Smart Homes, Greater India. In this position, I lead the smart-home business end-to-end from innovation and customer experience to scaling the Smart Light Hub network and accelerating adoption of advanced, connected lighting across the country.

As a leader in the lighting sector, how do you foster innovation and adaptability within your team while navigating the rapidly evolving technological landscape?

As the lighting industry evolves at an

unprecedented pace, fostering innovation and adaptability within our teams has become central to how we operate. We encourage a culture that stays deeply connected to consumer needs, regional insights, and emerging smart-home trends. This helps us respond quickly and design solutions that are not only technologically advanced but also commercially relevant.

At Signify, we drive innovation by combining global expertise with local market intelligence. Whether it's expanding our smart-lighting portfolio or strengthening our Smart Light Hub network, our focus remains on creating products that enhance user experience while delivering clear value and energy efficiency. We also empower teams to experiment, collaborate closely with channel partners, and adopt agile ways of working so we can anticipate market shifts rather than react to them. Ultimately, our goal is to bring purposeful, meaningful innovation to consumers.

How are you adapting Signify's consumer lighting solutions to address the unique infrastructure challenges in India's Tier 2-3 business markets?

At Signify, our vision is to unlock the extraordinary potential of light for brighter lives and a better world. To address the unique infrastructure challenges in India's Tier 2 and Tier 3 markets, we leverage our global R&D expertise to develop lighting solutions that are energy-efficient, durable, and reliable, even in areas with inconsistent power supply or limited infrastructure. We adapt our products to customer needs by focusing on installation, maintenance, and lifespan. This approach allows us to bring innovative, high-quality lighting solutions to Tier 2 and 3 markets, helping them benefit from modern lighting technology without compromising on performance or cost.

How do you view Signify's leadership

in connected lighting and its potential to drive transformation for businesses and cities in India?

Signify is committed to unlocking the extraordinary potential of light for brighter lives and a better world. As the market leader, we're committed to leveraging our expertise in LED and connected lighting to drive positive change across the country. At the forefront of the connected lighting revolution, we see immense potential to transform businesses and cities across India. Our platforms like WiZ, Interact, Dyalite are revolutionizing how businesses and cities manage lighting, enabling significant energy savings, enhancing experiences, and improving safety. Innovation is in our DNA, and with our sustained commitment towards customer centricity, we continue to drive the adoption of connected lighting in the country. We are investing in research and development, forging strategic partnerships, and expanding our product portfolio to deliver innovative solutions that empower individuals, businesses, and communities.

How do you look at the future growth trends in lights category? What are your growth plans?

The future growth trends in the category point towards increased **digitization and personalization**. As the world becomes more connected, we expect to see a greater demand for smart lighting solutions that can be controlled remotely and customized to individual preferences. With the rise of **IoT and connected devices**, we foresee a significant demand for smart lighting solutions. These solutions offer benefits like energy efficiency, convenience, and enhanced functionality. They can be controlled remotely, programmed to operate on schedules, and even respond to changes in ambient conditions. We envision a future where light is not just about illumination but also about delivering new experiences and value to our customers. Our growth strategy revolves around **innovation and R&D**,

sustainability, smart lighting, customer-centric approach, and market expansion.

What key lessons from your diverse roles across the lighting industry have most influenced your strategic vision at Signify?

Over the years, working across smart homes, product management, and consumer trade has taught me invaluable lessons. Operating in diverse markets provides deep insights into how consumer behaviour and regional infrastructure influence adoption. Experience in product management reinforced the importance of innovation and customer centricity. Leading consumer trade highlighted the critical role of distribution networks, partner ecosystems, and robust GTM strategies in scaling effectively. Today, these experiences shape our approach at Signify: combining technology with commercial acumen, aligning with sustainability goals, and delivering innovations that are both pioneering and accessible.

What untapped consumer segment presents the biggest growth opportunity for Signify's lighting business in India?

At Signify, we see significant growth potential in digitally-savvy, aspirational

urban consumers and Tier 2–3 city households who are increasingly looking for energy-efficient, smart, and connected lighting solutions. This segment values convenience, automation, and design-led experiences, and is open to investing in lighting that enhances both functionality and ambiance. Our expansion of Philips Smart Light Hubs, including the 320+ stores, reflects the rising demand in these markets. These hubs help consumers experience a curated range of modern and connected lighting solutions

at accessible price points. By focusing on superior energy efficiency, smart features, and lifestyle integration, we aim to meet their evolving needs while transforming modern living experiences across homes and small commercial spaces.

We are expanding our connected and value-based portfolio and strengthening retail access across non metro markets so that a wider set of households and small businesses can adopt modern, efficient and smart lighting.

IN A LIGHTER VEIN

How do you pass your free time?

I enjoy reading books, everything and anything under the sun – but I am especially fond of history, and make it a point to read at least 30 pages every day.

What are your hobbies?

I enjoy spending time with family, traveling, writing, and reading.

What is your favorite movie?

I enjoy documentaries on history and geopolitics, along with films like Rocky, A Few Good Men, Lakshya, and Hum Dono.

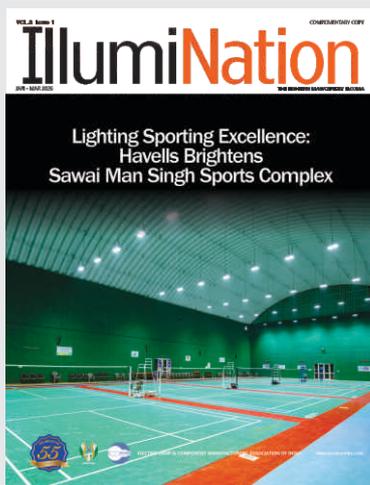
What is your favourite food?

I enjoy simple, comforting meals like dal chawal and South Indian cuisine.

What is your favourite holiday destination?

I love to travel, no particular destination but places with beach get aways being a favourite kind.

INTERVIEWED BY ILLUMINATION EDITORIAL TEAM



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Illuminating Heritage: A Sensitive Lighting Strategy for the Govindaraja Swamy Temple

Balancing Architectural Splendour with Spiritual Sanctity in Tirupati



The Govindaraja Swamy Temple in Tirupati is an exemplary representation of South Indian temple architecture, rooted in Sri Vaishnavite tradition and dating back to the 12th century. Its architectural composition is defined by a monumental, multi-tiered gopuram, intricately carved stone mandapams, axial processional pathways, and a

hierarchically arranged garbhagriha, all constructed predominantly from locally sourced granite.

The temple holds significant religious, cultural, and architectural value, functioning as a historic spiritual nucleus around which the town of Tirupati evolved. The sculptural detailing, traditional materials, and spatial sequencing collectively

contribute to its outstanding heritage character, requiring sensitive and non-intrusive interventions.

Lighting Strategy & Heritage Compliance

Architectural Emphasis: Selective illumination of the gopuram tiers, cornices, and mandapam columns is proposed to enhance architectural



legibility during night hours, without altering the perceived scale or hierarchy of the temple.

Light Levels & Colour Temperature: RGBNW lighting with restrained luminance is proposed to respect the historic material palette and devotional ambience. Excessive brightness, saturated colours, or rapid dynamic effects are excluded from regular operation.

Fixture Placement: Luminaires are discreetly located at ground level or on non-heritage support structures, aligned with existing architectural lines to avoid visual intrusion.

Operational Controls: Lighting operation is time-bound and programmable to ensure reduced exposure during non-peak hours, in accordance with conservation best practices.

Heritage Impact Assessment

The proposed lighting intervention has been assessed to have no adverse impact

on the historic fabric or cultural value of the monument, and to maintain the authenticity, integrity, and sanctity of the temple while improving nighttime visibility, safety, and appreciation of its architectural features.

Lighting Heritage, Inspiring Devotion

Signify, the global leader in lighting, has unveiled a dynamic façade lighting solution at the historic Govindaraja Swamy Temple, a revered spiritual and cultural landmark in Andhra Pradesh.

The project enhances the temple's architectural grandeur while respectfully preserving its sacred character.

The lighting design features advanced RGBNW floodlights and linear grazers that bring the temple's intricate gopurams to life after dusk. The RGBNW floodlights enable vibrant, dynamic colour scenes during festivals and special occasions, while maintaining a serene and dignified illumination on regular days. Linear grazers accentuate the architectural elements at the top of

the gopuram, adding depth, texture, and visual drama without compromising the temple's traditional identity.

Developed with deep respect for the sanctity and heritage of the site, the lighting solution enhances the nighttime visual experience while ensuring the sacred ambience remains undisturbed. The illuminated Govindaraja Swamy Temple now stands as a luminous cultural landmark—visible from afar and resonating with spiritual energy.

Commenting on the project, Signify India said: “At Signify, we believe lighting has the power to celebrate heritage while enhancing experiences. The Govindaraja Swamy Temple project reflects our commitment to using innovative, sensitive lighting solutions to honour sacred spaces and create meaningful connections between tradition and modern technology.”

AUTHOR: SIGNIFY INNOVATIONS INDIA LIMITED

Views expressed in this article are those of the contributors and do not necessarily reflect those of the editors or publishers

Lighting Excellence by Eveready Industries India Ltd.



Netaji Subhash Chandra Bose International Airport (CCU), Kolkata, one of India's busiest aviation hubs, recently underwent a significant lighting infrastructure upgrade in its passenger terminal building. This project, driven by a commitment to enhanced visual comfort, safety, and energy efficiency, involved the Supply, Installation, Testing & Commissioning (SITC) of a wide range of state-of-the-art LED luminaires across both the **Departure and Arrival zones** — including single and double



height areas.

The lighting retrofit at Kolkata Airport was conceptualized not just as a replacement of conventional fixtures, but as a transformation toward a performance-oriented, sustainable system. **Eveready Industries India Ltd.** was entrusted with delivering and deploying advanced LED lighting solutions tailored to the architectural and operational demands of the airport terminal.

The primary focus areas included, Passenger Movement Zones, Single & Double Height Spaces, Visual Comfort & Compliance with Aviation Lighting Standards. The lighting solutions provided by Eveready industries India Ltd. are –

1. Highbay - Designed for high-ceiling spaces typical of double-height departure lounges ensuring uniform illumination, high system efficacy and robust performance.
2. Floodlight - Strategically installed in open concourse for providing wide-beam illumination.
3. Linear fixtures - Used extensively in corridors, passenger waiting areas, conveyor belts.

The Eveready LED luminaires installed in the airport achieved the following key **lighting performance metrics**:

- **Unified Glare Rating (UGR):** Maintained between <16 to <19, ensuring an anti-glare environment — critical for public comfort in high-traffic indoor spaces.
- **Standard Deviation of Colour Matching (SDCM):** Kept at <3, which signifies excellent colour consistency across all fixtures — important in large, continuous lighting installations.
- **Colour Rendering Index (CRI):** Above >80, aligning with market best practices and ensuring that colours of signage, finishes, and human subjects appear natural and discernible — essential for wayfinding and occupant experience.

At Netaji Subhash Chandra Bose International Airport, the deployment of LED lighting solutions by Eveready Industries India Ltd. exemplifies how thoughtful technology integration can elevate both utility and user experience. Through meticulous SITC of luminaires — designed with optimal UGR, tight SDCM control, and high CRI performance — the airport now boasts lighting that is efficient, visually comfortable, and perfectly suited to its dynamic operational environment.

This project stands as a model of modern airport lighting design — blending performance, aesthetics, and sustainability for one of India's busiest international gateways.

AUTHOR: EVEREADY INDUSTRIES INDIA LTD.

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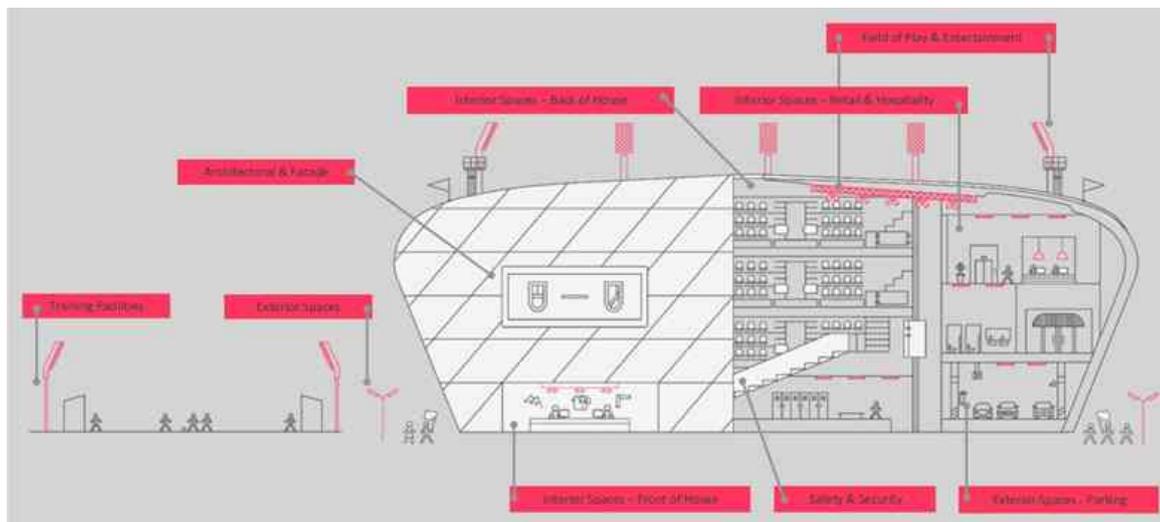
The Changing Role and Need of the Stadiums

Interactions with the end users, influencers, our Research & in-depth sessions with clients revealed the recent trends in the sports industry around the world. The traditional notion of a sports stadium has evolved quickly. It's more than just a place where thousands of people can watch a game, whether inside

or outside the stadium. Only a few years ago, we were contemplating and discussing about basic issues like illumination levels, energy, safety, security, and sustainability. As these issues remain a fundamental concern, we observe significant developments in the sports industry, and therefore lighting.

The broadcasting industry is rapidly evolving, with audiences spanning four generations, new business models, collaborations, and the necessity for multifunctional facilities to remain viable. New Media, Smart Devices, and Online Content are the factors that influence changing live content and live broadcasting. It has evolved alongside internet and mobile technologies. These athletic events must be offered on more platforms than simply television.

The Stadium Lighting projects executed very recently demonstrated that spectators using smart devices communicate information and live experiences with the outside world. Their joy and ecstasy are beyond description. They want to share their



incredible experiences with the rest of the world in real time. We must consider Gen Z, who is now highly engaged and willing to reach out and share their experiences through their smart devices.

Today's IoT-based technologies allow you to gain more value out of something you already have, like LiGHT. These lighting systems can manage control all of the stadium's illumination, including pitch and entertainment lights, the stadium façade, hospitality facilities, and parking lots. IoT sensors may enhance operations and marketing initiatives. They may also provide fans with customised light shows prior to, during, and after the main event.

The stadium's luminaires are DMX equipped, and the DMX networking technology allows each to be individually addressed. The most optimal option for modern stadiums is an advanced technological platform like 'INTERACT SPORTS' paired with a DMX-enabled individually addressable system.

Lighting of Smart Stadium

Platforms such as Interact are IoT platforms. The system must be secure, scalable, and applicable to many segments such as FOP lighting, Façade, Facility, BOH, and parking.

I call them Asset Management Systems, and they allow you to operate sports lighting equipment in groups or individually. You can link and operate FOP luminaires on high masts or canopies while also controlling luminaires in other remote regions such as the façade and parking. These assets may be managed, maintained, and monitored on a daily basis. The main benefits of this system are the ability to administer and monitor several sites with minimum operating expenses. Huge savings in electrical energy and hence expenditures.

Connected Lighting Systems are perfect to provide Unique Fan experience in a SMART STADIUM. Using web-based interfaces all Lighting Operations can be 'Monitored', 'Managed' and 'Maintained' throughout the venue. Connected Lighting Systems do support activities such as

| | | |
|---|------------------------------|---|
|  | Lighting Management | Systems to Monitor all lights in Arena, |
|  | Scene Management | Generate Amazing Light Shows |
|  | Bio-Adaptive Lighting | Improve Well-being |
|  | Single Dashboard | One Dashboard, Simple to operate |
|  | Integration with APIs | Enable integration with other data sources and stadium systems. |

Lighting for Recreational and Training Facilities

As we see future-ready venues that provide an excellent fan experience becoming increasingly important, training facilities are also being modernised. Good lighting is essential for players and coaches, whether during practice or during the event. For a player, this implies increased visibility and safety. However, for facility owners, costs and energy usage are equally critical considerations.

We have noticed a trend of people flocking to cities, and this increased urbanisation necessitates additional leisure activities. People have high expectations for such facilities/clubs, yet they want them at an accessible price. Maintenance technicians would want a system that is readily repairable and maintained.

Light Control and Control of Obtrusive light

High ceiling and mast systems not only provide a challenge for maintenance people, but they can also disturb your neighbours due to light pollution. They

are concerned about potential light pollution; therefore, luminaires that have



great beam control should be selected. Low aiming angles are required, as well as tight control over light dispersion.

Luminaires with such a light distribution should be used that they would need a minimum angle of aiming in the vertical plane, ideally as close to horizontal as feasible. Spill Light Control Devices can be employed. This will cost a little more, but it is vital to prevent glare and intrusive light that annoys the neighbours.

Light Control and variable lighting requirements

In facilities where non-Televised events are planned, depending upon the Class of Play Lighting level changes from 75lux to 750lux. Lighting needs to be standard specific. Thus, Modern Control

techniques can be employed to meet these varying levels.

Recreational facilities are used by people of various age groups, making Age an important factor. Some players would need higher illumination level than others in same facility. Unlike in professional circuit we observe that the players age group is not that divergent.

Harnessing the Power of Connected lighting for Recreational Facility

All these factors 'Demand' the 'Control' for the Illumination system. One can

employ control system such as 'Interact Sports', or they can choose to use DALI based technology that Powers the Smart Recreational Facility. 'Interact Sports' platform gives you smart ways of controlling your lights across all your Sports and Training Facility.

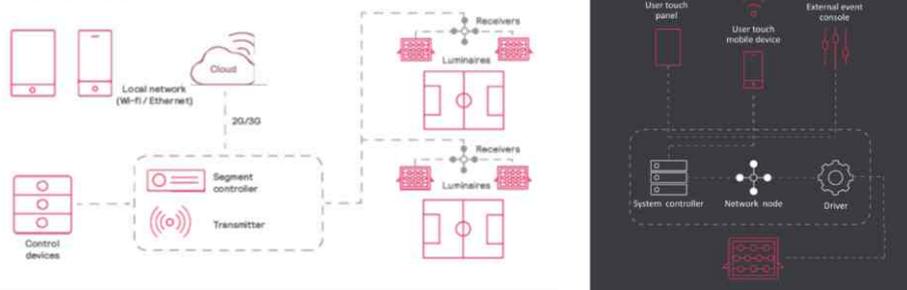
With simple system architecture and use of intuitive dashboard you can perform Lighting Management, Scene Management. Open AI enables us to share data with other IT and Facility Management Systems.

System Architecture:

- High Level wired architecture.
- System is operated with system controller
- Lighting is connected through a wired network using a standard IP network.
- Network nodes are installed to connect drivers of luminaires to network
- The human interface is available as web based software, a touch panel device or an external console.



System architecture



Features and Specifications

- Standard control devices that anyone can control
- Option to produce reports on lighting consumption and use
- Easy retrofitting - cutting out disruptive and costly cable works
- Option of multiple user groups and authorisation profiles for lighting control
- Reliable and stable communication and data transfers via power-grid cables
- Dedicated installation tool for easy re-configuration and system upgrades
- Remote support and hassle-free software upgrades
- Future-proof architecture thanks to cloud technology

Control Devices

3 different options for controlling light settings

- Panel
- Tablet
- Smartphone



Three different options for controlling the Light settings can be used.

Evolving Role and Needs of Recreational Centers

We must adapt to the changing environment around us. Club and recreational facility owners seek various funding sources in order to provide the greatest facilities at a reasonable cost. For example, in one Tennis Club, the lighting level for ordinary practice sessions is 600Lux, whereas for matches it is 1000lux. Club gladly informs other clubs that it has 1000lux.

Interestingly, the club also hosts a black-tie dinner event as part of the prize presentation and fund-raising. The club sells seats at tables for an on-court dining experience. The Control allowed us to present the club with a 100lux eating experience on the Antumbra panel.

Transforming Recreational Facility.

When you look closely at the current state of sports stadiums, you will see unmistakable evidence of 'CHANGE', which is preparing these arenas to provide the finest 'Fan Experience' in the future. Similarly, providing controls to training centres and recreational groups will help these high-performance centres develop. The aspiring players are getting ready to perform, practicing for the Big Stage.

IoT based technologies, and provision of platforms such as 'Interact Sports' are tools, the utilization of which makes EVERYONE WIN... Players, Club Owners, Installers, Maintenance Crew, City officials & Citizens.

AUTHOR: MR. SHREEKANT PHANSE, NATIONAL APPLICATION SPECIALIST, SIGNIFY INNOVATIONS INDIA LTD

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Future Innovation in Solid State Lighting Technology

Electrical lighting accounts for approximately 13.7% of global electricity consumption and has a profound impact on human visual performance, well-being, health, and safety. Beyond human factors, lighting technologies also significantly affect planetary resources and ecosystems also responsible for 4.2% green house gas emissions annually. After several decades of relatively stagnant performance improvements in legacy lighting technologies, solid-state lighting (SSL) has emerged as the most efficient class of light sources available today. The advent of SSL, particularly light-emitting diodes (LEDs) is widely regarded as the third major revolution in lighting[1].

At present, SSL products are technologically mature and are rapidly dominating a global lighting market valued at over US\$120 billion. While some argue that innovation in conventional LED products has slowed in recent years, the emergence of large-area, flexible, and organic light-emitting devices (OLEDs) introduces new fundamental and technological challenges and opens unprecedented design possibilities for the coming decade[2].

Moreover, a fourth lighting revolution is on the horizon: the development of intelligent and sustainable lighting systems[3]. By integrating lighting with information and communication technologies (ICT), the Internet of Things (IoT), and smart control platforms, future lighting systems have the potential to fundamentally transform how artificial light is generated, managed, and experienced in daily life.

This article focuses on LED technologies and reviewing the key scientific and technological challenges that must be addressed in the next decade.

LED TECHNOLOGY

The arrival of solid-state lighting (SSL), with efficiencies that now far surpass those of all legacy lighting technologies, has had a direct impact on global energy consumption by mitigating the projected growth in electricity demand for lighting. However, this technological revolution has also produced an important side effect: it has ushered in the era of “digital light.” Digital lighting enables precise control of both the quantity and quality of light according to application requirements and user needs, without compromising visual comfort, well-being, or health.

Within this context, integrative lighting can be regarded as one dimension of lighting digitization, while connected lighting represents a rapidly evolving paradigm in which light sources are networked with sensors, controls, and communication systems. Such systems aim to better satisfy human needs while minimizing energy consumption and environmental impact. Looking ahead, sustainable smart lighting systems will increasingly integrate human-centric lighting into broader digital ecosystems, notably the Internet of Things (IoT). This integration will enable interactions not only among technological components but also directly with end users, who can actively express and adapt their lighting requirements [2]. In this emerging framework, light itself may evolve from a mere commodity into a service, and connected lighting

infrastructures delivering value-added services enabled by light will become integral components of larger smart systems. Consequently, the end user transitions from a passive consumer to a “consumer-actor.” This shift represents a profound transformation of the traditional lighting industry and will necessitate a fundamental rethinking of its established business models.

Modern light-emitting diodes (LEDs) exhibit exceptionally high luminous efficacy. In theory, for an ideal p–n junction, the internal quantum radiant efficiency can reach 100%. In current commercial devices, radiant efficiencies approaching 80% have been achieved for specific wavelengths. For example, the LUXEON HL2X demonstrates a record luminous flux exceeding 318 lm at 700 mA, with a junction temperature of 85 °C, corresponding to a luminous efficacy greater than 310 lm/W. In addition, Philips presented an A-shaped LED filament lamp with a plug-in efficacy of up to 210 lm/W at the Dubai Lighting Fair in 2017[4]. These values far exceed the performance of all legacy light-source technologies.

As a reference, 1 W of monochromatic radiation at 555 nm (the peak of the photopic luminous efficiency function) corresponds to 683 lm, which represents the absolute thermodynamic limit of luminous efficacy. By comparison, a kerosene flame lamp exhibits an efficacy of approximately 0.03 lm/W, while a conventional 100 W incandescent lamp achieves only 12–15 lm/W.

LEDs also produce very high luminance, primarily because the emitting element, the semiconductor die has an extremely small surface area (typically a few

mm²). As a result, the luminance can approach or even challenge that of the sun. However, despite this high luminance, the luminous flux per die remains relatively low (typically 130–150 lm), which is insufficient for general illumination without optical integration or the use of multiple dies. Moreover, high luminance inherently increases the risk of glare, making LEDs potentially uncomfortable or hazardous if not properly diffused or optically controlled.

Light-emitting diodes (LEDs) are characterized by an exceptionally long operational lifetime. Under ideal conditions, continuous operation lifetimes of 50,000 to 100,000 hours can be achieved, provided that the junction temperature remains low a requirement that, in practice, highlights the critical importance of thermal management. When integrated into complete lamps or luminaires, high-quality LED products typically achieve lifetimes in the range of 35,000–50,000 hours, whereas low-quality products may fail in less than 10,000 hours. In addition to eventual failure, LEDs also experience luminous flux depreciation over time, which must be considered when defining end-of-life criteria[5].

LEDs themselves are robust solid-state components, and early catastrophic failures are relatively rare. However, complete LED systems including drivers, optics, and thermal interfaces can be significantly more fragile and often determine the overall system reliability. As electronic components, LEDs are lightweight and compact; nevertheless, once integrated into practical lighting systems with heat sinks and mechanical housings, the resulting luminaires may become relatively bulky.

From an electrical perspective, LEDs are comparatively easy to operate. A single high-power LED typically requires a dc voltage of a few volts and a current of

Advance general illumination LED family characteristics and major applications

| Family | Applications | Properties |
|--|---|---|
| Low power conventional “5mm white LED” | Signaling and gadgets | Homojunction 2 Crystal surface: 350 × 350 μm ² Nominal current: 30 mA Nominal power <200 mW External quantum eff.: 20% Luminous flux: 1-3 lm Luminous efficacy: 50 lm/W Format: Dome with epoxy encapsulation |
| High brightness white LEDs (HB-LED) | General Lighting, Backlighting, Mobile devices Lighting and Automotive Lighting | Heterojunction Crystal surface: 1 × 1 mm ² Nominal current: 350 mA Nominal power: 1 W External quantum efficiency >50% Luminous flux: 20-100 lm Luminous efficacy >110 lm/W Format: Manufacturer dependent |
| Ultra-high brightness white LEDs (UHB-LED) | General Lighting and Automotive Lighting | Heterojunction Crystal surface: 2 × 2 mm ² Current density >50 A cm ⁻² Max. Power (single junction): 5 W External quantum efficiency >60% Luminous flux >100 lm Luminous efficacy >130 lm/W Format: Manufacturer dependent |

several hundred milliamperes. The main challenge lies in delivering a low-ripple, well-regulated dc current to avoid light flicker and other undesirable effects, particularly under dimming conditions. High-quality constant-current drivers, often employing amplitude modulation for dimming, can be complex and costly. White LEDs emit virtually no ultraviolet (UV) or infrared (IR) radiation, making them safe for human skin and particularly suitable for applications such as museum and gallery lighting, where UV-induced degradation of artwork must be avoided. However, LEDs do emit blue light, which at high luminance levels and prolonged exposure may pose a risk to the human retina, emphasizing the need for appropriate optical design and exposure control. Table 1 shows the typical application LED family with critical

specifications.

Finally, LED prices are expected to continue decreasing over the medium to long term. High-quality products offering tunable correlated color temperature (CCT), advanced control features, and value-added lighting services are already available on the market. While recent projections indicate substantial cost reductions for LED luminaires over the coming decade, the prices of standalone LED lamps are expected to remain relatively stable till 2035[5] [6].

LED TECHNOLOGY CHALLENGES AND WAY FORWARD

Although LED technology has reached a high level of maturity, most quality and reliability related issues have now been addressed to a satisfactory degree.



Nevertheless, the pace of incremental innovation has slowed in recent years. Despite this apparent deceleration, several important evolutionary pathways remain.

A first direction aims to overcome the fundamental limitations of phosphor down-conversion and the so-called “green gap”. According to forecasts by the U.S. Department of Energy (DOE), hybrid white LED architectures which combine blue-to-yellow conversion with direct colour emitting LEDs in a nonstandard configuration could achieve luminous efficacies of up to 280 lm/W soon [7]. In parallel, advances in phosphor material engineering that reduce conversion losses may allow RGB based white LEDs to reach maximum luminous efficacies of approximately 330 lm/W[8]. This approach, now commonly referred to as “colour mixing white LEDs,” is widely expected to become a dominant method

for white-light generation in the next decade, provided that outstanding challenges related to colour rendering, stability, and control are resolved [9].

The emergence of micro-LED technology further strengthens the feasibility of efficient colour mixing strategies, potentially enabling precise spectral control at the pixel or die level. Concurrently, substantial progress is being made in materials engineering at the die level. For instance, GaN based nanowires with spatially varying doping profiles have demonstrated the ability to emit wavelengths spanning from the ultraviolet to the near infrared within a single nanowire, opening the possibility of “native” white LEDs without the need for phosphor conversion.

Additionally, nanowire LEDs grown on copper substrates have been demonstrated, offering several advantages, including improved thermal

management and enhanced light extraction efficiency due to the use of metallic reflectors and highly thermally conductive substrates. Other pioneering research has introduced perovskite-based quantum dots as potential emitters for achieving highly saturated colours or even native white-light emission [10]. However, significant challenges related to long-term stability and material toxicity must be addressed before such technologies can be commercialized.

At the package and system-integration level, further evolution is also underway. Chip-scale package (CSP) technology eliminates traditional subassemblies by directly mounting the LED chip onto the printed circuit board, leading to reduced system complexity and cost. CSP LEDs are increasingly adopted by lighting designers due to their wide emission angles, compact form factors, and high design flexibility, enabling extremely thin and highly integrated luminaires. However, CSP LEDs currently exhibit lower efficiency than conventional high-power LEDs and remain relatively expensive. In parallel, ongoing advances in ceramic substrates and surface-mounted LED technologies continue to improve thermal performance and overall system reliability [10].

CONCLUSION

LED has transformed the entire lighting space and is now slowly going towards the maturity phase. We can now do very well say LED is the only electrical light source at this moment which matches many expectations. Further OLED is expected to see a significant leap in general illumination, supported by increasingly favorable technical outcomes and strong alignment with sustainability initiatives.

AUTHOR: DR. AMAN JHA, SENIOR MEMBER, IEEE, PHD (IIT DELHI), MTECH (IIT BOMBAY); GENERAL MANAGER, CRI HAVELLS

Views expressed in this article are those of the contributors and do not necessarily reflect those of the editors or publishers

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BRICS Smart Lighting Summit & 12th BRICS SSL-WG Meeting



This meeting was held from 28-29 October-2025. The meeting was organized by the Secretariat of BRICS SSL-WG (the Secretariat of ISA). The meeting theme was “**Smart Street Lighting 2025: Innovative technologies bring new momentum to BRICS infrastructure development**”.

~100 delegates which includes experts from R&D institutes / academia and SSL industries of BRICS countries (Brazil, Russia, India, China, South Africa and Iran) participated in the meeting. Other 10 delegates from “BRICS+” countries i.e. Thailand, Vietnam, Belarus, USA participated in the meeting.

The Opening Ceremony of 12th BRICS SSL working Group

Dr. Caique Serati de Brito, the Representative from the Technical Information Centre (CTI) of the Ministry of Science, Technology and Innovation of Brazil (MCTI), chaired the opening ceremony.

Ms. Wenyan Zhong, Director of International Cooperation Division, International Cooperation Department, Ministry of Science and Technology of China (MOST) delivered a welcome address. She pointed out that the SSL Cooperation Working Group established

under the framework of the BRICS countries' scientific and technological innovation cooperation had made positive contributions to promoting the development of SSL in the BRICS countries. This was mainly reflected in sharing the scientific and technological innovation policies of each country in the field of SSL; conducting technological research and development and innovation; promoting the research and application of standards and testing methods; industrial connection and demonstration exchanges, etc. These efforts had never ceased over the past twelve years, and this was inseparable from the support of the science and technology departments, research institutions, and industry organizations of each country.

Dr. Jianlin CAO, the President of ISA and the former Vice Minister of MOST (Ministry of Science and Technology), delivered his welcome remarks. Dr. Cao Jianlin pointed out that the theme of this year's meeting was very meaningful. By connecting smart street lighting with the infrastructure of the BRICS countries and using innovative technologies and products to inject new impetus into infrastructure construction, it had raised the position of the lighting industry,

elevated the significance of lighting functions, also opened a broader market for the development of the lighting industry. A new round of technological revolution and industrial transformation was advancing in depth, and the digital economy was deeply integrating with the real economy.

He said for the BRICS countries and new emerging economies that were undergoing networked and digital cities but are also facing constraints in terms of funds and resources, exploring the concept of “simple smart street lighting” might be a more practical and sensible choice to achieve a leapfrog development in infrastructure.

Summary of the Session: The 12th Meeting of BRICS SSL WG

* **Mr. Santosh Agnihotri**, Chairman of the Technical Committee of the **Electric Light and Component Manufacturers Association of India (ELCOMA)**, India; Head (Quality & Technical), Orient Electric Limited- a CK Birla Group Company, India had made a presentation on “Smart Lighting in INDIA”.

Mr. Santosh Agnihotri introduced that the SSL market in India is growing rapidly with government initiatives such as promoting energy-efficient and a safety compliant product. The ministry of Power through BEE had upgraded the star rating criteria, which had resulted in transformation of high energy efficient products into market. Currently the star rating band is from 90lm/W to 150 and above lm/W with respect to 1star to 5-star LED Bulbs. These upgraded guidelines are effective from 1st July-2023. Bureau is in process to come up with minimum threshold level of 120 lm/W as one star, it will be effective from 1st July-2026.



He said that lighting products must be compliant with their safety standards, it is a mandatory requirement to comply with the compulsory Registration Scheme (CRS).

The government has identified all the lighting products under e-waste management rules-2022, so producers are responsible for its safe disposal. (it covers all lighting products), also he has focussed on the current situation of CPCB (Central Pollution Control Board) for the implementation part of e-waste rule. As it is happening first time in India with a digital platform so that it can connect producers and recyclers on one platform.

Finally, he said that the SSL market in India showed a great potential for continued growth and development.

* **Mr. Georges Blum**, Executive President of Brazilian Association of the Lighting Products Importers (Abilumi), Brazil delivered a keynote speech on “Benefits of the Smart Street Lighting Projects”.

* **Dr. Haitao Liu**, Director of Signify China Research delivered a keynote speech on “AIoT for commercial lighting”.

* **Mr. Bao Zhenkai**, Overseas Solution Director of Oppl Lighting Co., Ltd. , China made a presentation on “OPPLE Smart Street Lighting Solution”.

* **Dr. Caique Serati de Brito**, the Representative from the Technical Information Center (CTI) of the

Ministry of Science, Technology and Innovation of Brazil (MCTI) made a presentation on “Smart Street Lighting in Brazil: Current Status, Challenges, and Perspectives”.

* **Dr. Gaofeng Wang**, Vice President of Hengzhan Zhicheng (Zhejiang)

Technology Co.ltd. China made a presentation on “Computing Power Application Scenarios in Smart Light Poles”.

* **Mr. Shoffee**, General Manager of the International Business Centre of Hangzhou Hpwinner Opto Corporation, China on behalf of CEO Mr. Victor Chen made a presentation on “Trifusion Fully Integrated IoT Urban Lighting Safety Framework”.

* **Dr. Chris.Yan**, CEO of Narvellux Technology (Shenzhen) Co., Ltd., China made a presentation on “Multi-color EPLED chip and its applications in human-centric full-spectrum lighting”.

* **Dr. Daniil Sergeevich Shiriaev** from ITMO University, Russia made a presentation on “Wireless data transmission network through LED lighting”.

* **Mr. Shyam Sujan**, Founder of Right Light India and Lumen Optiks India Private Limited, India made a presentation on “Smart and Intelligent Street Lighting Program in India”.

* **Mr. Yuchen Li**, Group Vice President/Solution Expert of Unilumin Tech. LTd. Co. China made a presentation on “Smart cities enabled by sensor fusion and intelligent collaboration with Smart Pole”.

* **Mr. Jeremiah Mathobela**, Departmental manager of Electro-technical, SABS, South Africa made a presentation on “The development status of SSL industry in South Africa”.

* **Dr. Ramin Khoei**, Product Expert of Tuya Smart, China Director of Optical Engineering Department at RayFan Group, Iran; Professor, Researcher & lecturer at Islamic Open University made a presentation on “Solid state lightning in Iran: opportunities and challenges”.

* **Dr. Farshad Hakemzadeh**, CEO of Anzali Tarasheh Co. Iran made a presentation on “Perspective Collaboration of Iran with BRICS”.

* **Mr. Nguyen Anh Duc**, on behalf of Mr. Nguyen Doan Ket, Permanent Vice President of Vietnam Lighting Association (VLA) , Deputy General Director of Rang Dong Light Source & Vacuum Flask Jsc. Vietnam made a presentation on “Rangdong's Street Lighting and Smart Green Urban Management Solutions in Vietnam”.

* **Dr. Yuri Trofimov**, Director of Centre of LED and Optoelectronic Technologies of National Academy of Sciences of Belarus, Belarus made a presentation on “The development and problems of smart street lighting in the Belarus”.

Every session followed by relevant Q&A's.

Mr. Ruisheng Yue briefly summarized the session as full of awareness on standardization systems of each country by the presentations and got to know who are responsible to develop the standards. It flows insight on the current standards and latest technological developments. In the field of smart street lighting, BRICS countries are moving aggressively. The event provided valuable insights into SSL developments, industry trends, and international collaboration opportunities. He also thanks to all the participants for deeply collaborations.

AUTHOR: SANTOSH AGNIHOTRI, GENERAL MANAGER/ HEAD- QUALITY & TECHNICAL CHAIR - PERSON OF ELCOMA TECHNICAL COMMITTEE

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Signify to illuminate 100 Indo–Nepal border villages, enhancing safety and livelihoods

Under the guidance of Defence Minister Rajnath Singh Ji, the collaboration advances safety, mobility and livelihoods



In line with its #BrighterLivesBetterWorld vision, Signify, the world leader in lighting, announces the street LEDification of 100 villages along the Indo–Nepal border, in collaboration with Tarq Foundation. This transformative initiative is being undertaken under the guidance of **Shri Rajnath Singh Ji, Hon'ble Defence Minister of India**, whose vision for safer, empowered, and better-connected border communities anchors this effort.

Stretching across 1700 km, the Indo–Nepal border is home to resilient and vibrant communities whose daily lives often unfold against infrastructural and safety-related constraints. Limited street lighting has long impacted mobility, economic activity, and community safety after dusk. The introduction of energy-efficient LED streetlights across these villages marks a significant step towards addressing these ground realities, creating safer evenings,

supporting local livelihoods, and promoting stronger community networks.

Mr. Nikhil Gupta, Head of Marketing, Strategy, Govt. Affairs & CSR - Signify, Greater India said, “At Signify, we believe in bringing the best of innovations to the communities across India, through our Har Gaon Roshan CSR initiative. Through this initiative, we aim to bring long-term safety, sustainability, and confidence to border communities. This partnership reflects our commitment to using light to positively impact lives in India, fostering sustainable growth and community empowerment.”

Building on this vision, the project has been designed to meet **practical ground-level needs**. Each village was identified based on community input, footfall patterns, and specific safety concerns.

Manoviraj Singh, Founding Partner at Tarq Foundation, stated, “Real development starts by listening to the people it is meant to serve. Border communities have their own unique rhythms: evening markets, long walks home from school, and the daily movement of women whose sense of safety is directly shaped by how well-lit their surroundings are. This initiative responds to these lived realities. In these villages, light is not symbolic; it is practical, protective, and deeply empowering.”

The LED streetlighting of 100 Indo–Nepal border villages stand as a significant milestone in improving rural safety and community well-being. The partnership reinforces a long-term commitment to building resilient border communities.

AUTHOR: SIGNIFY INNOVATIONS INDIA LIMITED

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Jaquar Lights Launches COLT

A designer lighting series crafted for architectural indoor spaces where precision meets modern expression. Inspired by the decagonal barrel design of the iconic Smith & Wesson Model 1 revolver, COLT translates mechanical precision into a distinctly stylish track lighting system.

Engineered for performance-led design, COLT offers a wide spectrum of adjustable beam angles—15°, 22°, 26°, 36°, 42° and 55°, allowing designers to sculpt light with absolute intent. Perfect for accentuating artwork, architectural details and visual focal points, COLT enhances creative control with multiple dimming options, including Triac and DALI, ensuring seamless integration into modern lighting systems.

The range spans track lights, focus



lights, zoom variants, and recessed and surface-mounted options, powered by advanced optical systems, while three versatile mounting options enable varied placement using a single fixture. This delivers flexibility, precision and performance in one cohesive design language.

With exceptional colour rendering (CRI >90), a long operational life of up to

50,000 hours, and flexible dimming capabilities, COLT delivers refined ambience across residences, offices, retail spaces, hospitality environments, museums and art galleries. Available in small, medium and large formats, COLT blends minimalist design with cutting-edge technology, setting a new benchmark in precision-driven indoor lighting.

Signify introduces SootheSpace: Lighting that enhances wellness and embraces sustainability

Glare-free, balanced illumination with exceptional efficiency and true-to-life color, creating healthier, more sustainable spaces that inspire productivity

Signify is championing the importance of wellness-focused lighting with **SootheSpace**, a groundbreaking range of professional luminaires that redefine the role of light in modern spaces.

Designed in alignment with 'WELL Building Standard' and 'LEED Certification' requirements, SootheSpace delivers glare-free comfort, exceptional energy efficiency, and true-to-life color rendering, making it a transformative solution for workplaces, commercial venues and public environments.



LUKER Upgrade CERON Anti-Glare LED COB Lights

Upgrade your spaces with CERON Anti-Glare COB Lights, engineered to deliver focused illumination with reduced glare and superior visual comfort. Ideal for residential, commercial, and retail applications, these lights feature an anti-glare deep recessed design for eye comfort, are available in 7W, 12W, 18W, and 24W options, and come in Warm White (WW), Natural White (NW), and

White (WH) color variants. With optimized beam angles for precise light distribution, a compact body with a clean cut-out finish, high brightness combined with energy efficiency, and a durable build backed by a 3-year warranty, CERON COB lights are designed to perform reliably and elegantly.



Orient launches PRISM COB DOWNLIGHTERS

With the strategic objective of transitioning from value-centric offerings to premium, design-led lighting solutions, Orient Electric's latest COB portfolio has been thoughtfully developed to elevate both residential and commercial interiors. The portfolio places strong emphasis on aesthetics, performance, and visual comfort. Characterised by refined design detailing, multiple premium reflector finishes, precise beam angles, and a comprehensive range of correlated colour temperatures (CCTs), the range enables customised lighting outcomes while ensuring consistency in quality, efficiency, and reliability.

Prism Bloom exemplifies bold contemporary design combined with high performance. Featuring a sleek black metal body accented with premium rose gold and gun black reflectors. Its narrow 24° beam angle provides pin-point precision, making it ideal for accentuating artwork, architectural elements, and key décor

features. Manufactured using high-grade aluminium and finished to premium standards, Prism Bloom is designed for durability and long-term aesthetic appeal. The deep inset construction significantly reduces glare, enhancing visual comfort—an essential attribute for premium lighting environments.

Prism Topaz reflects understated elegance through its iconic bell-shaped monolithic design and luxurious rose gold finish. Crafted from high-quality aluminium, the luminaire ensures durability while maintaining a refined finish. Its deep inset design further enhances visual comfort, making it an ideal choice for both contemporary commercial spaces and sophisticated residential interiors.

Prism Luna completes the portfolio with its

premium wide-body design, featuring a refined white trim contrasted by a bold black reflector. Designed with a wider 36° beam angle, it delivers uniform and balanced illumination, addressing functional accent lighting requirements while maintaining a cohesive premium design language.

Together, Orient Electric's new COB range reinforces its commitment to premiumisation—delivering accent lighting solutions that seamlessly integrate design excellence, efficiency, and visual comfort to meet the evolving expectations of modern spaces.



Mr. Niraj Tiwari joined HPL Electric & Power



We're thrilled to welcome Mr. Niraj Tiwari, our new Senior Vice President – Consumer Division, to the HPL family.

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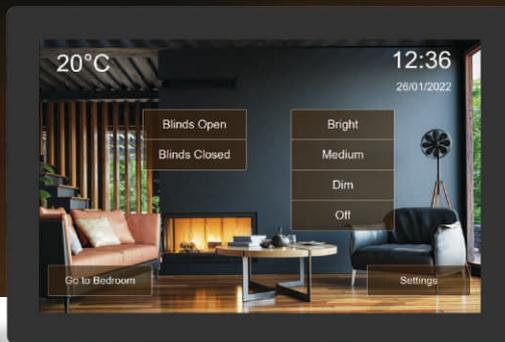
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